Evaluation of a Simulation-Based Registered Nurse Residency Program

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To the Faculty of Washington State University:

The members of the Committee appointed to examine the research project of PHILIP R. YOUNG find it satisfactory and recommend that it be accepted.

Chair

[Signatures]

[Signatures]
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Abstract

A community hospital and a university recently collaborated to implement a pilot residency program utilizing patient simulation. This evaluation describes new graduate RN's experiences with the simulation-based residency program and makes recommendations for improving the program. The results were overwhelmingly supportive of the program and, more specifically, the use of simulation as a teaching technique.
Evaluation of a Simulation-Based Registered Nurse Residency Program

Background

A multitude of factors are leading to a hospital environment in which new graduate nurses with increasingly less practical experience are caring for increasingly ill patients (Santucci, 2004). A lack of hands-on clinical opportunities in nursing education, the nursing shortage and an increased focus on patient safety are major factors that affect student nurses’ abilities to obtain relevant clinical experience and develop higher levels of thinking.

Nursing is a practice discipline; however, the majority of nursing education occurs in a classroom, as students listen to lecture by expert faculty. According to Beecroft, Devenis, Guzek, Kunzman and Taylor (2004), curriculum experts believe that 50% or more of current content-focused curricula may be irrelevant to practice. Content-focused learning serves merely as a building block for higher levels of learning and knowledge such as application, analysis, and synthesis (Airasian et al. 2001). In nursing education there is a gap between desired learning and demonstrated learning which frequently results in diminished patient care and inefficient or unsafe nursing practice (Billings & Kowalski, 2006). Nursing educators have attempted to fill this gap by augmenting content-focused learning with time spent in the clinical practice lab and with clinical site experiences with live patients (Childs & Sepples, 2006).

Rita Mae Brown (2008) sums up the necessity of practical experience a bit more elegantly in the following quote, “Good judgment comes from experience, and often experience comes from bad judgment.” This passage illustrates the importance of the clinical practice lab to nursing education: it is the place for application opportunities of content-focused knowledge. Applying learned principles in a hands-on fashion and incorporating critical thinking in the process is the very basis of expert nursing practice (Childs & Sepples, 2006). However, most nursing education institutions do not require students to apply their knowledge and skills by utilizing the practice lab. As more and more demands are placed on students’ time, clinical practice lab use (and its associated higher levels of learning) is steadily diminishing. Less time in the clinical practice lab makes clinical rotations with live patients even more important in students’ quests to
apply their content-focused knowledge. However, this opportunity is also beginning to ebb (see Appendix A).

Two specific factors that inhibit student nurses’ learning in clinical sites on live patients are patient safety concerns and the current nursing shortage. The Institute of Medicine (IOM) (1999) report focused awareness on patient safety but may have inadvertently limited student access to patients and decreased students’ opportunities for application of nursing knowledge and interventions. The nursing shortage also plays a large role in limiting student access to patients within the hospital setting (Appendix A). A dwindling number of hospital-employed nurses are finding it more and more difficult to care for an increasing number of higher acuity patients and still be involved in mentoring students/newly hired nurses. Many of these seasoned nurses are appropriately choosing to focus their energy/effort on caring for their patients, but this enviable passion for patients may lead to fewer positive clinical experiences for young nurses.

While past nursing shortages tended to be cyclical and were eventually resolved; the current shortage seems to fit a more downward spiral, leading to progressive attrition within the field (Santucci, 2007). Lack of access to live patients decreases students’ ability to apply their content-based knowledge and produces newly graduated RN’s that have inadequate hands-on clinical experience and critical thinking skills (Del Bueno, 2005).

Beecroft and colleagues (2004) point out that it is impossible for nursing schools to adequately prepare students for specialty practice within the hospital. In an effort to keep pace with the growing patient population, nursing schools are working at a frantic pace to produce adequate numbers of new nurses. However, they must be careful to realize that it is not merely a lack of physical presence that is missing from the bedside which has led to increasing patient safety concerns and poor patient outcomes. Nursing schools must strive to produce adequate numbers of high-quality nurses who can think and act decisively. However, an increasing amount of responsibility to produce such nurses is falling to the hospital where the new graduate nurse is first employed. As such, the importance of a hospital-based residency program to help facilitate the transition of newly graduated RN’s into skilled and safe practicing RN’s is paramount.
The use of new graduate RN residency programs is well documented and widely employed (Santucci, 2004). In the summer of 2007, Yakima Valley Memorial Hospital (YVMH), like many small, community hospitals, did not have a formal residency program. The new hire residency plan paired a newly graduated RN with an experienced preceptor who guided the new RN through his/her initial few weeks to months of nursing experience. This practice produced many RNs who flourished. However, a vast array of preceptor teaching styles, varying preceptor involvement and the lack of a formal, standardized curriculum led to wide variability in the new graduates’ perceptions of the RN role and of new graduate’s bedside practices. This inconsistency in role and practice of new RN’s prompted the creation of a collaborative, simulation-based RN residency program dually prepared by Washington State University Intercollegiate College of Nursing (WSU-ICN) and YVMH. Two lab preceptors who held joint appointments at both institutions oversaw the development and implementation of the program. The Advanced Clinical Education and Simulation (ACES) course was piloted from June 2007 to August 2007.

Theoretical Framework

The ACES curriculum employed a learning model called ‘learner-centered education’. Carl Rogers’ used psychology’s humanistic perspective theory and applied it to learner-centered education (McEwen & Wills, 2002). Rogers believed that teaching should be learner-centered and that teachers should function only to facilitate independent learning which is entirely controlled by the learner. When teachers provide problems that are meaningful and real to the learner, intrinsic motivation is stimulated to solve the problem. Higher order learning (application, analysis and synthesis) is best stimulated with such an intrinsic, self-directed learning model (Airasian et al, 2001). Indeed, Rauen (2004) supports the use of the humanistic perspective as a template for simulation based education, suggesting that adults learn best when they participate and are actively involved in learning. Billings and Kowalski (2005) also alluded to such a theoretical framework when they encouraged nursing educators to move away from memorization of teacher-directed learning and toward student-centered, self-guided critical analysis, synthesis and evaluation.
The ACES curriculum was based on a learner-centered, self-directed, educational model. This program evaluation has been undertaken with this same approach: No one knows better how to improve the learning model than the learner.

**Description and Implementation of ACES**

YVMH is a busy, 226-bed, not-for-profit, community hospital in Eastern Washington State. ACES was performed over the summer of 2007 under the collaborative efforts of YVMH and WSU-ICN. The ACES curriculum was developed by YVMH using organizational policies and procedures as well as input from past new-graduate hires and their preceptors. Emphasis was placed on independent, self-directed learning of content-focused material and subsequent simulation sessions that allowed for implementation of higher order thinking within a safe environment.

Once per week during their residency training, resident RN's and pharmacists met for eight hours. Each of the eight class days were organized into two sessions: The first four-hour session was a round table, resident-led discussion covering selected policies, procedures, protocols and forms (content-focused material). The second four-hour session involved patient simulations that required application, analysis, and synthesis (higher order thinking) of the previously reviewed material. Experienced staff nurses from YVMH served as ACES instructors. Only four of these facilitators had any formal training in simulation implementation.

The ACES course was completed at the WSU-ICN campus in Yakima, WA. A large conference room was utilized for the policy and procedure review; students were placed in discussion groups of 4-5 learners. Simulations took place in the WSU-ICN practice lab. There were four separate 'patient rooms', some of which were divided by curtains, others by solid walls. Each room was set up to mimic a patient room at YVMH. Rooms had a patient bed, a simulator, and the necessary nursing interventions supplies for each specific scenario. Two Vital-Sim® simulators and two static mannequins were used. One of the Vital-Sim® simulators had cardiac monitoring capability, but no heart sounds. The other Vital-Sim® had no monitoring capability, but provided a wide array of heart, lung and even bowel sounds. Static manikins were used for task training and clinical skill acquisition. In addition to the didactic and simulation portions of the
ACES course, students continued to practice nursing during their residency on the floor of YVMH of the unit to which they had been hired.

Purpose of the Program Evaluation

There is much interest in the use of simulation in RN residency programs, but a dearth of published information in this area. The ACES program was unique in that it was implemented by a small, community hospital with limited staffing; therefore, it may be applicable to a wider audience than previously published data from large teaching hospitals. ACES was also unique in that there was no published data on a collaborative, simulation-based residency effort between a smaller hospital, like YVMH, and a large university, like WSU. Finally, it was imperative that the ACES program be thoroughly evaluated and improved as initial findings and evaluations prompted YVMH to make the program an entry requirement for all newly hired hospital nurses.

Using Roger's learner-centered approach to education, this program evaluation focused on students' perceptions of a curriculum that was student-centered. The simulation based curriculum was meant to provide real application problems that produced opportunities for a participant to analyze, apply, and synthesize previously gleaned content-focused knowledge. The purpose of this retrospective pilot program evaluation was to explore and understand students' experiences within this simulation-based curriculum and suggest curriculum changes that would be meaningful to future students using Roger's theoretical framework. To evaluate the program, two basic questions were used: What are new graduate RN's experiences with a simulation-based residency program? Based on these experiences, how could the simulation-based residency program be improved?

Literature Review

The literature clearly identifies an academic-practice gap, especially in new RN grads. According to Del Bueno (2005), 65-76% of nurses with less than one year of employment as an RN do not meet expectations for entry-level clinical judgment. Most current nursing school curricula are content-focused and testing is administered using multiple choice exams in order to prepare students for the NCLEX. However, as Del Bueno points out, "patients do not present the nurse with a written description of their clinical
symptoms and a choice of written potential solutions” (p. 281). So how have nursing schools adjusted (and how should hospital-based RN residency programs adjust) to teach and evaluate students’ application and critical thinking? Simulation provides a potential solution.

While there is a growing body of literature that identifies the use of simulation in academia, there is a paucity of studies that review the use of simulation in hospital-based nurse residency programs. Only three studies were found in a CINAHL search; all were published in 2007. Ackermann et al. (2007) described program implementation of an RN residency that utilized a few simulations at a large medical center. Ackerman et al. provided minimal discussion of the experiences of the resident RNs and only brief qualitative program evaluation. Data from this study supported the use of simulation as an invaluable, life-like educational tool that helped ease resident’s fears and support their critical thinking in a safe environment.

Kelly, Shepherd, Skene and White (2007) demonstrated the use of patient simulation (using VitalSim®) as an effective academic tool to produce more confident and better prepared newly graduated practitioners. Kelly et al. chose a rigorous, quantitative approach to program evaluation. These researchers used a randomized, experimental design in a newly graduated nursing student population enrolled in a 12-month RN residency program. While the sample was small (n=74), the findings were quite compelling. Data showed that students provided with a self-directed learning approach and simulation outscored those without simulation on post-intervention testing; this finding supports the use of simulation as an effective tool in nursing academia (Kelly et al.).

Beyea et al. (2007) provided a descriptive approach in illustrating the design, implementation and evaluation of an RN residency program very similar to the ACES program used at YVMH. The program described was also hospital-based, but was 12 weeks in length versus the ACES program that was only 8 weeks long. Beyea et al.’s program was funded by a large federal grant and was performed at a major academic medical center. While Beyea et al. did consider resident RNs’ confidence, competence and readiness for practice; they did not base their evaluation on a specific theoretical framework.

Methods

Design
This non-experimental, retrospective program evaluation describes the experiences of the participants in the ACES program. Upon completion of the ACES course in August, the participants completed both qualitative and quantitative evaluations. Institutional approval was received by both Washington State University and Yakima Valley Memorial Hospital allowing for program evaluation. The evaluations were completely anonymous and were collected by an unrelated third party from the participants in an effort to minimize reactivity.

Sample

Participants were all newly hired registered nurses or pharmacists at YVMH who participated in at least five weeks of the eight-week ACES program. Three of the initial participants were previously employed as RNs, but had not worked at YVMH. RN licensure was not necessary for inclusion as many not-yet-licensed new grads and non-RNs participated. Participant numbers fluctuated from 28-45 over the eight week program. Attrition of four participants occurred when they sought employment elsewhere. One of the participants who had previously worked as an RN was excused from the course. Twenty-eight (n=28) of thirty participants completed the evaluation forms for a response rate of 93%.

The sample contained males and females, multiple ethnicities, Associates Degree of Nursing (ADN) and Bachelors of Science in Nursing (BSN) prepared residents as well as five Doctor of Pharmacy (PharmD) residents. Specific demographic stratification data were not collected and, thus not available for program evaluation purposes. Residents from every hospital nursing unit participated. Two of the participant’s had worked as nurses for more than ten years in an outpatient setting, but the remaining 26 had graduated from schools of nursing or pharmacy within the previous six months.

Measurement and Instrumentation

Two separate author-developed instruments were utilized to obtain both quantitative and qualitative data from ACES participants: the ACES Evaluation Form (AEF) and the ACES Evaluation Form (Likert Scale) (AEF-LS) (see appendix B and C). The AEF is a two-page, 12-item, short answer essay questionnaire. The Flesch-Kincaid grade level of readability of this tool is 5.8. The AEF-LS is a 21-item, Likert-type scale
evaluation with a section for brief comments below each question. The Flesch-Kincaid grade level of readability of this tool is 7.1.

Face validity was provided by a review panel of the YVMH Educational Resource Committee which consisted of expert hospital educators from many departments and the entire Educational Services Department staff. In an attempt to gain a more rich understanding of the participants’ experiences with the ACES program, both quantitative and qualitative data were examined.

Numerical data from the AEF-LS instrument were entered by the researcher into the Statistical Package for the Social Sciences (SPSS) Version 15.0 data analysis tool. The qualitative responses from both instruments were divided into sections for each item of the questionnaires. The participants’ responses were then manually entered into word processing software. This data was then coded into major themes.

Results, Discussion and Recommendations

Participants overwhelmingly felt that this course, and specifically the use of simulation, helped them to be better prepared for independent practice within the hospital. They felt that improved organization of the logistical aspects of the course would further facilitate their learning. Finally, participants stated that the course helped them gain valuable skills in hospital resource utilization, policy and procedure awareness and a sense of camaraderie amongst co-workers. See Figure 1 and Figure 2 for the detailed results of the AEF-LS and the AEF, respectively.

Key points from the AEF-LS included participants felt that the course helped develop critical thinking skills, better defined the participant’s roles as RNs at YVMH, and informed them of critical YVMH policies and procedures. Regarding the use of simulation, a majority of participants felt that the simulations accurately reflected potential patient care situations and felt that these simulations were good learning experiences. Simulation fostered communication skills, critical thinking, and prioritization skills—all qualities that YVMH was trying to improve in resident RNs. Interestingly, when asked if the overall ACES course helped develop ‘hands-on’ skills, 43% responded with a 5 on a 1-5 Likert scale. When asked if simulation helped with these same skills, 57% responded with a 5. Clearly simulation was a key piece in developing this
aspect of new graduates' care of patients; as previously supported in multiple other studies (Ackerman et al. (2007), Kelly et al. (2007), Beyea et al. (2007) and National League of Nursing (2006)).

Participants recommended that the course be better organized and time-managed to enhance their learning. The biggest recommendation for improvement came from participants' AEF-LS responses when asked if debriefing time helped identify strengths and weaknesses—25% of participants felt that this occurred infrequently, rarely or never. This was of huge importance to participants' learning because experts believe that this debriefing period of simulation is where higher level learning occurs (Arnold, Brost, & Torsher, 2008). In order to address this issue, all future staff who teach in the ACES program will undergo a 'train the trainer' course. Such a course will include debriefing training that stresses a uniform, depersonalized, student-driven approach to learning during debriefing. ACES instructors will take on the role of participants and complete a specific number of simulations and debriefings in the participant role before being asked to lead simulations and debriefings in a staff role.

Qualitative data supported the Likert-scale responses in that logistics and organization were consistently listed as areas of the course needing improvement. Participants recommended that the course be shortened to six weeks in length and that class days be mid-week rather than Monday. They further recommended that a strict time-schedule be kept for the simulation/debriefing sessions while ensuring adequate time for learning. It has been suggested by simulation experts that equal times be devoted to simulation and debriefing (Arnold et al., 2008). Results also suggested that students learned best with an active approach to learning, but some preferred a demonstration first style. Based on this data, a basic nursing skills review course will be part of the first day of the course in the future. This review will allow students to practice skills on the simulators such as communication, assessment skills, foley catheterization, IV pump programming and sterile technique at supervised skills stations without using active patient simulation case scenarios. This approach allows participants to refresh their skill repertoire and become accustomed to the idiosyncrasies of the simulators.

From the AEF, 70% of participants clearly felt that ACES covered helpful information that was not covered in their one-on-one time caring for live patients under the guidance of their preceptor (Table 2,
Question 7 in Table 2 was difficult to code: Ninety percent of participants felt they were better nurses after taking part in ACES, but for a wide variety of reasons. Participants felt that the following nursing skills were honed during ACES: resource awareness, a team approach to patient care, experience, and ‘hands on’ skills.

Often during the simulations, if a resident RN made a critical error, the simulated patient would have a reciprocal response which led to cardiac and/or respiratory arrest. These simulated code situations were very enlightening (as detailed in data from question number 9 in Table 2). Participants stated that the reasons that their simulated patients died were individuals “shutting down under stress” and/or demonstrating a “lack of knowledge”. However, participants noted that simulated patients did not die when a team approach to patient care was employed. All participants except for one said that the death of simulated patients was a learning experience, “You have no idea how paranoid I am about giving narcotics now...for the better.” And “My patient died because I was too slow or was not able to handle the situation appropriately. However, this is good because I learned from this experience.”

Qualitative data demonstrated that participants found simulation to be an excellent way to learn; nearly half of all of the participants listed simulation as their favorite part of the course. An unexpected but exciting finding was that the participants enjoyed the sense of community that the course fostered. Meeting and interacting with other new graduates who worked on various units in the hospital was viewed as an encouraging and supportive activity. Thirty percent of participants listed this sense of community as a key benefit of ACES. The other major benefit that was manifested in the AEF data was that students felt they had a greater awareness of resources and felt more comfortable in utilizing them upon completion of ACES.

An overwhelming majority of participant’s responses showed that simulation was the part of ACES that contributed the most to their learning. One commented that simulation, “…allowed (me) to make my own mistakes and learn from them.” Another said that in simulation, “I was put in a situation where I was NOT comfortable and had no idea what to do. As a result, I made many errors and I’m glad I did because I was able to learn from them.”
Given the evaluation data, YVMH's conclusion was that ACES is helpful in developing participant's clinical practice and that ACES should be required for anyone who needs help in this area. ACES participants clearly felt that ACES was beneficial and that simulation was the most valuable portion of the program. The participants made some excellent suggestions about how to improve the course and these changes are being implemented. ACES has been adopted by YVMH as a requirement for all newly hired RNs and the format has also been used as an educational tool for LPN's as the hospital is expanding the role of these nurses. In addition to newly hired personnel, future potential users at YVMH may include traveling healthcare workers, annual skills fair participants, persons deemed as requiring remediation, staff transferring to a different unit or pro-active employees who desire to practice rarely used, but critical skills and thought processes. YVMH and other facilities could consider using such a simulation-based program for skills competency evaluations such as those required by Joint Commission for Accreditation of Healthcare Organizations (JCAHO).

Limitations of this study lie in its relatively small sample size (n=28) and the fact that one lone researcher performed the qualitative data analysis. The study is based on a single pilot program from a single, small, community hospital. Another limitation is that the anonymity of the data obscures some potentially important descriptive statistics such as: previous experience with simulation, number of ADN versus BSN prepared nurses, previous nursing experience, age, gender and primary language.

Collaboration, such as that demonstrated by WSU-ICN and YVMH, fosters a sense of connectedness and community between nursing students and nurses employed by hospitals. Such a sense of camaraderie could help better prepare nursing students and increase the number of available nurses who want to work for a collaborating hospital, thus aiding in relief of the nursing shortage for hospitals that might employ such a program as ACES. A key factor in the collaboration between WSU-ICN and YVMH was the fact that the two developers of the ACES program had joint appointments at both institutions. Other institutions interested in producing a simulation-based nurse residency program should consider implementing such a staffing strategy to maximize staffing resources and foster communication between institutions.
At YVMH, the ACES program bridged the gap between academia and practice successfully by melding both faculty and resources to provide an innovative program to orient newly hired graduates. Future research should further stratify the sample to gain better understanding of participant responses. Future studies could also incorporate a demonstration-first model of education prior to simulation.
Reference List


Table 1: AEF-LS Results

Selected questions from the AEF-LS form are listed below with an actual response that was representative of the group’s responses. Also included is the mean score from 1-5 on the Likert-type scale.

<table>
<thead>
<tr>
<th>AEF-LS Question and Representative Responses</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Likert: 5=consistently, 4=frequently, 3=Infrequently, 2=Rarely, 1=Never)</td>
<td>(n=28)</td>
</tr>
<tr>
<td>1. The course was organized in a manner that facilitated my learning</td>
<td>4.3</td>
</tr>
<tr>
<td>“Somewhat unorganized at times. Progressively got better with our input.”</td>
<td></td>
</tr>
<tr>
<td>2. This course encouraged the development of my critical thinking skills</td>
<td>4.6</td>
</tr>
<tr>
<td>“Simulations were multi-dimensional and forced you to prioritize and use good judgment.”</td>
<td></td>
</tr>
<tr>
<td>3. This course helped me develop my “hands-on” nursing skills</td>
<td>4.2</td>
</tr>
<tr>
<td>“Extremely good scenarios that will help when floating to other units.”</td>
<td></td>
</tr>
<tr>
<td>4. This course...promoted my understanding of my role as a nurse at YVMH.</td>
<td>4.5</td>
</tr>
<tr>
<td>“This course was a positive experience throughout and touched on matters that I had a lot of questions—policy and procedures, especially.”</td>
<td></td>
</tr>
<tr>
<td>5. I found the simulations to accurately reflect situations that could occur with patients for whom I care (SimAcc)</td>
<td>4.1</td>
</tr>
<tr>
<td>“The simulations open(ed) my eyes to some of the areas where I can improve” and “It would be nice if occasionally groups were broken up into their units to learn unit-specific skills with scenarios.”</td>
<td></td>
</tr>
<tr>
<td>6. The simulations were good learning experiences (SimLearn)</td>
<td>4.4</td>
</tr>
<tr>
<td>“I felt like we did a lot wrong in the simulations and then had to correct as we debriefed,” and “Really helped with critical thinking and pathways.”</td>
<td></td>
</tr>
<tr>
<td>7. The debriefing time helped me to understand the strengths and weaknesses in my performance during the simulation (SimDebrief)</td>
<td>4.1</td>
</tr>
<tr>
<td>“Debriefing was the most helpful and informative, but I would like to know what I should have done, not just what I did wrong.”</td>
<td></td>
</tr>
<tr>
<td>8. The simulations fostered my critical thinking skills (SimCT)</td>
<td>4.5</td>
</tr>
<tr>
<td>“Hampered only by non-living patients.”</td>
<td></td>
</tr>
<tr>
<td>9. The simulations fostered my communication skills (SimComm)</td>
<td>4.1</td>
</tr>
<tr>
<td>“I learned where I can improve in becoming a better communicator.”</td>
<td></td>
</tr>
<tr>
<td>10. The simulations fostered my prioritizations skills (SimPrior)</td>
<td>4.4</td>
</tr>
<tr>
<td>“Not during the simulations. During debriefing I was able to prioritize better.”</td>
<td></td>
</tr>
<tr>
<td>11. The simulations fostered my development of core “hands-on” nursing skills. (SimHands)</td>
<td>4.4</td>
</tr>
<tr>
<td>“Definitely helped with things I have not yet encountered.”</td>
<td></td>
</tr>
<tr>
<td>12. The policy/procedure review was informative (Policy)</td>
<td>4.6</td>
</tr>
<tr>
<td>“Very much thought this was good, AND boring. But still good!”</td>
<td></td>
</tr>
</tbody>
</table>
Table 2: AEF Results

Select questions from the ACES Short Answer Evaluation Form (AEF) and the top two themes that were coded via qualitative summarization.

<table>
<thead>
<tr>
<th>AEF Question</th>
<th>Coded Response 1</th>
<th>Coded Response 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Describe the way you learn best</td>
<td>“Hands on” or Active</td>
<td>Demo first</td>
</tr>
<tr>
<td>Learning</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. What was your favorite part of this course? Why?</td>
<td>Simulation</td>
<td>Community</td>
</tr>
<tr>
<td>3. What was your least favorite part of this course? Why?</td>
<td>Policy Review</td>
<td>Logistics/Organization</td>
</tr>
<tr>
<td>4. What portion of the course contributed most to your learning?</td>
<td>Simulation</td>
<td>Hands-on</td>
</tr>
<tr>
<td>5. What suggestions do you have to enhance the course?</td>
<td>Organization/Logistics</td>
<td>Simulation Details</td>
</tr>
<tr>
<td>6. Do you feel that this course covered topics/skills that you have not</td>
<td>Yes, helpful</td>
<td>Yes, not helpful</td>
</tr>
<tr>
<td>covered with your preceptor?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Do you feel that this course has made you a better nurse?</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>8. List 3 benefits you have gained as a result of participating in this</td>
<td>Community</td>
<td>Resource Awareness</td>
</tr>
<tr>
<td>course</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. How many ‘patients’ died while you were the primary nurse caring for</td>
<td>None</td>
<td>One or more, shut down</td>
</tr>
<tr>
<td>them? Why did they die?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. If you could change the format/structure of the course, how would you</td>
<td>Logistics/Organization</td>
<td>Content</td>
</tr>
<tr>
<td>do so?</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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Appendix A

Repercussions of the nursing shortage

A number of the articles reviewed discuss the vicious cycle of the nursing shortage and how the shortage is reducing nursing students' ability to obtain essential practical experience. A shortage of nursing staff leads to increased enrollment in schools of nursing (Santucci, 2004; Beyea et al., 2007). Increased enrollment leads to a higher student load competing for a fixed number of clinical sites which results in decreased student clinical experiences and a constant flow of students through the few sites which are available (Beyea et al.). This constant flow leads to experienced RN/RN preceptor burnout (Beyea et al., Santucci) and ensuing experienced RN exodus from the nursing field. Fewer experienced RNs in the employment pool leaves inexperienced new graduate RNs to care for an increasing number of higher acuity patients (Ackerman et al., 2007; Beecroft et al., 2004; Beyea et al.; Santucci). Consequentially, there is increased stress on the nursing staff (both experienced and new graduates) (Kelly et al., 2007; Santucci) and this leads to more nurses leaving the field of nursing. And so the downward spiral continues.
Appendix B

ACES Evaluation Form (AEF)

ACES Evaluation Form

Please answer the following questions using constructive criticism and professionalism. Your comments are valuable in changing this course to best meet the needs of the Resident RN’s of the future. It is important that we learn the course’s strengths and weaknesses for each individual person.

1. On what unit do you work?

2. Please describe the way that you feel you learn best

3. What was your favorite part of this course and why?

4. What was your least favorite part of this course and why?

5. What portion of the course contributed the most to your learning? Why?

6. What suggestions do you have to enhance the overall quality of this course?

7. Do you feel that this course has covered topics/skills that you have not covered with your preceptor?

8. Do you feel that this course has made you a better nurse?

9. List 3 benefits that you feel you have gained as a result of participating in this course

1. 

2. 

3. 

10. How many “patients” died while you were the primary nurse caring for them? Why did they die?

11. If you could change the format/structure of the course, how would you do so?

12. Should you have any other comments, please list them below:
Appendix C

ACES Evaluation Form: Likert Scale (AEF-LS)

ACES Evaluation Form
(Likert Scale)

Please answer the questions below using the following scale. Circle the number that you feel best corresponds to your answer for each question. Your written comments are extremely helpful. Before beginning, please list the unit on which you work in the space above question number 1.

1 = Never
2 = Rarely
3 = Infrequently
4 = Frequently
5 = Consistently
NA = Not Applicable

EMPLOYEE UNIT ____________________________

1. This course was organized in a manner that facilitated my learning

   1  2  3  4  5  NA

   Comments:

2. The instructors facilitated instructor-student interaction

   1  2  3  4  5  NA

   Comments:

3. The instructors demonstrated enthusiasm about the subject matter

   1  2  3  4  5  NA

   Comments:

4. Class time was used efficiently

   1  2  3  4  5  NA

   Comments:
5. The student responsibilities in the course were clearly presented
   1  2  3  4  5  NA

   Comments:

6. This course encouraged the development of my critical thinking skills
   1  2  3  4  5  NA

   Comments:

7. This course helped me develop my “hands-on” nursing skills
   1  2  3  4  5  NA

   Comments:

8. The instructors demonstrated an attitude of mutual respect in instructor-student interactions
   1  2  3  4  5  NA

   Comments:

9. The instructors demonstrated expertise in the subject matter of the course
   1  2  3  4  5  NA

   Comments:

10. The instructors were interested and responsive to my concerns, questions and feedback
    1  2  3  4  5  NA

    Comments:

11. The instructors served as role models of professional nursing
    1  2  3  4  5  NA

    Comments:

12. The instructors were accessible and approachable
    1  2  3  4  5  NA

    Comments:

13. This course was valuable in promoting my understanding of my role as a nurse at YVMH
    1  2  3  4  5  NA
14. I found the simulations to accurately reflect situations that could occur with patients for whom I care

1 2 3 4 5 NA

Comments:

15. The simulations were good learning experiences for me

1 2 3 4 5 NA

Comments:

16. The debriefing time helped me to understand the strengths and weaknesses in my performance during the simulation exercise

1 2 3 4 5 NA

Comments:

17. The simulations fostered my critical thinking skills

1 2 3 4 5 NA

Comments:

18. The simulations fostered my communication skills

1 2 3 4 5 NA

Comments:

19. The simulations fostered my prioritization skills

1 2 3 4 5 NA

Comments:

20. The simulations fostered my development of core “hands-on” nursing skills

1 2 3 4 5 NA

Comments:

21. The policy/procedure review was informative

1 2 3 4 5 NA

Comments: