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Simulation Course Redesign

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This project is designed to improve students' quality of learning from the obstetric simulation education in N662, CNL (master's entry) program. The goals are to improve students' learning outcomes, increase students' recognition of educational best practices in simulation, and ensure that their learning outcomes meet the course objectives in obstetric simulation of N662 (see Appendix D). Students will be better prepared for their clinical practicum and ultimately enhance their clinical skill quality and experience in order to improve patient care.

Abstract

The purpose of this project is to enhance the clinical nurse leader (CNL) nursing students' learning experiences through simulation education, ensure that their learning outcomes meet course objectives, and increase students' recognition of educational best practices in simulation.

This summer semester, the number of students in the obstetric course doubled and the course was changed from four scenarios held over two simulation days for four pre-licensure students each class to five simulation days with eight to ten students in attendance each class period. While the old student-to-instructor ratio was three to four to one, the new ratio is nine to ten to one. In order to maintain the same quality of participation in the simulation, Dr. Loomis, the instructor of the simulation, would like to start this pilot of increasing the number of scenarios, which allows every student to play active roles in each scenario.

My role in this pilot is to utilize my expertise in maternity to assist Dr. Loomis in creating more scenarios, researching evidence-based practice to support the rationale in the scenarios, and to standardize the cases into an applicable template so that Dr. Loomis can continue to use these scenarios every semester going forward. Other instructors can replicate this pilot, which has three scenarios running in three rooms at the same time.

I plan to measure the outcome of this pilot by using the National League for Nursing (NLN)/Laerdal Research Study Instruments' Educational Practices Questionnaire which is a 16-item instrument using a five-point scale designed to measure whether four educational practices (active learning, collaboration, diverse ways of learning, and high expectations) are present in the instructor-developed simulation, and the significance of each practice to the student. Reliability was tested using Cronbach's alpha. Presence of specific practices = 0.86; importance of specific practices = 0.91 (National League for Nursing, 2018). Dr. Loomis asked the students to complete this survey after they complete five obstetric simulation sessions. We used Qualtrics to input the data from the survey for ease of data analysis afterwards.

Problem Description

The aim of this project is to ensure CNL students' quality of learning experience through simulation education. Originally, the obstetric course consisted of four scenarios held over two simulation days for four pre-licensure students each class during the summer semester. This year, the number of students doubled and the course was changed to five simulation days with eight to ten students in attendance each class period. If the number of scenarios had remained the same, some students would not have had an opportunity to play active roles, such as nurses, patients, family members, or doula. Instead, they would have been likely to be assigned as observers. In simulation activities, role play is a large part of the experience, and while it is not a new strategy in nursing education, it is generally acknowledged to be an effective tool in nursing education as well as in other professions that include specific skill development (Johansson, Skeff, & Stratos, 2012). Since many nursing programs have large groups of students participating in high-fidelity simulation (HFS) at once, students are often assigned to the observer roles (Harder et al., 2013)

Dr. Loomis and I started this pilot to create more scenarios in each simulation so that every student is able to play an active role in each scenario. In other words, each simulation class consists of three scenarios, which unfold in three separate scenes, with the same patient. In total, we have nine scenes, and each student can play an active role and rotate their roles from scene to scene. On the other hand, the scenarios currently being used have not been standardized or evidence-based. Thus far, I have used my expertise in maternity to assist Dr. Loomis in standardizing and providing evidence for the simulation topic content. This project can be considered an evidence-based activity that does not meet the definition of research. IRB review is not required (see Appendix A).

Available Knowledge

Using the PICO method, research was conducted in these data bases initially. The population of this project was the CNL (master's entry) students in N662. The intervention was to create more scenario cases and to search for more evidence-based literature to support the simulation cases. The control (comparison) would be keeping the same number of scenarios and having a majority of students act as observers in the scenarios. Improved students' recognition of educational best practices in simulation and students' learning outcome to meet course objectives will be the expected outcome of our project.

Simulation education is becoming an integral part of nursing education. Clinical simulation prepares nursing students for clinical experience caring for a variety of patients, practicing skills, learning from their mistakes through debriefing, and developing critical thinking without endangering a real patient. The National Council of State Boards of Nursing (n.d.) conducted a nationwide study of simulation use in pre-licensure nursing programs and the result of the study provides substantial evidence that up to 50% simulation can be effectively substituted for traditional clinical experience in all pre-licensure core nursing courses under conditions comparable to those described in the study. This study is a milestone in supporting the value of simulation use in pre-licensure clinical nursing education.

Hayden, J. (2010) acknowledges the NCSBN study and emphasizes the importance of understanding the prevalence of this new technology in nursing education, how this technology is utilized, and how educators are preparing to teach with this educational tool. The author claims that clinical simulation is part of the curriculum in the majority of pre-licensure nursing education programs in the United States. Briscoe, MacKay & Harding (2017) conducted a

qualitative and descriptive study, through a focus group with a voluntary purposeful sample of nursing students. Analysis of the data indicates that simulation does add value in preparing students for clinical practice and the findings are categorized under the following themes: experience and feelings of participating in simulation; preparation for simulation; learning objectives/outcomes; value for clinical practices; and how simulation could be improved to better prepare students for clinical practice. During preparation for simulation, the authors allowed students time before starting the simulation for them to become familiar with the scenario by reading the simulated patient's records and reviewing all the documentation, and developing and discussing their plan of care, mimics what occurs in real practice when nurses have an opportunity to read patient's chart prior to planning care. Objectives were essential to the simulation, serving to guide the learning process, and providing students with the awareness of the learning objectives of the simulation, which supports that the simulation scenarios should be in a standardized template since all the simulation learning outcomes are documented on the scenario template and this template informs students of the requirements of the simulation and provides relevant teaching and learning materials. Similarly, in Dr. Loomis's simulation class, she also allows time for the students to read the scenarios and the documentation. In between the different scenes when the students rotate their roles in a scenario, Dr. Loomis allows them to give a report to each other, which mimics the nursing practice and is well supported in this study. When some students reported the preparation for the cases was not enough, Dr. Loomis made some changes to the subsequent class accordingly. Dr. Loomis also made some changes in terms of making the course objectives more visible in response to some students' feedback that the objectives were not clearly conveyed.

In summary of this study, all students agreed simulations had a very positive impact on their clinical experiences, and most reported being in a similar situation in clinical practice as they had experienced in simulations and being able to apply what they had learned from the simulation to the clinical situation. The authors concluded that participating in simulation builds confidence, knowledge, and skills and appears to add value in preparing students for clinical practice.

Simulation education has become an essential part of nursing education, especially for novice nurses. Just as in any other fields within nursing, the impact of evidence-based practice (EBP) has echoed across nursing practice, education, and science. Certainly, when it comes to simulation education in nursing, all scenarios and rationale should also be written based on current best practice guidelines. According to Kardong-Edgren (2013), best EBP guidelines can be introduced, implemented, and reinforced using simulation. Simulation serves as an educational tool to disseminate best practices and educate nurses and students with updated knowledge. Nurses unaware of the changes in practice were updated during the debriefing process and left feeling positive and educated. The author suggests nurses take the current best practice guidelines from simulation back to their units, providing further diffusion of current best practice guidelines into the clinical areas.

Halstead, J. A. (2006) suggests that teaching and learning innovations that are designed for use with high-fidelity simulation technology need to be evidence-based so that educators can be assured that they are developing best practices in teaching with clinical simulations and identifying benchmarks and quality indicators to improve and ensure consistency of student outcomes. The prevalence and the value of patient simulation in nursing education has been well documented and supported. However, due to increasing number of nursing students and

constrained time and schedule, often times students are being randomly assigned to the role of observer. Although research on high-fidelity simulation (HFS) is rapidly emerging, little research has been conducted to examine the various roles assigned to students in these simulations, including the impacts these roles could have on nursing students' perceptions of their learning (Harder, Ross, & Paul, 2013).

While the value of HFS in nursing education has been well-studied for students in traditional active roles, the observer role in HFS may not be used to its full potential for student learning and increasing numbers of student participants (Hober, & Bonnel, 2014). Nikendei, et al., (2007) conducted a randomized controlled trial with 36 medical students participating in videotaped small group skills-lab sessions on the topics of Doppler sonography and gastric tube insertion. The authors had half of the students participating in role-play while the other half acting as observers. The authors concluded that participants who acted in observer roles perceived the experience to be less realistic than did those in active roles (Nikendei et al., 2007).

Harder et al., (2013) conducted a focused ethnography to discover the culture of learning and the factors that impact student learning in high-fidelity simulation (HFS). The authors found the students preferred to be assigned to active rather than observer roles and that structured roles positively affected student learning and decreased frustration among those engages in HFS. They suggested that assigning students to the role of observer should be kept to a minimum because of the lack of engagement (Harder et al., 2013).

Furthermore, Leigh, Miller, & Ardoin, (2017) suggested that many students frequently receive the role of observer during clinical patient simulations and unfortunately, some of them become passive observers and experience limited learning due to insufficient active engagement with the clinical simulation. Similarly, Littlefield, Hahn, & Meyer, (1999) found that active

participants scored statistically significantly higher in their ability to obtain a thorough patient history in simulation.

In conclusion, the studies above show that students can learn much more in HFS than what may be part of the initial objectives when instructors carefully assign students into an active role or rotate participant roles (Traynor, Gallagher, Martin, , & Smyth, 2010). Since simulation involves a significant amount of role play from the participants, it is imperative that instructors understand the ways in which role play impacts students' learning and find a way to achieve maximum benefit from this teaching modality. Nevertheless, this CNL (master's entry) obstetric class is in dire need to create more simulation scenarios to allow each student play an active role in each scene in order to ensure more learning opportunities and better outcomes rather than some students acting as observers or "too many bodies" in the sim lab room at once. In the meantime, to ensure quality of teaching, learning and the consistency of student outcomes, using current evidence-based practices in simulation education is important (Halstead, 2006)

Rationale

We used the National League for Nursing (NLN)/Jeffries Simulation Framework to explain the problem and why our intervention was expected to work. The NLN/Jeffries Simulation Framework addresses that simulation activities should be learner-centered and that they should be designed to meet learners' needs and promote learner engagement (Adamson, 2015). Learner/teacher collaboration such as formative assessment and participant involvement in the planning of simulation activities helped meet participants' specific learning needs (Elfrink, Nininger, Rohig, & Lee, 2009).

The International Nursing Association for Clinical Simulation and Learning (INACSL) standards of best practice (2016) is another resource for my conceptual framework. Criteria necessary to meet the standard include: maintaining a facilitative approach that is participant centered and driven by the objectives, participant's knowledge or level of expertise, and the expected outcomes. To meet this standard requires a multistep process which begins with a pre-briefing followed by the simulation-based experience. This ends with a debriefing and/or feedback session, including an evaluation of the participant(s), the simulation-based experience, the facility and the support team. Preparation materials and resources are provided to encourage the participants' ability to meet identified objectives and attain expected outcomes of the simulation-based experience. Finally, the simulation-based experience must be pilot tested before full implementation can occur.

In observance of Dr. Loomis's obstetric simulation sessions, all of the sessions closely follow the criteria of the best practice from INACSL and NLN/Jeffries Simulation Framework. However, if we had not created more scenarios, we would not have been able to allow all of the students play an active role in the scenarios. As a result, learning participation would be decreased and we would not have been able to promote learner engagement as much as we did with more scenarios. On the other hand, each simulation session follows a routine of a pre-briefing, scenarios, debriefing, and an evaluation. Dr. Loomis is always available with students discussing their questions in the textbook and orienting learners to the simulation experience. Dr. Loomis also spends time in the debriefing with students to review what could have gone better after each scene, which dramatically helps students in learning from each other's mistakes or experiences and students' feedback confirmed that they learned enormously from Dr. Loomis' debriefing. At the end of each simulation session, after a total of nine scenes

from three different cases, Dr. Loomis spent time gathering feedback about the simulation from all of the students. Additionally, as the INACSL suggests, this project is a pilot that will test a small change in this program before full implementation is made to every program. Finally, as mentioned above, updating the scenarios with current EBP best practices as part of my project was crucial as it is a way of assuring quality of teaching and learning and the consistency of student outcomes (Halstead, 2006).

Specific Project Aim

The goals of the project are to enhance the learning experience of the CNL (master's entry) pre-licensure students from the obstetric simulation education, increase their recognition of educational best practices in simulation, and ensure their learning experiences meet course objectives (see Appendix D). Due to an increase in the number of students for the simulation course, N662 at the University of San Francisco is in dire need of more simulation scenarios for each student to participate in order for the students to meet expected learning outcomes and course objectives. The process starts with standardizing and providing evidence for the content of simulation topics, followed by creating more similar scenarios so that all of the students can play a role in the scenarios rather than being the observers. I utilize my expertise in maternity to help write the scripts and standardizing the simulation scenarios into a template format. The process ends with measuring the outcome of the pilot using the National League for Nursing (NLN)/Laerdal Research Study Instruments, Student Educational Questionnaire to measure whether four educational practices (active learning, collaboration, diverse ways of learning, and high expectations) are present in the instructor-developed simulation, and the significance of each practice to the student. By implementing this pilot, we expect students to be better prepared

for their clinical practice (Briscoe, MacKay & Harding, 2017), and that the new structure increases their recognition of educational best practices in simulation.

Context

The structure of the maternity clinical courses changed because of the increased number of students. Previously, students were arranged in four or five clinical groups of eight students who would be placed in local hospital maternity units for a semester of clinical experience. Then one or two students would rotate out of each clinical group each week to attend the simulation classes which were divided into morning and afternoon sessions. With four clinical groups, that would usually net only three or four students in the simulation class at any one time. Students would only come to the simulation class two times per semester. The instructor would administer two cases for each of these two classes and repeat the cases all semester until all students had come twice for the simulation classes.

Because of changes in the clinical site structure, fewer clinical sites were willing to take CNL students for the clinical courses. Those that agreed to take students were more likely to take students if they came to the site only five weeks instead of ten weeks during the semester. Consequently, the simulation class was restructured to offer simulation classes five days (once a week for five weeks) to half of the class while the other half of the class took the clinical course. As a result, this allowed only half of the students as previously to be on the clinical floor.

The new structure would work for the clinical sites, but it would mean that instead of three to four students at one time in the simulation class there would be nine or ten students, the classes would swell to four to five class days.

We could have run the same single cases and had one-third of the students "playing" roles in the case, and two-thirds of the students observing. They would all switch out during the three unfolding scenes of the case but they would have only been active for one-third of the class and observing for remaining two-thirds. Some instructors would even have to stick extra people into the scenario (mothers, aunts, sisters, the cab driver, etc.) which leaves students feeling like they are "extras" on a set.

Dr. Loomis came up with this plan that allows all students to be active every scene. The learning objectives are the same, and the story lines are very similar but Dr. Loomis and I bring in different aspects of the cases that allow more student discussion and learning. However, this pilot only really works because the instructor, Dr. Loomis, can see into and observe all three rooms simultaneously. It would be difficult, if not impossible, if the rooms weren't so close together.

SWOT analysis

S (Strength): The strengths of this project are that the instructor was on board with me and we did not have to convince anyone else to implement this change. Compared to any other projects that may have encountered the resistance from nurses who dislike changes, this project is relatively easier in terms of rolling out the change. Dr. Loomis and I both worked hard to find evidence-based practices to support the rationale in the scenarios and created more scenarios so that students would be able to experience more cases in the simulation sessions.

W (Weakness): The major weakness of this project is that we were unable to obtain a pre- and post- change comparison from the same group of students since this group of students has only experienced the new structure of simulation, which is three scenarios running at the same time with a maximum of three students in each scenario rather than one scenario with nine

students. We added three hypothetical questions that asked students to compare this new structure of simulation with three scenarios running at the same time versus if they would have had only one scenario and the majority of students would have been the observers. The other weakness that I encountered as I implemented this project was that I had difficulty finding a suitable template that I can use for all of the obstetric scenarios. The California Simulation Alliance (CSA) template may be more suitable for primary care cases and not obstetric scenarios such as prenatal, labor, and postpartum cases.

O (Opportunity): Thus far we have received highly positive feedback from the students, which suggests that this new structure of simulation can definitely be adopted by other classes in the school, which will be an opportunity for the school to save the cost of hiring two additional instructors each semester. By having multiple scenarios held at the same time with one instructor, it is more cost effective for school to have doubled the number of students with one instructor without compromising students' learning experiences.

T (Threats): This pilot only really works because the instructor, Dr. Loomis, can see into and observe all three rooms simultaneously. It would be difficult, if not impossible, if the rooms weren't so close together. The way to mitigate the threat is to record the three scenarios that take place at the same time so if there are any missing moments that the instructor did not catch, the instructor can go back and review it with the class during debriefing. This threat may open up another project opportunity for a business plan proposal in the future for the school to consider purchasing recording equipment.

Intervention

What Dr. Loomis and I did for this summer semester was that we created two more scenarios in each simulation session every week. Instead of having only one scenario with four students, we created a total of three scenarios, one per room. The simulation session began with a pre-briefing session to orient the students and reviewed all of the questions they had in the textbook. The instructor then gave students the script of the scenario and prepared the students who played the patient for the first run. The student who played the nurse gave a hand-off report to the student who played the nurse in the second scene. By the same token, the student who played the nurse handed off to the student who played the nurse in the third run so they could also practice "nurse to nurse hand-off report".

Each scenario occurred in a separate room in the simulation lab for twenty minutes with three students in each room playing the different roles. The roles the students could play included the patient, the mother's nurse, and the baby's nurse, or the patient, doula, and the nurse, depending on the cases. The three "patients" in each room had different names, background, and similar story lines with slight differences. Each "patient" in all three scenarios went through three different time intervals, such as immediately after delivery, at 24 hours postpartum, and at 48 hours postpartum for discharge teaching, which was a total of nine scenes unfolding in about four hours on the postpartum simulation day. All three rooms started the first scene with the same time interval for about twenty minutes. The students then had a debriefing session right after each unfolded scene where they discussed what they learned and what they could have done better next time. Then they continued to the second time interval scene by playing a different role and repeated the debriefing session. At the end of the nine scenes, all of the students gave feedback of how these scenarios ran and their thoughts about the simulation

learning experiences. They could also ask the instructor their questions about the material in the textbook or from their didactic class.

Along with creating more scenarios, I also attempted to help standardize the cases into an applicable template so that Dr. Loomis could use them every semester going forward or other instructors could reproduce it. However, as mentioned above, I encountered some barriers along the way as I attempted to find a suitable template and so far, I've had no success. In the meantime, I have been researching for evidence-based information to support the rationale in the scenarios so that we can ensure these scenarios are developed with best practices in teaching and consistency of student outcomes in mind (Halstead, J. A., 2006)

Measures

I chose to use the National League for Nursing (NLN)/Laerdal Research Study Instruments' Educational Practices Questionnaire as the instrument has been tested for its validity and reliability. The survey tool is a 16-item instrument using a five-point scale, designed to measure whether four educational practices (active learning, collaboration, diverse ways of learning, and high expectations) are present in the instructor-developed simulation, and the importance of each practice to the learner (Jeffries and Rizzolo, 2006). An "active learning" subscale contains ten items measuring opportunities for active learning and participation in simulation. A "collaboration" subscale contains two items about working together with peers during simulation. A "learning diversity" subscale contains two items measuring opportunities for learning material in simulation. Lastly, a "high expectation" subscale contains two items measuring objectives and expectations presented during simulation. Response options for statements related to presence of simulation design features were 1) strongly disagree, 2) disagree, 3) undecided, 4) agree, 5) strongly agree, and NA) not applicable using a Likert-style

scale. Reliability was tested using Cronbach's alpha. Presence of specific practices = 0.86; importance of specific practices = 0.91(National League for Nursing, 2018). Higher scores represent increased recognition of educational best practices in simulation.

We added three hypothetical questions that asked students to compare this new structure of simulation with three scenarios running at the same time versus if they would have had only one scenario and the majority of students would have been the observers. These three questions were not tested for reliability or validity. However, they are helpful for us to know what students' opinions are regarding this specific change in simulation structure.

Students were asked to complete the Educational Practices Questionnaire after the last obstetric simulation session. For ease of data analysis afterwards, Dr. Loomis and I used the available statistical software, Qualtrics, to generate survey report.

Ethical Considerations

According to International Nursing Association for Clinical Simulation and Learning (INACSL) standards of best practice, the ethical aspects of simulation refers to the ethical behaviors and conduct that are expected of all involved during the entire simulation-based experiences, which encompass several attributes such as confidentiality, compassion, honesty, commitment, collaboration, mutual respect, and engagement in the learning process (INACSL Standards Committee, 2016). The aspect that is involved with our project is confidentiality. As recommended by INACSL, the school must have established ways of sharing student performances. For example, students are not allowed to share information about other students' performances in the simulation. All of our cases have been created fictitiously so there should be no confidentiality issue regarding patient's privacy.

Results

I have made numerous adjustments (see Appendix C for timeline) (see Appendix F for results) since I began working on this project with my preceptor. At the very beginning, the project was going to involve just standardizing all of the scenarios for the obstetric simulation class. Later, my preceptor received a short notice from school that the number of students would be doubled in the simulation class this semester and my preceptor had to change gears on the structure of the simulation in order to provide the same quality of experience to the students. As a result, we brainstormed how we were going to move forward with the project. At that time, even though we clarified our goal and the rationale of the change, I was uncertain whether or not I would be able to find evidence that supported the rationale of the change. After I spent quite a bit of time conducting preliminary research, I was able to find the evidence I needed to support the rationale of creating more scenarios improves learning outcomes. Whilst researching, I also encountered a major barrier on how I was going to measure the goal for this project. Since this new group of students have only experienced the new structure of simulation, which is three scenarios running at the same time with a maximum of three students in each scenario rather than one scenario with nine students, they will be unable to give us a "pre"-change standard through the survey. Therefore, I had to modify the goal so that there is consistency in between the goal and what we measured. However, everything turned out smoothly. We were able to modify a few steps and came up with a measurable goal, as well as finding a measurement instrument, which measured students' recognition of educational best practices in simulation.

The vast majority of the sample (N=17) were female (two were male and fifteen were female). They were all pre-licensure nursing students of CNL (master's entry) program at USF,

who had not gone through any clinical practicum hours and this simulation class was to prepare them for their clinical skills prior to the clinical practicum at local hospitals.

As mentioned above in the measurement section, the Educational Practices Questionnaire (EPQ) tool contains sixteen items assessing perceptions of education best practices' presence and importance in simulation (Jeffries and Rizzolo, 2006). It contains four subscales: an "active learning", a "collaboration", a "learning diversity", and "a high expectation". Dr. Loomis and I added three questions at the end of the survey to measure students' feedback specifically to this new structure of simulation.

Active Learning (Table A) (M= 4.667, SD=0.59, variance=0.43

The scores were mostly positive, ranging from 2 (disagree) to 5 (strongly agree). We received positive feedback on a majority of the statements (M= 4.667) and only two items stood out as receiving the lowest scores in this subscale category. The two items were "there were enough opportunities in the simulation to find out if I clearly understand the material" (M=4.53, SD=0.98, variance=0.96) and "I received cues during the simulation in a timely manner" (M=4.0, SD=1.14, variance=1.29).

In regards to the second part that asked how important this statement is to you (Table A1), students rated almost every statement as very important (M=4.64, SD=0.59, variance=0.38). Only one item "the instructor was able to respond to the individual needs of learners during the simulation" stood out as being rated the least important (minimum=1, M=4.47, SD=1.09, variance=1.19).

Collaboration (Table B) (M=5.03, SD=0.12, variance=0.03)

Students had very positive responses except for one student who answered "not applicable" to item, "I had the chance to work with my peers during the simulation" and one student who answered "undecided" to item "using simulation activities made my learning time more productive". Otherwise, all of the answers were at five (strongly agreed).

Regarding the second part of how important these questions to you (Table B1), most students rated these two questions as very important. Only one student rated the question, "using simulation activities made my learning time more productive" as important, and another two students rated the question "I had the chance to work with my peers during the simulation" as neutral and important, rather than very important (M=4.74, SD=0.57, variance=0.33).

Diverse Way of Learning (Table C) (M=4.41, SD=0.75, variance=0.58)

Students gave a slightly lower rating to the item, "the simulation offered a variety of ways in which to learn the material". One student rated "undecided", six students rated "agree", and ten students rated "strongly agree". The next item, "this simulation offered a variety ways of assessing my learning", received one negative answer of "disagree with the statement", two "undecided", five "agree", and nine "strongly agree". So far, this statement received the most negative value.

Regarding the second part of how important these items are to you (Table C1) (M=4.47, SD=0.88, variance=0.825), the first item received more positive ratings. However, the second question, "this simulation offered a variety ways of assessing my learning" received a "not important" from one of the students. Most notably, this student also rated one of the previous items "the instructor was able to respond to the individual needs of learners during the simulation" as "not important".

High Expectations (Table D) (M=4.59, SD=0.64, variance=0.42).

In this section, all students gave positive ratings to both items except two "undecided" to the first item, one "undecided" and two "agree" to the second item. The only thing that stood out in this section is that one student did not rate either question so we were missing one count.

As to the second part of high expectation (Table D1), the importance of each item to the students, most students rated each statement positively. There were no negative comments. In other words, both statements are important to all of the students (M=4.65, SD=0.68, variance=0.46).

Added questions specific to the new structure of simulation (see Appendix F)

The first question (Q17), "the three scenarios at one time enhance my learning, why", received one "disagree", three "undecided", two "agree", and nine "strongly agree". We received a total of eleven comments to the why question, out of which there were three negative and eight positive comments. The three negative answers include, "would have been helpful to observe and discuss sometimes", "good to have multiple perspectives", and "sometimes the three scenarios are more difficult to switch in between". The positive comments include, "I was able to progress through the scenes and how to respond", "helps me focus on my scenario", "it is closer to real life encounters. During debriefs we learn from each other", "this allows for more learning. Observing only helps so much. The real practice begins hands-on", "yes, because we were able to follow the progress of the patient", "different views", "got to see a variety of patients more variability = most accurate in real life", and "know other scenarios".

In regards to how important the first statement is important to the students, one student responded somewhat important, three students responded neutral, two students responded

important, and nine students responded very important. The next question (Q18), “I preferred to be a participant rather than an observer during the simulation. Why”? One student responded “undecided”; two “agree with the statement”; nine “strongly agreed with the statement”, while three responded “not applicable”. Out of the eleven comments, three were negative, three were neutral, and five were positive. The negative comments included, “both observation and participation are useful”, “I liked to experience both”; and “I like being both. I learn from doing and seeing”. The neutral comments included, “It varied depending on the topics”; “both, I learn from both roles”; and “We participated in all scenes”. The student who answered “We participated in all scenes” also answered “it would have been helpful to observe and discuss sometimes” in the last question. The positive answers included, “It helps me be more proactive and prioritize”; “This allowed for more material and scenarios to be learned at one time. Each patient being different helped so that we would share with each other our ideas and communication. It really helped to have all of our scenarios ahead of time so that we could better prepare”; “I learn better by doing than by observing. Dr. Loomis, I thoroughly enjoyed this simulation class. I really appreciated how it was set up. You have been an excellent instructor. I wish I could take more classes with you”; “I learn the most by doing. It is different in real life”; and “learn more this way”. In terms of how important this question is to the students, nine students considered this question very important to them, five considered important, and one considered neutral. There were no negative answers to this question.

As for the last added question “please write any additional comment about the simulation sessions”, we received fourteen comments. Four of them were negative, including “it’s very distracting when classmates are typing and doing other work during out group discussion. Please establish some ground rules about this. Would be nice to observe and then provide feedback to

classmates sometimes vs. all sim'ing at the same time"; "being a patient helped my learning, wish I could have observed other groups and discussed things to improve on specifically"; "some personal feedback, constructive or reinforcing would be helpful"; and "I enjoyed staying in [with] one patient for the entire day to follow their progression".

There were two neutral comments, "I enjoyed staying with the same patient and rotating positions because it gave a better understanding of how to respond as the patient situation changes"; and "I would have liked to receive more individual rather than group feedback. Dr. Loomis is very smart and experienced with her life of work and nursing insight".

Out of the fourteen comments, we received eight positive comments, including "SIM was very helpful! The only thing that would have helped is a quick disclaimer explaining the degree to which we could physically enact interventions at the beginning"; "I found simulation very helpful, it was especially helpful in augmenting the learning from the theory obstetric course"; "I liked that everyone participated in the sim at all times – I felt like I learned way more this then just observing"; "it was a pleasure learning from you. Thank you for your kindness and patience"; "I learned from the comments made by the teacher before, during, or after the simulation. This was very helpful. Pre and post conference"; "best debriefing I have seen, calm, supportive and thorough knowledge of material. Good to keep all students engaged throughout. No downtime with different roles, different learning. The only downside is more difficult preparation and more organization needed"; "I really enjoyed this class. Thank you so much"; and "three scenarios at once with debriefing afterward is helpful. More opportunities to learn from others. I liked the different scenarios but being in one case worked well too".

Discussion

Overall, this group of students gave very positive feedback about this simulation class, which means that they had a high recognition of educational best practices in simulation. Their comments included that simulation was very helpful, that they liked the hands-on practice, that they liked everyone participated in the simulation, and that they liked the instructor and thought that she had done a phenomenal job in being knowledgeable and capable of answering all of their questions. Specifically, students recognized that they had the chance to work with their peers during the simulation and that their peers and they had to work on the clinical situation together.

In separate subscale analysis, two items that stood out as receiving the lowest scores were "I received cues during the simulation in a timely manner" and "there were enough opportunities in the simulation to find out if I clearly understand the material". This may mean that the instructor was unable to immediately point out their mistakes or provide cues during the simulation and these negative scores came from a student who preferred to be the observer. However, Dr. Loomis did not provide any feedback intentionally during simulation as she did not want to disrupt the flow, to make it as real in the clinical setting as possible.

In the "collaboration" subscale, we received highly positive responses except for one student, who rated, "I had the chance to work with my peers during the simulation" as "undecided". We are not too worried about this undecided answer since all of them did have numerous chances to work together during simulation. The overall highly positive results can be interpreted as they did meet the course objective as they developed ability to collaborate and communicate with their peers to achieve optimal patient outcomes (Table B and Table B1).

In the "diverse ways of learning" subscale, one of the items stood out as receiving the lowest score, "disagree", in the entire survey. The statement was "this simulation offered a

variety of ways of assessing my learning". This particular student also rated low to some other questions and she expressed that she would prefer being an observer and complained it was distracting when classmates typed on their laptops. Generally speaking, this was an unsatisfied student who was unhappy for some reason during the class. If we look at the whole picture, we received extremely positive ratings to all the items, which reassured that students had a high recognition of educational best practices in simulation.

Lastly, in the "high expectations" subscale, no negative rating was given and there were only two neutral scores, which means majority of the students agreed that the objectives for the simulation experience were clear and easy to understand, and that my instructor communicated the goals and expectations to accomplish during the simulation. With this being said, course objectives were met by students' perceived learning outcomes.

While a majority of the students recognized the benefits of this simulation class and gave positive feedback, there were four outliers who had different viewpoints and gave particularly lower ratings to not only to the sixteen items in the original survey, but also to the added three items specifically to this new structure of simulation. Their comments included that they would rather be observers, that three scenarios made it hard to switch between, and that it was nice to observe how other students performed. However, a majority of the students agreed that having more scenarios would allow everyone to participate. Students who gave positive ratings commented that they were able to see a variety of patients, which resembled real life, they learned the most by doing rather than observing, this new structure allowed more opportunities to learn from others, playing an active role helped them be more proactive and know how to prioritize, this new structure allowed for more learning, observing only helped so much, the real practice begins hands-on, this new structure allowed for more material and scenarios to be

learned at one time, each patient being different helped so that they would share with each other their ideas and communication, this new structure was good because it really kept all students engaged throughout, with different roles, there was no downtime, the good part of the new structure is that they were able to follow the progress of the patients.

Comparing the overwhelming positive comments about general simulation experiences, we received more conservative feedback on whether or not having more scenarios at the same time is beneficial. The four outliers, particularly, mentioned that they would rather stay with the same patient scenario instead of rotating around in different scenarios and that it was challenging to be in different scenarios. One of them commented that it was distracting when others were typing on their laptops during debriefing. Another student mentioned the course objectives were not conveyed clearly, even though Dr. Loomis always posted the objectives in the learning materials on the website. A couple other students made comments that they needed a quick disclaimer or an orientation explaining the degree to which they could physically enact intervention, more orientation, or even if they could have the scenarios ahead of time for them to be better prepared.

As a result of the feedback identified above, Dr. Loomis made a few changes in the subsequent simulation sessions after this group of students. The changes included all students staying in the same scenario but rotating in different roles in each scene rather than rotating in different scenarios at each scene, ground rules being made such as students not being allowed to use their laptop during debriefing and that Dr. Loomis reviewing the course objectives with the entire class before they start simulation sessions so that students know what the expectations are for this simulation class. If she could, she would email the students the scenarios ahead of time so that they can be better prepared.

Conclusions

Simulation has become a ubiquitous learning and assessment tool for novice nurses, and evaluation of simulation effectiveness is imperative to both academics and practice. In order to enhance the clinical nurse leader (CNL) nursing students' learning experiences through simulation education, ensure that their learning outcomes meet course objectives, and increase students' recognition of educational best practices in simulation, N662 at University of San Francisco is in dire need of more simulation scenarios for each student to participate so that the students can meet expected learning outcomes and course objectives. The survey results from this group of students showed that students' perceived educational best practices were present and recognized. They actively learned in various ways, collaborated, and acknowledged that the objectives for the simulation were clear. In other words, the goals of our project, to improve students' learning outcomes, to increase students' recognition of educational best practices in simulation, and to ensure that their learning outcomes meet the course objectives in obstetric simulation of N662, have been successfully reached with this new structure of simulation.

One of the limitations as mentioned above is that we were unable to collect a pre- and post-change comparison with the same group of students since this structure is the one and only simulation they have had. Nevertheless, we added three items to the survey, with which we obtained numerous useful information from the students. Their comments confirmed our decision of making the change to the structure. Additionally, the other limitation at this time was the difficulty in finding a suitable template to fit all of the obstetric scenarios. If the scenarios were to be standardized, it would be easier for Dr. Loomis or other instructors to reuse the scenarios. However, even with this barrier, Dr. Loomis surely will continue with this format for the subsequent simulation classes since the feedback from the last group was so positive.

Budget-wise, with these three scenarios running at the same time, each semester going forward we would be saving the cost of hiring two additional instructors so this is rather cost-effective for school. Of course, this will only work when three rooms are close together. It would be difficult, if not impossible, if the rooms weren't so close together, yet using a recording system would be a way to mitigate this barrier which opens up another project opportunity for a business plan proposal in the future for the school to consider purchasing recording equipment.

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Appendix A

EVIDENCE-BASED CHANGE OF PRACTICE PROJECT CHECKLIST *

STUDENT NAME: Hsuan Ho

DATE: 6/5/2018 .

SUPERVISING FACULTY: University of San Francisco .

Instructions: Answer YES or NO to each of the following statements:

Project Title:	**YES**	**NO**
The aim of the project is to improve the process or delivery of care with established/ accepted standards, or to implement evidence-based change. There is no intention of using the data for research purposes.	x	
The specific aim is to improve performance on a specific service or program and **is a part of usual care**. ALL participants will receive standard of care.	x	
The project is **NOT** designed to follow a research design, e.g., hypothesis testing or group comparison, randomization, control groups, prospective comparison groups, cross-sectional, case control). The project does **NOT** follow a protocol that overrides clinical decision-making.	x	
The project involves implementation of established and tested quality standards and/or systematic monitoring, assessment or evaluation of the organization to ensure that existing quality standards are being met. The project does **NOT** develop paradigms or untested methods or new untested standards.	x	
The project involves implementation of care practices and interventions that are consensus-based or evidence-based. The project does **NOT** seek to test an intervention that is beyond current science and experience.	x	
The project is conducted by staff where the project will take place and involves staff who are working at an agency that has an agreement with USF SONHP.	x	
The project has **NO** funding from federal agencies or research-focused organizations and is not receiving funding for implementation research.	x	
The agency or clinical practice unit agrees that this is a project that will be implemented to improve the process or delivery of care, i.e., **not** a personal research project that is dependent upon the voluntary participation of colleagues, students and/ or patients.	x	
If there is an intent to, or possibility of publishing your work, you and supervising faculty and the agency oversight committee are comfortable with the following statement in your methods section: *"This project was undertaken as an Evidence-based change of practice project at X hospital or agency and as such was not formally supervised by the Institutional Review Board."*	x	

Appendix B

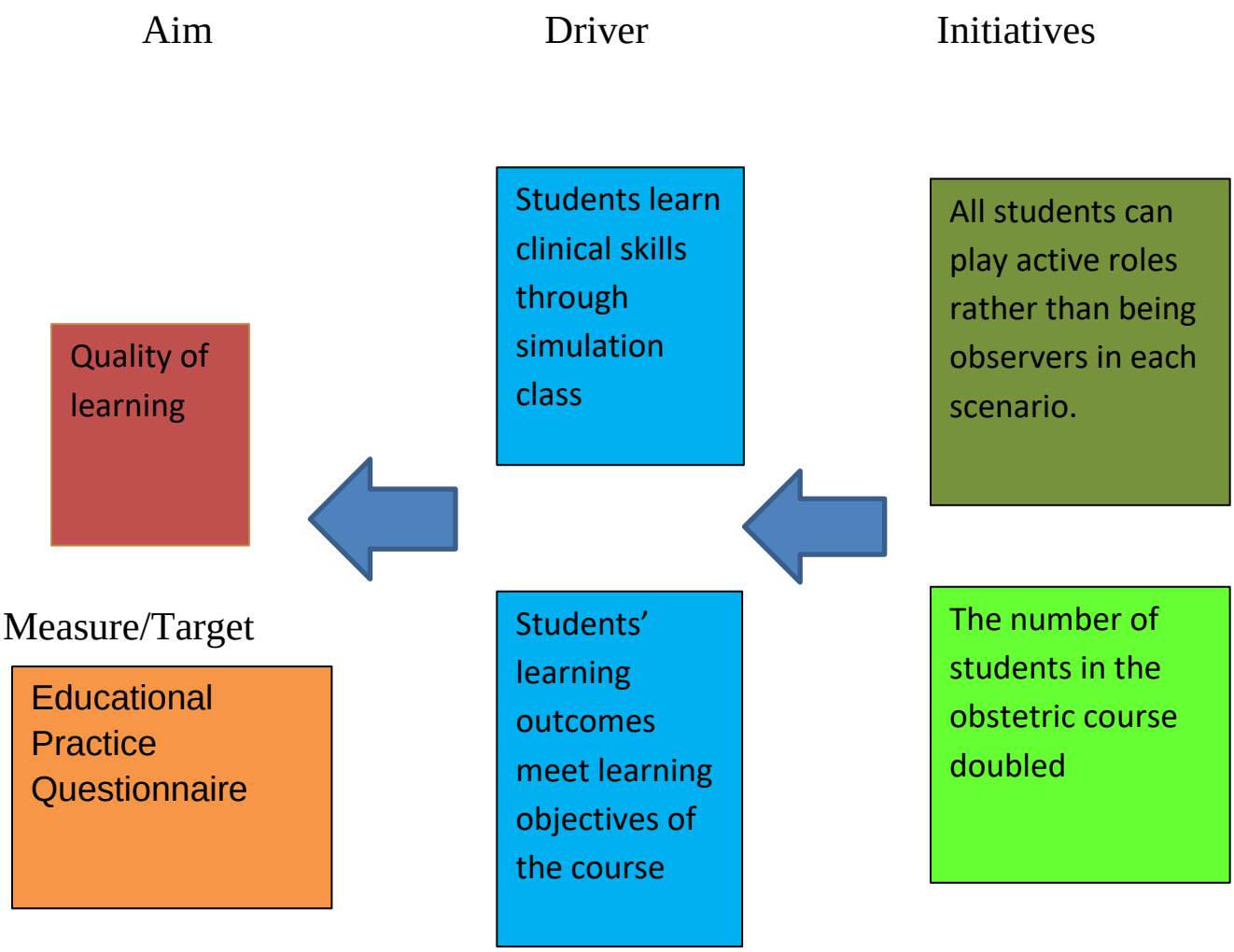
Evaluation Table

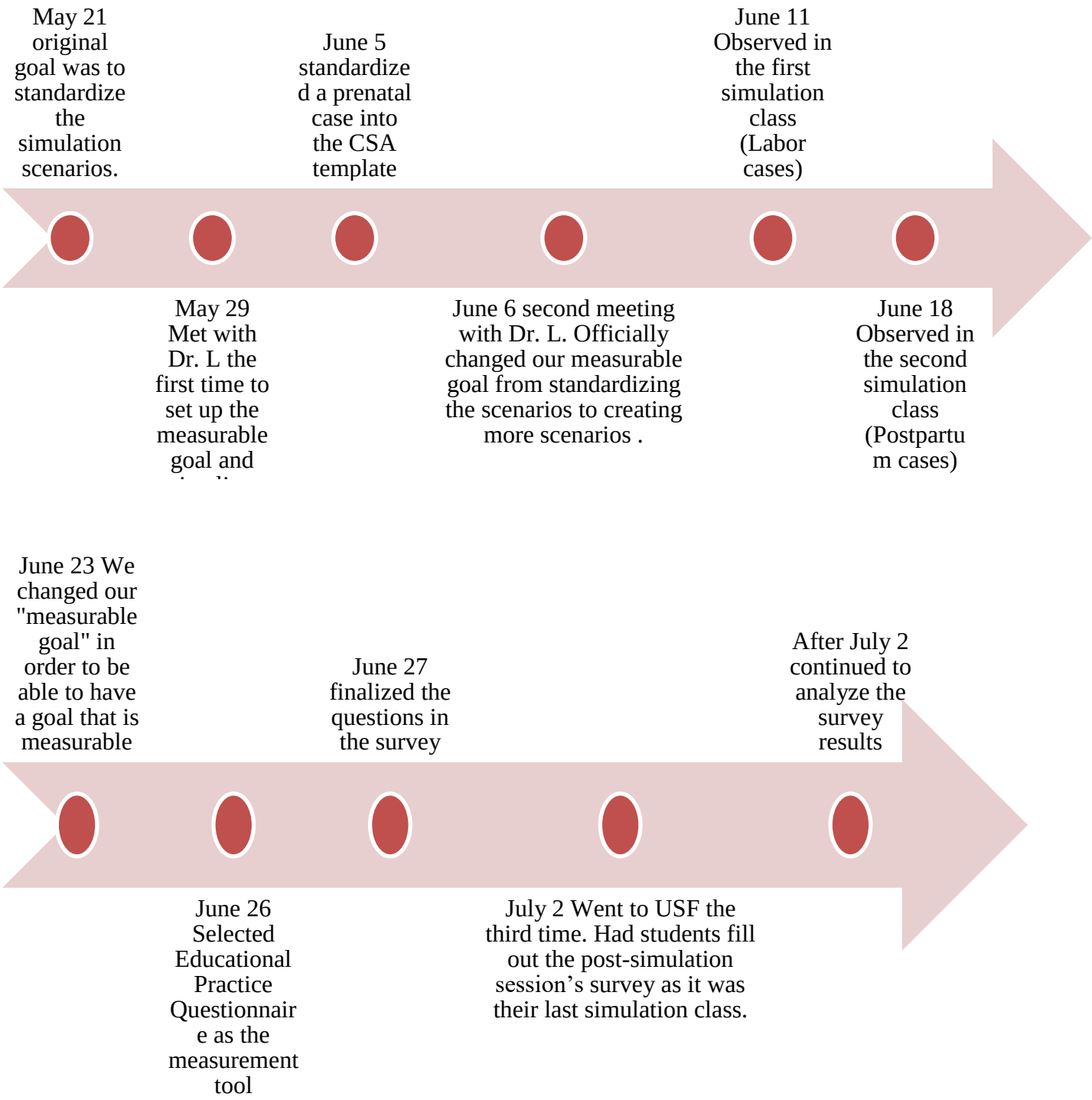
Number	Reference	Settings and sample size	Intervention	Rigor
1	National League for Nursing (NLN, 2018). Descriptions of available instruments.	Setting: Prelicensure nursing programs throughout the country. Sample: Responses were received from 1060 programs, representing all 50 states	Phase I involved a national survey of simulation use in pre-licensure nursing programs. Phase II was a randomized, controlled study examining the outcomes of various amounts of simulation to replace a portion of the hours spent in traditional clinical settings. Phase III was a longitudinal study that followed the nurse graduates into their clinical practice as new registered nurses.	This study provides substantial evidence that up to 50% simulation can be effectively substituted for traditional clinical experience in all prelicensure core nursing courses under conditions comparable to those described in the study.
2	Briscoe, MacKay & Harding, (2017). Does simulation add value to clinical practice: Undergraduate student nurses' perspective.	Setting: Across the BN programme in the U.S. Sample: 10 nursing students from semester two, first year, through to final semester, year three.	A qualitative descriptive approach using focus group method. Ten nursing students participated in the focus group interview.	Analysis of the data indicated most students found simulation a positive learning experience. It also highlighted some aspects of simulation which could be improved. Categorized findings are found in the analysis. A clearly focused question was stated. All participants were accounted for in the conclusion. The results were clearly presented. All outcomes were clearly categorized into several themes.
3	Harder, N., Ross, C. J., & Paul, P. (2013). Featured Article: Student Perspective of Roles Assignment in High-Fidelity Simulation: An Ethnographic Study.	Setting: At a large Canadian university. Sample: 228 nursing students who were beginning their medical-surgical clinical rotations.	A focused ethnography approach, a methodology that explores cultures of interest and the social phenomena of that culture. Participant observation involved the researcher's observing the students, instructors, simulation technician, and simulation environment while the participants engaged in high-fidelity simulation (HFS). Control group: NA	Field noted, interviews, and reflective journals were read repeatedly to look for patterns (credibility). Transcripts were provided to the core searchers, who then independently reviewed the data (credibility, dependability, transferability). The primary researcher went through the transcripts line by line to identify patterns. A clearly focused question was asked. An appropriate design was applied. The data collection was done and clearly identified into several themes.
4	Hober, C., & Bonnel, W. (2014). Featured Article: Student Perceptions of the Observer Role in High-Fidelity Simulation.	Setting: Primary study was from two undergraduate nursing programs, one rural and one urban. Sample: 23 high-fidelity simulation observers.	This study used a secondary data analysis to conduct an in-depth exploration of student perceptions of reflection in the observer role.	Descriptive methods in the primary student were peer reviewed and trustworthiness was established. Secondary analysis enhances or expands existing analyses, is cost effective and provides fuller use of data. Limitations included the challenges of limited methodological flexibility with secondary analysis

				including no new data and no opportunity for further member checking of analyses.
5	Leigh, G., Miller, L., & Ardoin, K. (2017). A Nurse Educator's Guide to Student-Led Debriefing.	Setting: In the southern United States. Sample: 18 to 20 junior medical-surgical undergraduate students from a bachelor of science nursing school.	Divided the simulation scenario into two consecutive sections. Each section represented a sequential hospital shift showing progression in the patient's health condition. This modality increased the number of students participating in the role of nurse to eight and decreased the number of observers to 12 students.	Clearly focused questions were asked. An appropriate design was applied. All participants were accounted for in the conclusion. Overall the study was well planned and reported.

Appendix C

Charter and Timeline




May 21 original goal was to standardize the simulation scenarios.
May 29 Met with Dr. L the first time to set up the measurable goal and
June 5 standardized a prenatal case into the CSA template
June 6 second meeting with Dr. L. Officially changed our measurable goal from standardizing the scenarios to creating more scenarios .
June 11 Observed in the first simulation class (Labor cases)
June 18 Observed in the second simulation class (Postpartum cases)
June 23 We changed our "measurable goal" in order to be able to have a goal that is measurable
June 26 Selected Educational Practice Questionnaire as the measurement tool
June 27 finalized the questions in the survey
July 2 Went to USF the third time. Had students fill out the post-simulation session's survey as it was their last simulation class.
After July 2 continued to analyze the survey results

Appendix D

Course objectives of N662 obstetric course

1. Perform a holistic and risk-based assessment of an antepartum, intrapartum, and postpartum maternity patient, and a normal newborn child.
2. Demonstrate ability to communicate and collaborate with members of the interprofessional healthcare team to achieve optimal patient outcomes in the microsystem.
3. Develop a therapeutic alliance with maternity patient and family.
4. Educate parent(s) in principles of health promotion and disease prevention regarding maternal self-care and newborn care.
5. Identify safety and quality issues in the maternal-child clinical microsystem, while utilizing resources, cost containment, and CNL initiatives in the provision of patient care.
6. Exhibit consistent professional behavior, performance, accountability, and responsibility within the parameters of the nursing student role.

Appendix E

Cost Benefit Analysis

My instructor's salary: $5,118.75 / class/semester

Since there are two classes (one AM and one PM), her salary is $5,118.75 x 2 = $10,237.5

She teaches 8 hours once a week for ten weeks for this semester, so approximately her hourly rate is $10.237.5/80 hours = $127.96

To consider the long-term cost savings, school can save $9600 x 2 semester going forward. There are three semesters each year, as a result, school would save $$57,600 from this project.

Financial justification of my project	Estimated hours and salary	The cost savings
Potential Cost		
My time (the potential cost for a CNL) as a potential scenario consultant	150 hrs x $50/hr = $7500	
My preceptor have incurred working on the project	15 hr /week x 10 weeks = 150 hours total 150 hrs x $128/hr (estimated wages) = $19,195	
Total potential cost	**$-(26,695)**	
The cost savings		
Estimated cost of an additional instructor (estimated hourly rate = $120)		8 hr/wk x 10 weeks = 80 hrs 80 hrs x $120/hour = $9600
Estimated cost of the second additional instructor		8 hr/wk x 10 weeks = 80 hours 80 hrs x $120 = $9600
Total cost savings		$19,200
Potential Cost of this project for this semester		$-(26,695) + $19,200= **$-(7,495)**
Long-term savings for a year		$9600 x 2 = $19,200 $19,200 x 3 = $57,600

Table A

Active Learning

Second to the last that received the most standard deviation and variance.

The item that received the most standard deviation and variance.

Active Learning	Minimum	Maximum	Mean	Std Deviation	Variance	Count
Q1. I had the opportunity during the simulation activity to discuss the ideas and concepts taught in the course with the teacher and other students.	4.00	5.00	4.94	0.24	0.06	17
Q2. I actively participated in the debriefing session after the simulation.	4.00	5.00	4.88	0.32	0.10	17
Q3. I had the opportunity to put more thought into my comments during the debriefing session.	4.00	5.00	4.82	0.38	0.15	17
Q4. There were enough opportunities in the simulation to find out if I clearly understand the material.	2.00	5.00	4.53	0.98	0.96	17
Q5. I learned from the comments made by the teacher before, during, or after the simulation.	3.00	5.00	4.71	0.57	0.33	17
Q6. I received cues during the simulation in a timely manner.	2.00	5.00	4.00	1.14	1.29	17
Q7. I had the chance to discuss the simulation objectives with my teacher.	3.00	5.00	4.65	0.68	0.46	17
Q8. I had the opportunity to discuss ideas and concepts taught in the simulation with my instructor.	4.00	5.00	4.88	0.32	0.10	17
Q9. The instructor was able to respond to the individual needs of learners during the simulation.	3.00	5.00	4.47	0.78	0.60	17
Q10. Using simulation activities made my learning time more productive.	3.00	5.00	4.76	0.55	0.30	17
Average	3.20	5.00	4.667	0.59	0.43	17

Table A-1

Rate each item based upon how important that item is to you.

Active learning (How important the item is to you)	Minimum	Maximum	Mean	Std Deviation	Variance	Count
Q1-1. I had the opportunity during the simulation activity to discuss the ideas and concepts taught in the course with the teacher and other students.	3.00	5.00	4.76	0.55	0.30	17
Q2-1. I actively participated in the debriefing session after the simulation. (Rate this statement based upon how important this statement is to you)	4.00	5.00	4.65	0.48	0.23	17
Q3-1. I had the opportunity to put more thought into my comments during the debriefing session. (Rate this statement based upon how important this statement is to you)	4.00	5.00	4.59	0.49	0.24	17
Q4-1. There were enough opportunities in the simulation to find out if I clearly understand the material. (Rate this statement based upon how important this statement is to you)	3.00	5.00	4.65	0.59	0.35	17
Q5-1. I learned from the comments made by the teacher before, during, or after the simulation. (Rate this statement based upon how important this statement is to you)	3.00	5.00	4.82	0.51	0.26	17
Q6-1. I received cues during the simulation in a timely manner.	3.00	5.00	4.53	0.61	0.37	17
Q7-1. I had the chance to discuss the simulation objectives with my teacher.	3.00	5.00	4.41	0.69	0.48	17
Q8-1. I had the opportunity to discuss ideas and concepts taught in the simulation with my instructor.	3.00	5.00	4.76	0.55	0.30	17
Q9-1. The instructor was able to respond to the individual needs of learners during the simulation.	1.00	5.00	4.47	1.09	1.19	17
Q10-1. Using simulation activities made my learning time more productive.	4.00	5.00	4.82	0.38	0.15	17
Average	3.1	5.0	4.64	0.59	0.38	17

Table B

Collaboration

Collaboration	Minimum	Maximum	Mean	Std Deviation	Variance	Count
Q11. I had the chance to work with my peers during the simulation.	5.00	6.00	5.06	0.24	0.06	17
Q12. During the simulation, my peers and I had to work on the clinical situation together	5.00	5.00	5.00	0.00	0.00	17
	5.00	5.50	5.03	0.12	0.03	17

Table B1

Collaboration - Rate how important each statement is to you.

Collaboration (how important each statement is to you)	Minimum	Maximum	Mean	Std Deviation	Variance	Count
Q11-1. I had the chance to work with my peers during the simulation.	3.00	5.00	4.71	0.57	0.33	17
Q12-1. During the simulation, my peers and I had to work on the clinical situation together.	3.00	5.00	4.71	0.57	0.33	17
	3.0	5.0	4.74	0.57	0.33	17

Table C

Diverse Ways of Learning

Diverse Ways of Learning	Minimum	Maximum	Mean	Std Deviation	Variance	Count
Q13. The simulation offered a variety of ways in which to learn the material.	3.00	5.00	4.53	0.61	0.37	17
Q14. This simulation offered a variety ways of assessing my learning.	2.00	5.00	4.29	0.89	0.80	17
	2.5	5.0	4.41	0.75	0.58	17

Table C1

Diverse Ways of Learning - Rate how important each statement is to you.

Diverse Ways of Learning - Rate how important each statement is to you	Minimum	Maximum	Mean	Std Deviation	Variance	Count
Q13-1. The simulation offered a variety of ways in which to learn the material.	3.00	5.00	4.59	0.69	0.48	17
Q14-1. This simulation offered a variety ways of assessing my learning.	1.00	5.00	4.35	1.08	1.17	17
	2.0	5.0	4.47	0.88	0.825	17

Table D

High Expectations

High Expectations	Minimum	Maximum	Mean	Std Deviation	Variance	Count
Q15. The objectives for the simulation experience were clear and easy to understand.	3.00	5.00	4.50	0.71	0.50	16
Q16. My instructor communicated the goals and expectations to accomplish during the simulation.	3.00	5.00	4.69	0.58	0.34	16
	3.00	5.00	4.59	0.64	0.42	16

Table D1

High expectation – rate how each item is important to you.

High expectation (Rate how important each item is to you)	Minimum	Maximum	Mean	Std Deviation	Variance	Count
Q15-1. The objectives for the simulation experience were clear and easy to understand.	3.00	5.00	4.59	0.69	0.48	17
Q16-1. My instructor communicated the goals and expectations to accomplish during the simulation.	3.00	5.00	4.71	0.67	0.44	17
	3.0	5.0	4.65	0.68	0.46	17

Appendix F

Educational Practices Questionnaire Results

Q1 - I had the opportunity during the simulation activity to discuss the ideas and concepts taught in the course with the teacher and other students.

#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
1	I had the opportunity during the simulation activity to discuss the ideas and concepts taught in the course with the teacher and other students.	4.00	5.00	4.94	0.24	0.06	17

#	Answer	%	Count
1	Strongly Disagree with the statement	0.00%	0
2	Disagree with the statement	0.00%	0
3	Undecided-you neither agree or disagree with the statement	0.00%	0
4	Agree with the statement	5.88%	1
5	Strongly Agree with the statement	94.12 %	16
6	NA-Not Applicable; the statement does not pertain to the simulation activity performed	0.00%	0
	Total	100%	17

Q1-1 - I had the opportunity during the simulation activity to discuss the ideas and concepts taught in the course with the teacher and other students. (Rate this statement based upon how important this statement is to you)

#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
1	I had the opportunity during the simulation activity to discuss the ideas and concepts taught in the course with the teacher and other students. (Rate this statement based upon how important this statement is to you)	3.00	5.00	4.76	0.55	0.30	17

#	Answer	%	Count
1	Not Important	0.00%	0
2	Somewhat Important	0.00%	0
3	Neutral	5.88%	1
4	Important	11.76%	2
5	Very Important	82.35%	14
	Total	100%	17

Q2 - I actively participated in the debriefing session after the simulation.

#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
1	I actively participated in the debriefing session after the simulation.	4.00	5.00	4.88	0.32	0.10	17

#	Answer	%	Count
1	Strongly Disagree with the statement	0.00%	0
2	Disagree with the statement	0.00%	0
3	Undecided-you neither agree or disagree with the statement	0.00%	0
4	Agree with the statement	11.76 %	2
5	Strongly Agree with the statement	88.24 %	15
6	NA-Not Applicable; the statement does not pertain to the simulation activity performed	0.00%	0
	Total	100%	17

Q2-1 - I actively participated in the debriefing session after the simulation. (Rate this statement based upon how important this statement is to you)

#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
1	I actively participated in the debriefing session after the simulation. (Rate this statement based upon how important this statement is to you)	4.00	5.00	4.65	0.48	0.23	17

#	Answer	%	Count
1	Not Important	0.00%	0
2	Somewhat Important	0.00%	0
3	Neutral	0.00%	0
4	Important	35.29%	6
5	Very Important	64.71%	11
	Total	100%	17

Q3 - I had the opportunity to put more thought into my comments during the debriefing session.

#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
1	I had the opportunity to put more thought into my comments during the debriefing session.	4.00	5.00	4.82	0.38	0.15	17

#	Answer	%	Count
1	Strongly Disagree with the statement	0.00%	0
2	Disagree with the statement	0.00%	0
3	Undecided-you neither agree or disagree with the statement	0.00%	0
4	Agree with the statement	17.65 %	3
5	Strongly Agree with the statement	82.35 %	14
6	NA-Not Applicable; the statement does not pertain to the simulation activity performed	0.00%	0
	Total	100%	17

Q3-1 - I had the opportunity to put more thought into my comments during the debriefing session. (Rate this statement based upon how important this statement is to you)

#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
1	I had the opportunity to put more thought into my comments during the debriefing session. (Rate this statement based upon how important this statement is to you)	4.00	5.00	4.59	0.49	0.24	17

#	Answer	%	Count
1	Not Important	0.00%	0
2	Somewhat Important	0.00%	0
3	Neutral	0.00%	0
4	Important	41.18%	7
5	Very Important	58.82%	10
	Total	100%	17

Q4 - There were enough opportunities in the simulation to find out if I clearly understand the material.

#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
1	There were enough opportunities in the simulation to find out if I clearly understand the material.	2.00	5.00	4.53	0.98	0.96	17

#	Answer	%	Count
1	Strongly Disagree with the statement	0.00%	0
2	Disagree with the statement	11.76%	2
3	Undecided-you neither agree or disagree with the statement	0.00%	0
4	Agree with the statement	11.76%	2
5	Strongly Agree with the statement	76.47%	13
6	NA-Not Applicable; the statement does not pertain to the simulation activity performed	0.00%	0
	Total	100%	17

Q4-1 - There were enough opportunities in the simulation to find out if I clearly understand the material. (Rate this statement based upon how important this statement is to you)

#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
1	There were enough opportunities in the simulation to find out if I clearly understand the material. (Rate this statement based upon how important this statement is to you)	3.00	5.00	4.65	0.59	0.35	17

#	Answer	%	Count
1	Not Important	0.00%	0
2	Somewhat Important	0.00%	0
3	Neutral	5.88%	1
4	Important	23.53%	4
5	Very Important	70.59%	12
	Total	100%	17

Q5 - I learned from the comments made by the teacher before, during, or after the simulation.

#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
1	I learned from the comments made by the teacher before, during, or after the simulation.	3.00	5.00	4.71	0.57	0.33	17

#	Answer	%	Count
1	Strongly Disagree with the statement	0.00%	0
2	Disagree with the statement	0.00%	0
3	Undecided-you neither agree or disagree with the statement	5.88%	1
4	Agree with the statement	17.65 %	3
5	Strongly Agree with the statement	76.47 %	13
6	NA-Not Applicable; the statement does not pertain to the simulation activity performed	0.00%	0
	Total	100%	17

Q5-1 - I learned from the comments made by the teacher before, during, or after the simulation. (Rate this statement based upon how important this statement is to you)

#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
1	I learned from the comments made by the teacher before, during, or after the simulation. (Rate this statement based upon how important this statement is to you)	3.00	5.00	4.82	0.51	0.26	17

#	Answer	%	Count
1	Not Important	0.00%	0
2	Somewhat Important	0.00%	0
3	Neutral	5.88%	1
4	Important	5.88%	1
5	Very Important	88.24%	15
	Total	100%	17

Q6 - I received cues during the simulation in a timely manner.

#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
1	I received cues during the simulation in a timely manner.	2.00	5.00	4.00	1.14	1.29	17

#	Answer	%	Count
1	Strongly Disagree with the statement	0.00%	0
2	Disagree with the statement	17.65 %	3
3	Undecided-you neither agree or disagree with the statement	11.76 %	2
4	Agree with the statement	23.53 %	4
5	Strongly Agree with the statement	47.06 %	8
6	NA-Not Applicable; the statement does not pertain to the simulation activity performed	0.00%	0
	Total	100%	17

Q6-1 - I received cues during the simulation in a timely manner.

#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
1	I received cues during the simulation in a timely manner.	3.00	5.00	4.53	0.61	0.37	17

#	Answer	%	Count
1	Not Important	0.00%	0
2	Somewhat Important	0.00%	0
3	Neutral	5.88%	1
4	Important	35.29%	6
5	Very Important	58.82%	10
	Total	100%	17

Q7 - I had the chance to discuss the simulation objectives with my teacher.

#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
1	I had the chance to discuss the simulation objectives with my teacher.	3.00	5.00	4.65	0.68	0.46	17

#	Answer	%	Count
1	Strongly Disagree with the statement	0.00%	0
2	Disagree with the statement	0.00%	0
3	Undecided-you neither agree or disagree with the statement	11.76 %	2
4	Agree with the statement	11.76 %	2
5	Strongly Agree with the statement	76.47 %	13
6	NA-Not Applicable; the statement does not pertain to the simulation activity performed	0.00%	0
	Total	100%	17

Q7-1 - I had the chance to discuss the simulation objectives with my teacher.

#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
1	I had the chance to discuss the simulation objectives with my teacher.	3.00	5.00	4.41	0.69	0.48	17

#	Answer	%	Count
1	Not Important	0.00%	0
2	Somewhat Important	0.00%	0
3	Neutral	11.76%	2
4	Important	35.29%	6
5	Very Important	52.94%	9
	Total	100%	17

Q8 - I had the opportunity to discuss ideas and concepts taught in the simulation with my instructor.

#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
1	I had the opportunity to discuss ideas and concepts taught in the simulation with my instructor.	4.00	5.00	4.88	0.32	0.10	17

#	Answer	%	Count
1	Strongly Disagree with the statement	0.00%	0
2	Disagree with the statement	0.00%	0
3	Undecided-you neither agree or disagree with the statement	0.00%	0
4	Agree with the statement	11.76 %	2
5	Strongly Agree with the statement	88.24 %	15
6	NA-Not Applicable; the statement does not pertain to the simulation activity performed	0.00%	0
	Total	100%	17

Q8-1 - I had the opportunity to discuss ideas and concepts taught in the simulation with my instructor.

#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
1	I had the opportunity to discuss ideas and concepts taught in the simulation with my instructor.	3.00	5.00	4.76	0.55	0.30	17

#	Answer	%	Count
1	Not Important	0.00%	0
2	Somewhat Important	0.00%	0
3	Neutral	5.88%	1
4	Important	11.76%	2
5	Very Important	82.35%	14
	Total	100%	17

Q9 - The instructor was able to respond to the individual needs of learners during the simulation.

#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
1	The instructor was able to respond to the individual needs of learners during the simulation.	3.00	5.00	4.47	0.78	0.60	17

#	Answer	%	Count
1	Strongly Disagree with the statement	0.00%	0
2	Disagree with the statement	0.00%	0
3	Undecided-you neither agree or disagree with the statement	17.65 %	3
4	Agree with the statement	17.65 %	3
5	Strongly Agree with the statement	64.71 %	11
6	NA-Not Applicable; the statement does not pertain to the simulation activity performed	0.00%	0
	Total	100%	17

Q9-1 - The instructor was able to respond to the individual needs of learners during the simulation.

#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
1	The instructor was able to respond to the individual needs of learners during the simulation.	1.00	5.00	4.47	1.09	1.19	17

#	Answer	%	Count
1	Not Important	5.88%	1
2	Somewhat Important	0.00%	0
3	Neutral	11.76%	2
4	Important	5.88%	1
5	Very Important	76.47%	13
	Total	100%	17

Q10 - Using simulation activities made my learning time more productive.

#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
1	Using simulation activities made my learning time more productive.	3.00	5.00	4.76	0.55	0.30	17

#	Answer	%	Count
1	Strongly Disagree with the statement	0.00%	0
2	Disagree with the statement	0.00%	0
3	Undecided-you neither agree or disagree with the statement	5.88%	1
4	Agree with the statement	11.76 %	2
5	Strongly Agree with the statement	82.35 %	14
6	NA-Not Applicable; the statement does not pertain to the simulation activity performed	0.00%	0
	Total	100%	17

Q10-1 - Using simulation activities made my learning time more productive.

#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
1	Using simulation activities made my learning time more productive.	4.00	5.00	4.82	0.38	0.15	17

#	Answer	%	Count
1	Not Important	0.00%	0
2	Somewhat Important	0.00%	0
3	Neutral	0.00%	0
4	Important	17.65%	3
5	Very Important	82.35%	14
	Total	100%	17

Q11 - I had the chance to work with my peers during the simulation.

#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
1	I had the chance to work with my peers during the simulation.	5.00	6.00	5.06	0.24	0.06	17

#	Answer	%	Count
1	Strongly Disagree with the statement	0.00%	0
2	Disagree with the statement	0.00%	0
3	Undecided-you neither agree or disagree with the statement	0.00%	0
4	Agree with the statement	0.00%	0
5	Strongly Agree with the statement	94.12 %	16
6	NA-Not Applicable; the statement does not pertain to the simulation activity performed	5.88%	1
	Total	100%	17

Q11-1 - I had the chance to work with my peers during the simulation.

#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
1	I had the chance to work with my peers during the simulation.	3.00	5.00	4.71	0.57	0.33	17

#	Answer	%	Count
1	Not Important	0.00%	0
2	Somewhat Important	0.00%	0
3	Neutral	5.88%	1
4	Important	17.65%	3
5	Very Important	76.47%	13
	Total	100%	17

Q12 - During the simulation, my peers and I had to work on the clinical situation together

#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
1	During the simulation, my peers and I had to work on the clinical situation together	5.00	5.00	5.00	0.00	0.00	17

#	Answer	%	Count
1	Strongly Disagree with the statement	0.00%	0
2	Disagree with the statement	0.00%	0
3	Undecided-you neither agree or disagree with the statement	0.00%	0
4	Agree with the statement	0.00%	0
5	Strongly Agree with the statement	100.00 %	17
6	NA-Not Applicable; the statement does not pertain to the simulation activity performed	0.00%	0
	Total	100%	17

Q12-1 - During the simulation, my peers and I had to work on the clinical situation together.

#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
1	During the simulation, my peers and I had to work on the clinical situation together.	3.00	5.00	4.71	0.57	0.33	17

#	Answer	%	Count
1	Not Important	0.00%	0
2	Somewhat Important	0.00%	0
3	Neutral	5.88%	1
4	Important	17.65%	3
5	Very Important	76.47%	13
	Total	100%	17

Q13 - The simulation offered a variety of ways in which to learn the material.

#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
1	The simulation offered a variety of ways in which to learn the material.	3.00	5.00	4.53	0.61	0.37	17

#	Answer	%	Count
1	Strongly Disagree with the statement	0.00%	0
2	Disagree with the statement	0.00%	0
3	Undecided-you neither agree or disagree with the statement	5.88%	1
4	Agree with the statement	35.29 %	6
5	Strongly Agree with the statement	58.82 %	10
6	NA-Not Applicable; the statement does not pertain to the simulation activity performed	0.00%	0
	Total	100%	17

Q13-1 - The simulation offered a variety of ways in which to learn the material.

#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
1	The simulation offered a variety of ways in which to learn the material.	3.00	5.00	4.59	0.69	0.48	17

#	Answer	%	Count
1	Not Important	0.00%	0
2	Somewhat Important	0.00%	0
3	Neutral	11.76%	2
4	Important	17.65%	3
5	Very Important	70.59%	12
	Total	100%	17

Q14 - This simulation offered a variety ways of assessing my learning.

#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
1	This simulation offered a variety ways of assessing my learning.	2.00	5.00	4.29	0.89	0.80	17

#	Answer	%	Count
1	Strongly Disagree with the statement	0.00%	0
2	Disagree with the statement	5.88%	1
3	Undecided-you neither agree or disagree with the statement	11.76 %	2
4	Agree with the statement	29.41 %	5
5	Strongly Agree with the statement	52.94 %	9
6	NA-Not Applicable; the statement does not pertain to the simulation activity performed	0.00%	0
	Total	100%	17

Q14-1 - This simulation offered a variety ways of assessing my learning.

#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
1	This simulation offered a variety ways of assessing my learning.	1.00	5.00	4.35	1.08	1.17	17

#	Answer	%	Count
1	Not Important	5.88%	1
2	Somewhat Important	0.00%	0
3	Neutral	11.76%	2
4	Important	17.65%	3
5	Very Important	64.71%	11
	Total	100%	17

Q15 - The objectives for the simulation experience were clear and easy to understand.

#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
1	The objectives for the simulation experience were clear and easy to understand.	3.00	5.00	4.50	0.71	0.50	16

#	Answer	%	Count
1	Strongly Disagree with the statement	0.00%	0
2	Disagree with the statement	0.00%	0
3	Undecided-you neither agree or disagree with the statement	12.50 %	2
4	Agree with the statement	25.00 %	4
5	Strongly Agree with the statement	62.50 %	10
6	NA-Not Applicable; the statement does not pertain to the simulation activity performed	0.00%	0
	Total	100%	16

Q15-1 - The objectives for the simulation experience were clear and easy to understand.

#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
1	The objectives for the simulation experience were clear and easy to understand.	3.00	5.00	4.59	0.69	0.48	17

#	Answer	%	Count
1	Not Important	0.00%	0
2	Somewhat Important	0.00%	0
3	Neutral	11.76%	2
4	Important	17.65%	3
5	Very Important	70.59%	12
	Total	100%	17

Q16 - My instructor communicated the goals and expectations to accomplish during the simulation.

#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
1	My instructor communicated the goals and expectations to accomplish during the simulation.	3.00	5.00	4.69	0.58	0.34	16

#	Answer	%	Count
1	Strongly Disagree with the statement	0.00%	0
2	Disagree with the statement	0.00%	0
3	Undecided-you neither agree or disagree with the statement	6.25%	1
4	Agree with the statement	18.75 %	3
5	Strongly Agree with the statement	75.00 %	12
6	NA-Not Applicable; the statement does not pertain to the simulation activity performed	0.00%	0
	Total	100%	16

Q16-1 - My instructor communicated the goals and expectations to accomplish during the simulation.

#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
1	My instructor communicated the goals and expectations to accomplish during the simulation.	3.00	5.00	4.71	0.67	0.44	17

#	Answer	%	Count
1	Not Important	0.00%	0
2	Somewhat Important	0.00%	0
3	Neutral	11.76%	2
4	Important	5.88%	1
5	Very Important	82.35%	14
	Total	100%	17

Q17 - The three scenarios at one time enhanced my learning. Why?

#	Answer	%	Count
1	Strongly Disagree with the statement	0.00%	0
2	Disagree with the statement	3.85%	1
3	Undecided-you neither agree or disagree with the statement	11.54 %	3
4	Agree with the statement	7.69%	2
5	Strongly Agree with the statement	34.62 %	9
6	NA-Not Applicable; the statement does not pertain to the simulation activity performed	0.00%	0
7	Why?	42.31 %	11
	Total	100%	26

Q17_7_TEXT - Why?

Why? - Text
Would have been helpful to observe + discuss sometimes
good to have multiple perspectives
I was able to progress through the scenes + how to respond
Helps me focus on my scenario
It is closer to real life encounters. During debriefs we learn from each other.
Sometimes the 3 scenarios more difficult to switch between
This allows for more learning. Observing only helps so much. The real practice begins hands-on.
Yes, because we were able to follow the progress of the patient.
Different views
Got to see a variety of patients more variability = most accurate in real life
know other scenarios

Q17-1 - The three scenarios at one time enhanced my learning. Why?

#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
1	The three scenarios at one time enhanced my learning. Why?	2.00	5.00	4.27	1.00	1.00	15

#	Answer	%	Count
1	Not Important	0.00%	0
2	Somewhat Important	6.67%	1
3	Neutral	20.00%	3
4	Important	13.33%	2
5	Very Important	60.00%	9
	Total	100%	15

Q18 - I preferred to be a participant rather than an observer during the simulation. Why?

#	Answer	%	Count
1	Strongly Disagree with the statement	0.00%	0
2	Disagree with the statement	0.00%	0
3	Undecided-you neither agree or disagree with the statement	3.85%	1
4	Agree with the statement	7.69%	2
5	Strongly Agree with the statement	34.62 %	9
6	NA-Not Applicable; the statement does not pertain to the simulation activity performed	11.54 %	3
7	Why?	42.31 %	11
	Total	100%	26

Q18_7_TEXT - Why?

Why? - Text
We participated in all scenes
Both are useful
I liked to experience both.
helps me be more proactive and prioritize
I like being both. I learn from doing and seeing.
It varied depending on the topics
This allowed for more material + scenarios to be learned at one time. Each Patient being different helped so that we would share with each other our ideas and communication. It really helped to have all of our scenarios ahead of time so that we could better prepare.
I learn better by doing than by observing. Dr. Loomis, I thoroughly enjoyed this simulation class. I really appreciated how it was set up. You have been an excellent instructor. I wish I could take more classes with you! Sincerely, Mark Richeson.
Both, I learn from both roles

I learn the most by doing. It is different in real life.

Learn more!

Q18-1 - I preferred to be a participant rather than an observer during the simulation. Why?

#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
1	I preferred to be a participant rather than an observer during the simulation. Why?	3.00	5.00	4.53	0.62	0.38	15

#	Answer	%	Count
1	Not Important	0.00%	0
2	Somewhat Important	0.00%	0
3	Neutral	6.67%	1
4	Important	33.33%	5
5	Very Important	60.00%	9
	Total	100%	15

Q19 - Please write any additional comment about the simulation sessions.

Please write any additional comment about the simulation sessions.
It's very distracting when classmates are typing + doing other work during our group discussions. Please establish some ground rules about this. Would be nice to observe and then provide feedback to classmates sometimes vs. all sim'ing at the same time.
SIM was very helpful! The only thing that would've helped is a quick disclaimer explaining the degree to which we could physically enact interventions at the beginning.
I found simulation very helpful, it was especially helpful in augmenting the learning from the theory OB. course
I enjoyed staying with the same patient and rotating positions b/c it gave a better understanding of how to respond as the patient situation changed.
I would have liked to receive more individual rather than group feedback. Dr. Loomis is very smart and experienced with her life of work and nursing insight.
I liked that everyone participated in the sim at all times - I felt like I learned way more this then just observing.
It was a pleasure learning from you. Thank you for your kindness and patience.
Being a patient helped my learning, wish I could have observed other groups and discussed things to improve on specifically (e.g. say this instead of this)
Some personal feedback, constructive or reinforcing would be helpful.
I enjoyed staying in one patient for the entire day to follow their progression
I learned from the comments made by the teacher before, during, or after the simulation. This was very helpful. Pre+Post conference.
Best debriefing I have seen, calm, supportive + thorough knowledge of material. Good - Keeps all students engaged throughout - No downtime - Diff. Roles = Diff. learning = Good!. Bad - More difficult prep --; More organization needed.
I really enjoyed this class. Thank you so much!
3 scenarios at once with debriefing afterward is helpful. More opportunities to learn from others. I liked t different scenarios but being in 1 case worked well too.