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# Simulation Impact on Medication Administration Safety: A Simulation Quality Improvement Project

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**Simulation Impact on Medication Administration Safety:  
A Simulation Quality Improvement Project**

Stacy Simpson, MSN, RN, CHSE

A project submitted to the faculty of  
Gardner-Webb University Hunt School of Nursing  
in partial fulfillment of the requirements for the degree of  
Doctor of Nursing Practice

2020

Submitted by:

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7/19/2020  
Date

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7/19/2020  
Date

## **Acknowledgements**

First, I would like to acknowledge and thank my practice partners, Shannon Ferguson, RN, MSN, and Mindy West RN, MSN. Without their support and mentorship throughout this project as well as my career, I would not have been able to implement this project. I would also like to thank the support from Leadership, Leslie Pressley, RN, MSN and Dr. Allison Abernathy RN, DNP, for their support and encouragement. Finally, I would like to thank my husband for his support throughout my career from certified nursing assistant to my Doctorate in Nursing Practice.

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## **Simulation Impact on Medication Administration Safety: A Simulation Quality**

### **Improvement Project**

**Keywords:** Simulation, Medication Administration, Safety, Nursing, Quality Improvement

**Background:** Two medication simulations increasing in rigor, patient acuity, and distractions were implemented among undergraduate nursing students.

**Objectives:** To increase nursing student confidence, knowledge, and competence when administering medications.

**Design:** Two medication administration simulations were implemented, and data was collected from students via a pre-simulation quiz, observation during the simulation via a Clinical Simulation Evaluation Tool, and student evaluation of the simulation with a modified version of the Simulation Evaluation Tool Likert scale.

**Settings:** Gaston Community College nursing simulation lab.

**Participants:** 53 undergraduate nursing students enrolled in NUR 101 and 42 students in NUR 102 in the Gaston College Practical Nursing Program during the 2019-2020 academic year.

**Methods:** Mixed method including observation, surveys, and simulation.

**Results:** Significant improvements were found in the occurrence of medication administration competency failures, including life threatening failures when data was compared from the first medication simulation to the second simulation. 100% of students who participated in the simulation survey agreed both simulations improved their confidence and knowledge when administering medications.

**Conclusions:** Results from this project indicate simulation is an effective tool that can increase nursing student confidence, knowledge, and competence when administering medications.

### **Introduction**

Medication errors are among the top causes of patient harm and patient death in health care. Medication administration is classified as a high-risk task that nurses regularly perform. These errors can be attributed to the result of distractions, insufficient knowledge, lack of self-efficacy, and inefficient communication (Scott, 2016). While the risk associated with medication administration has been brought to light, there is still much room for improvement. A study by Treiber & Jones (2018) found that factors surrounding making a medication error from the perspective of recent nursing graduates included lack of experience, rushing, technology, staffing, and patient acuity. The survey also revealed that recent nursing graduates noted key themes for improving education included more practice with pharmacological preparation, administration, practical instruction in functioning within the health care environment, and coping after making medication errors (Treiber & Jones, 2018).

The Advisory Board at Gaston College, including potential and current employers of the new graduates, had recognized medication administration to be a weakness. An informational survey of the current nursing students has revealed that they are not confident in their medication administration abilities and they do not feel they have been getting enough hands-on practice. Two medication simulations increasing in rigor, patient acuity, and distractions were implemented among undergraduate nursing students. These simulations were designed to allow students practice with preparing and administering medications with a goal of increasing their knowledge and confidence when administering medications. Debriefing sessions immediately after the simulation allowed for discussion of medication errors as applicable.

**Background/Literature**

Professional confidence can be correlated with experience and this confidence can also be correlated with medication errors. A study by Ortiz (2016) conducted a survey among new graduate nurses and found that all of them agreed that they lacked professional confidence during their first year of practice in the hospital setting. While most nursing programs allow for clinical practice by way of clinical sites, this is not a controlled environment in which variables such as patient acuity, the amount of patients, distractions, and different types of medications can be manipulated to best address the initial needs and remediation needs of the students. There is a gap in the literature addressing how nurses manage interruptions and distractions during medication administration, or how they learn to cope with these situations. In addition, a gap in literature exists on sustainable ways to train nurses in coping with interruptions and distractions during medication administration (Hayes, Jackson, Davidson, & Power, 2015).

**Objectives**

The purpose of this project was to develop and implement two medication administration simulations that increase in rigor, number of patients, acuity, and distractions. This simulation provided additional hands on practice for nursing students to administer medications in a safe, controlled environment and receive faculty feedback in real time.

Specific goals of this project were:

- To enhance the student learning experience by increasing the rigor and the number of patients the students medicate.
- To provide high quality, high fidelity simulation experience allowing students to practice with medication administration.

- To increase student knowledge related to pharmacology and medication administration.
- To increase student confidence with medication administration.
- To decrease medication errors and improve patient outcomes through increased knowledge and confidence in medication administration by nurses.

### **Methods**

This mixed method quality improvement project utilized three evaluation methods; a pre-simulation quiz, which increased in rigor and the amount of questions, Clinical Simulation Evaluation Tool (CSET) (Appendix A), and a post simulation survey via the Simulation Effectiveness Tool (SET) (Appendix B).

The pre-simulation exam results from NUR 101 Fall 2019 were compared to NUR 102 Spring 2019 pre-simulation exam results. The exams were then tested for reliability and validity by utilizing EAC Visual Data. This tool is used to determine test reliability by providing data such as Cronbach alpha with deletion, distractor point biserial correlation, Kuder-Richardson Formula: KR (20), p-value and point biserial correlation. The KR (20) value measures the likelihood of obtaining similar results if you re-administer the exam to another group of similar students. This score ranges from 0-1, with a score closer to 1 being the most desirable. A KR (20) value greater than 0.5 is considered reliable (McDonald 2007).

The CSET was used to observe students during the simulation itself. The CSET Tool is an evaluation form which is used to score the performances of medical and nursing students on patient simulators measuring basic assessment skills, safety, prioritization, problem-focused assessment, ensuing interventions, delegation and communication in a complex two-patient, and simulated assignment (Radhakrishnan, Roche, and Cunningham, 2007). This is a reliable and

valid tool with a KR (20) values of  $>0.90$  that may be modified to fit the specific scenario and learning objectives (Radhakrishnan, Roche, and Cunningham, 2007). Data from the Fall 2019 and Spring 2020 CSETs were compared for analysis.

The SET obtained from Quality and Safety Education for Nurses (QSEN) was administered after each simulation to determine student perception of the experience. Best practice for Simulation Evaluation states the tool can be used to evaluate the simulation experience itself, student behaviors, student learning, and/or outcomes (Wiles 2013). The Simulation Effectiveness Tool by Elfrink-Cordi, Leighton, Ryan-Wenger, and Doyle (2012) uses a 3-point Likert scale and will also assess student self-confidence after completion of the simulation. This tool has been found to be reliable and valid (Elfrink Cordi, Leighton Ryan-Wenger, Doyle, and Ravert (2012). According to a study by Bates and Clark (2019), the Simulation Effectiveness Tool had a Cronbach's alpha coefficient  $>.70$  for all subscales showing strong evidence of reliability and validity. Results from the first simulation in Fall 2019 SET results were compared to results from the second simulation SET in Spring 2020.

### **Data/Results**

Sample size included 53 students enrolled in NUR 101 section L8A at Gaston College participated in the first medication simulation. 42 students enrolled in NUR 102 section L8A participated in the second medication simulation. All 42 students who participated in the second simulation also participated in the first. The difference in the number of students was due to those who either withdrew from or did not pass NUR 101.

Comparison of the two quizzes showed a correlation between students who performed poorly on the first quiz, also performed poorly on the second quiz. A correlation was also noted for the students who scored poorly on the exams, had also shown more areas of weakness on

their CSET evaluations. The lowest scoring student for the first quiz did not pass NUR 101 and did not take the second medication simulation quiz.

The CSET tool was used for each student during the simulations to reveal strengths, weaknesses and an explanation for failing by the evaluator if the student was found to be in need of remediation. The results from the CSET tool were placed into an excel spreadsheet for analysis and comparison.

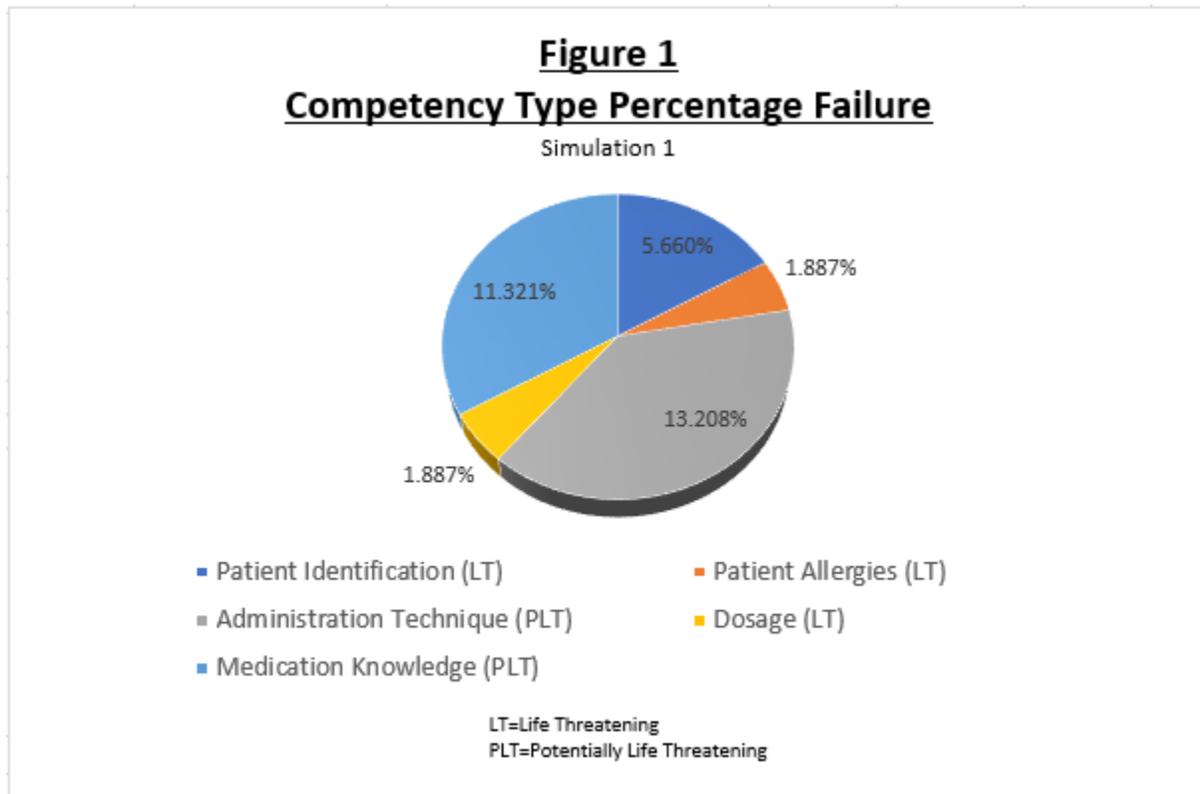
A total of 53 students participated in the first medication administration simulation. During the first simulation, mistakes were measured in the following categories: failure to show competency in:

- Identification of the patient
- Identification of patient allergies
- Administration technique including by mouth (PO), intramuscular (IM), subcutaneous (SC), eye drops, and sublingual medications.
- Dosage calculation
- Medication knowledge including use, side effects, nursing considerations and contraindications.

The mistakes were further divided into life threatening and potentially life threatening. During the first simulation life threatening mistakes included failure to identify the patient, failure to identify the allergies, and failure to calculate the correct dosage. This accounted for 5 occurrences and 9.4% of students participating in the simulation. Potentially life-threatening mistakes included failure to show competency in administration technique and failure to show competency in medication knowledge. This accounted for 13 occurrences and 24.5% of students participating in the simulation. The following chart shows the occurrence rate and type of the

competency failure during the first simulation also depicting life threatening errors (LT) and potentially life-threatening errors (PLT):

Figure 1: Competency Failure Type Simulation 1



A total of 42 students participated in the second medication administration simulation. During the second simulation, mistakes were measured in the same categories, with the addition of failure to identify the patient priority. Failure to identify the patient priority was further divided into the potentially life-threatening category. There were zero occurrences in both the failure to identify the patient and failure to identify the patient's allergies, both identified as life threatening. This was a substantial improvement from the 4 occurrences during the first simulation. However, there were 7 occurrences in the failure to calculate correct dosages as compared to 1 occurrence during the first simulation. When this data was compared to the

detailed data in the CSET tools, the students who failed to correctly calculate dosage all did so while calculating reconstitutions from a vial that were to either be added to an intravenous (IV) bag or given IM. Failure to demonstrate competency in administration technique also increased from 7 occurrences to 8 occurrences.

Further analysis of the CSET tool revealed these students were all interrupted during the administration process of giving the medications. Failure to demonstrate competency in medication knowledge remained the same with 6 occurrences during each simulation, however, it is important to note there were more medications during the second simulation. There was only one occurrence of failure to identify the priority patient. The following charts show the occurrence rate and type of the competency failure during the second simulation also depicting life threatening errors (LT) and potentially life-threatening errors (PLT) as well as a comparison of the two simulations:

Figure 2: Competency Failure Type Simulation 2

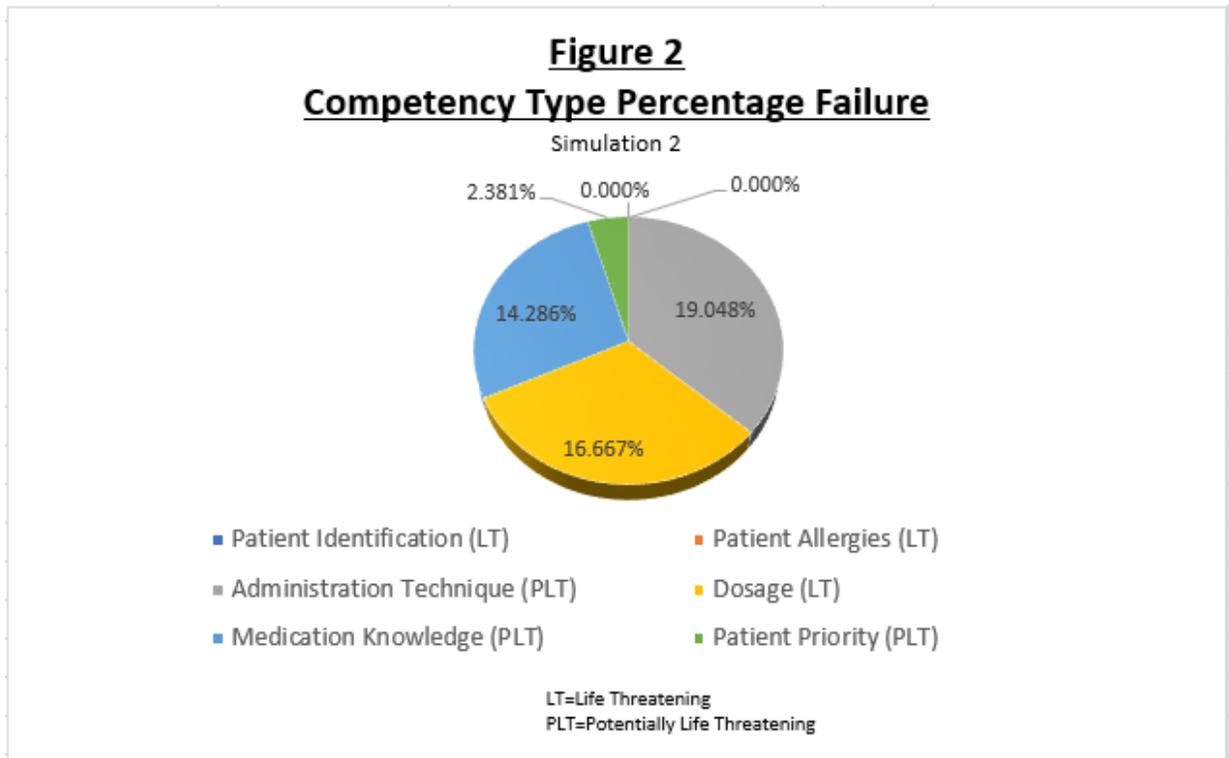
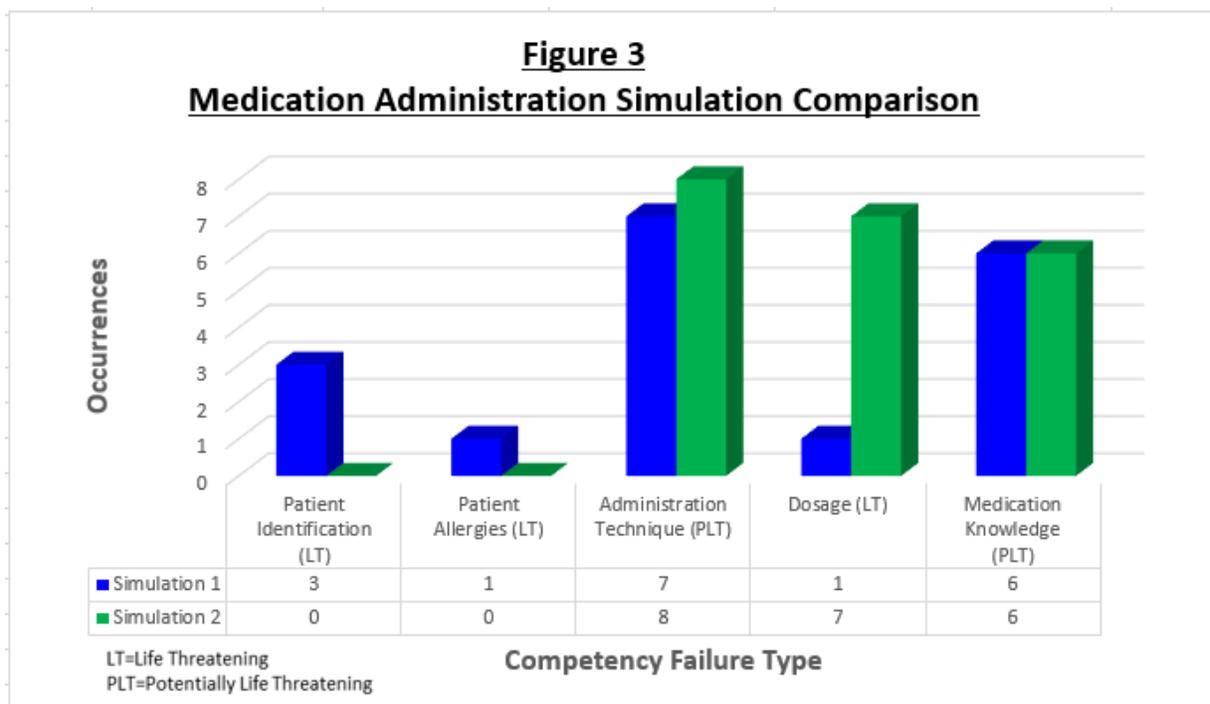


Figure 3: Medication Administration Comparison



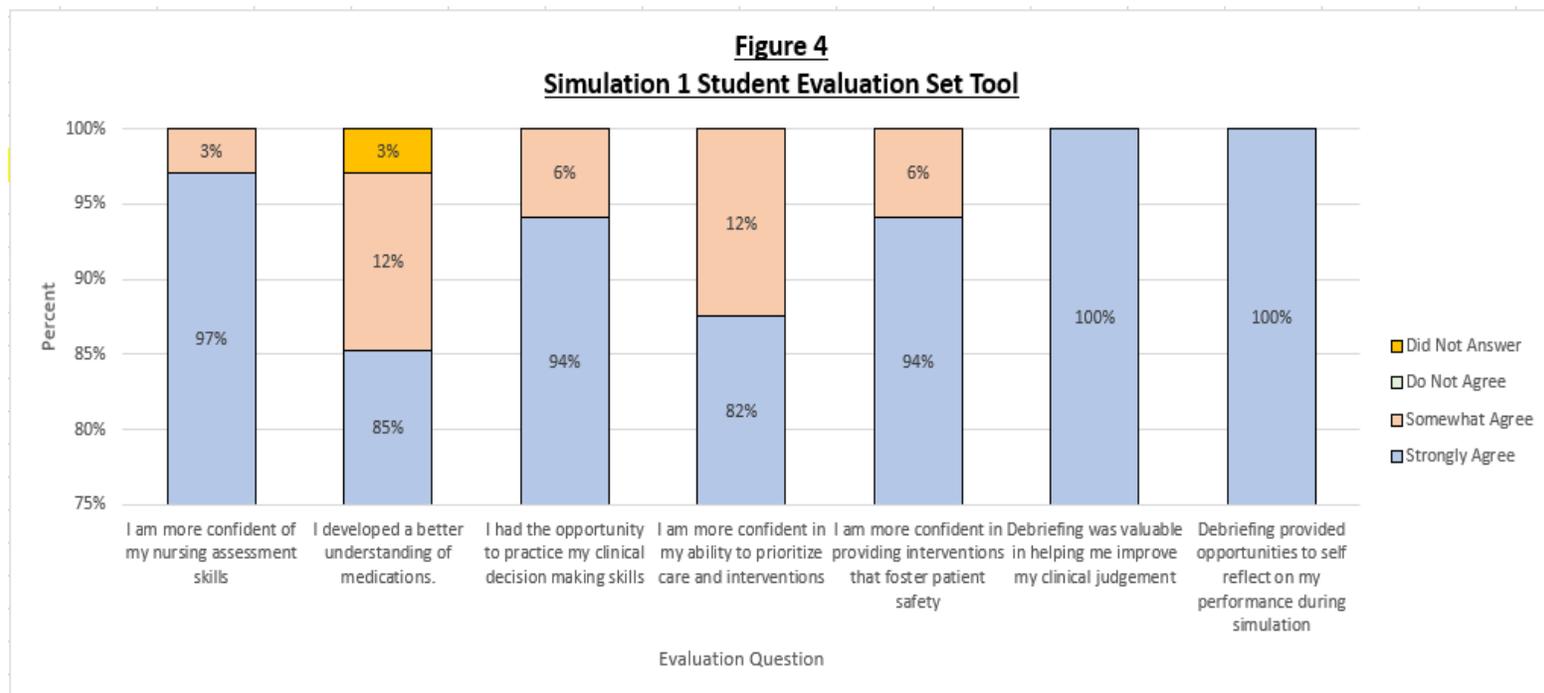
A modified Simulation Effectiveness Tool was utilized to gather students' perceptions of the simulation. The survey data were collected and entered into an excel spreadsheet for further analysis.

During the first simulation 34 students participated in the survey. The following are a selection of responses:

- 97% of students who took the survey either strongly agreed with the statement (85%) or somewhat agreed (12%) with the statement "I developed a better understanding of medications." One student did not answer this question.
- 100% of students who took the survey either strongly agreed (97%) or somewhat agreed (3%) with the statement, "I am more confident in my nursing assessment skills."
- 100% of students who took the survey either strongly agreed (94%) or somewhat agreed (6%) with the statement, "I am more confident in providing interventions that foster patient safety."
- 100% of students who took the survey strongly agreed with the statement, "Debriefing was valuable in helping me improve my clinical judgment."

The following chart shows student responses for the first simulation on the Simulation Effectiveness Tool (SET):

Figure 4: Simulation 1: Student Evaluation SET Tool



Some of the essay responses from students included:

- “It was very nerve racking but once I took a deep breath I felt better, overall great experience.”
- “Loved it, made me more confident.”
- “It was amazing, I felt very prepared.”
- “Really enjoyed it, the pre-sim also helped.”
- “Practicing giving medications the way [the instructor] set it up really helped me understand medication administration and how to safely give them.”
- “It helped me become more prepared to give medications next semester.”
- “Very good, real life pulling medications and bringing them into the room.”

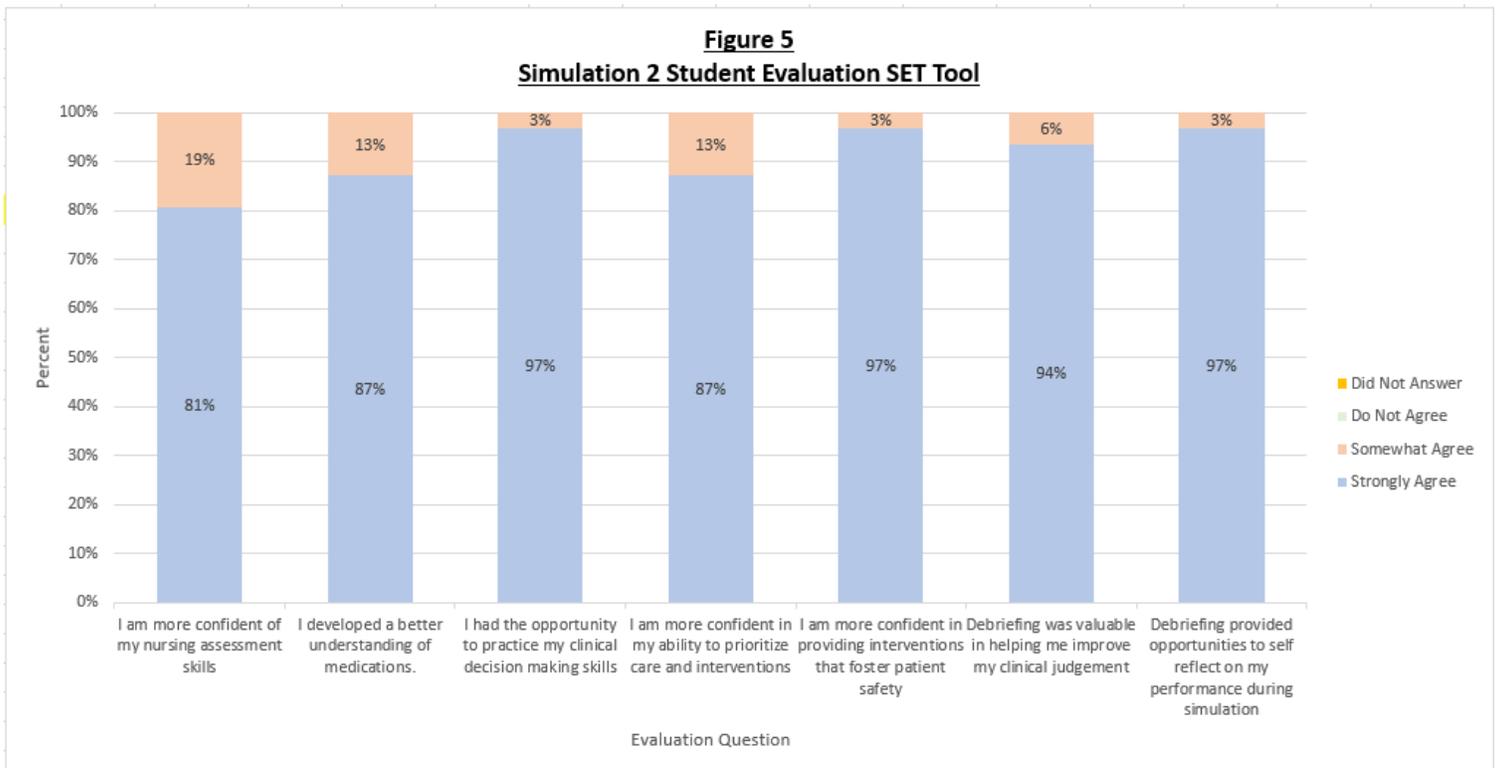
- “Really helps me, helps me with clinical as well as understanding medicine practices.”
- “I felt like I had the preparation I needed.”
- “I really enjoyed it and I am thankful for this experience.”

During the second simulation 31 students participated in the survey. The survey data were collected and entered into an excel spreadsheet for further analysis. The following are a selection of responses:

- 100% of students who took the survey either strongly agreed (87%) or somewhat agreed (13%) with the statement, “I developed a better understanding of medications.”
- 100% of students who took the survey either strongly agreed (81%) or somewhat agreed (19%) with the statement, “I am more confident in my nursing assessment skills.”
- 100% of students who took the survey either strongly agreed (97%) or somewhat agreed (3%) with the statement, “I am more confident in providing interventions that foster patient safety.”
- 100% of students who took the survey either strongly agreed (94%) or somewhat agreed (6%) with the statement, “Debriefing was valuable in helping me improve my clinical judgment.”

The following chart shows student responses from the second simulation on the SET:

Figure 5: Simulation 2: Student Evaluation SET Tool



Some of the essay responses included:

- “Great Simulation- Gave me the opportunity to experience real world scenarios.”
- “This simulation was very beneficial; it was more challenging than last semester and the distraction during helped make it more realistic.”
- “It was a good experience and helped me become more confident with administering medications.”
- “Being able to prioritize which patient I saw first helped a lot, as well as all of the feedback I got. Getting questioned about the medication made me critically think more and I was more engaged because of it.”

- “This medication simulation was more challenging than the previous. The distraction resembled real life situations. It was great practice and I wish we had more opportunities like this.”
- “I noticed an improvement in my nursing skills this time around. The evaluator was also very helpful, and she encouraged me to use better critical thinking skills when administering medications. Thank you for this learning opportunity.”
- This simulation seemed more difficult but was needed to help my weaknesses.”
- “Helped me become more confident on knowing the medications and how to administer correctly.”
- “This made me feel much more confident.”

### **Discussion**

Data from the pre-simulation quiz, CSET tool, and student evaluation were collected to identify weaknesses that could be highlighted in a future medication simulation. Errors in identifying the patient and allergies were reduced to zero occurrences in the second simulation indicating student competency in those areas of medication administration. However, there was a significant increase in dosage calculation errors in the second simulation. Review of the CSET evaluation revealed that students showed weakness in calculating reconstitutions for either IM injection or IV piggyback. The students were not required to complete a reconstitution during the first simulation. There was also an increase in administration technique errors during the second simulation. All CSET tools indicated the students who made errors in administration were all interrupted during the administration process. There were no distractions during the first simulation. There was an even distribution of errors occurring within medication knowledge between the two simulations. However, it is important to note there were significantly more

medications during the second simulation therefore this was seen as an improvement. Review of the SET tools indicated the students found the second simulation with inclusion of distractions to be more challenging, but realistic. Several students indicated the desire for more practice in simulation with medications.

Review of the data indicated a need for a third and final medication simulation prior to graduation. Faculty used data to determine student's weaknesses and areas for remediation such as reconstitutions and continued use of distractions for use in the third and final simulation. A study by Hayes, Jackson, Davidson, Daly, & Power (2017) found that "Interrupting medication administration in realistic and safe settings facilitates awareness, allows for students to begin to develop management strategies in relation to interruption and increases their confidence." (p.4846). Leadership at the college agreed the simulation was beneficial and supported the third simulation implementation in NUR 103.

### **Conclusions**

This project found that allowing undergraduate nursing students practice with preparing and administering medications in a high-fidelity simulation experience with faculty feedback in real time increased their knowledge and confidence when preparing and administering medications. The increase in rigor among the two simulations allowed faculty implementing the simulation to focus on areas of weakness and remediation needs of the students. Future indications included adding a third medication administration simulation and continued implementation of all three simulations in future cohorts.

## References

### Introduction

Medication errors are among the top causes of patient harm and patient death in health care. Medication administration is classified as a high-risk task that nurses regularly perform. These errors can be attributed to the result of distractions, insufficient knowledge, lack of self-efficacy, and inefficient communication (Scott, 2016). While the risk associated with medication administration has been brought to light, there is still much room for improvement. A study by Treiber & Jones (2018) found that factors surrounding making a medication error from the perspective of recent nursing graduates included lack of experience, rushing, technology, staffing, and patient acuity. The survey also revealed that recent nursing graduates noted key themes for improving education included more practice with pharmacological preparation, administration, practical instruction in functioning within the health care environment, and coping after making medication errors (Treiber & Jones, 2018).

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## **Background/Literature**

Professional confidence can be correlated with experience and this confidence can also be correlated with medication errors. A study by Ortiz (2016) conducted a survey among new graduate nurses and found that all of them agreed that they lacked professional confidence during their first year of practice in the hospital setting. While most nursing programs allow for clinical practice by way of clinical sites, this is not a controlled environment in which variables such as patient acuity, the amount of patients, distractions, and different types of medications can be manipulated to best address the initial needs and remediation needs of the students. There is a gap in the literature addressing how nurses manage interruptions and distractions during medication administration, or how they learn to cope with these situations. In addition, a gap in literature exists on sustainable ways to train nurses in coping with interruptions and distractions during medication administration (Hayes, Jackson, Davidson, & Power, 2015).

## **Objectives**

The purpose of this project was to develop and implement two medication administration simulations that increase in rigor, number of patients, acuity, and distractions. This simulation provided additional hands on practice for nursing students to administer medications in a safe, controlled environment and receive faculty feedback in real time.

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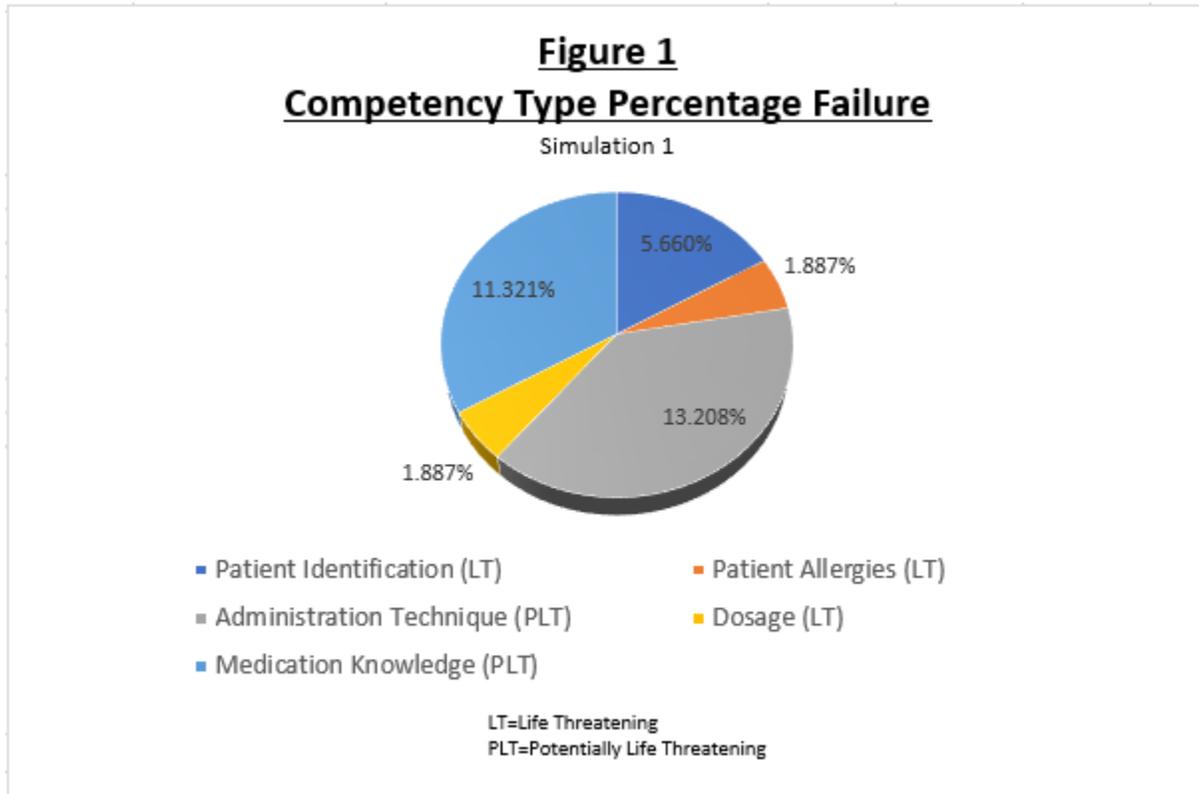
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competency failure during the first simulation also depicting life threatening errors (LT) and potentially life-threatening errors (PLT):

Figure 1: Competency Failure Type Simulation 1



A total of 42 students participated in the second medication administration simulation. During the second simulation, mistakes were measured in the same categories, with the addition of failure to identify the patient priority. Failure to identify the patient priority was further divided into the potentially life-threatening category. There were zero occurrences in both the failure to identify the patient and failure to identify the patient's allergies, both identified as life threatening. This was a substantial improvement from the 4 occurrences during the first simulation. However, there were 7 occurrences in the failure to calculate correct dosages as compared to 1 occurrence during the first simulation. When this data was compared to the

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Figure 2: Competency Failure Type Simulation 2

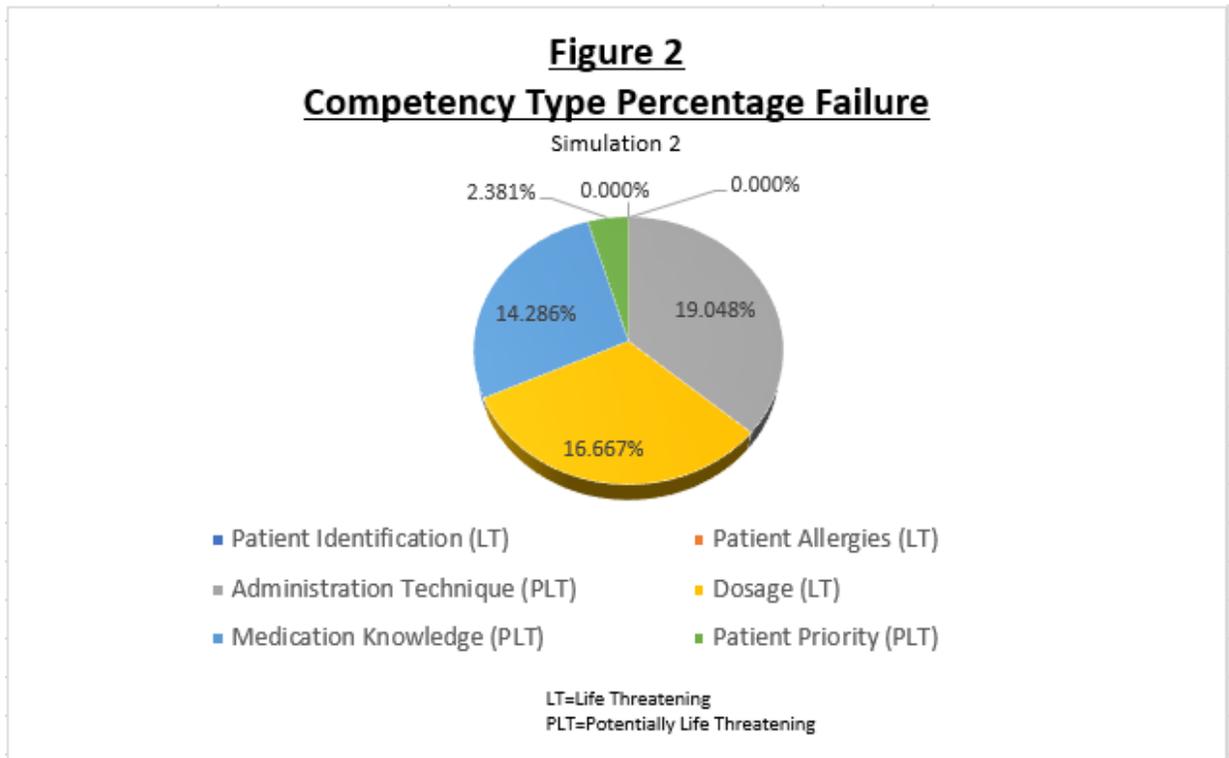
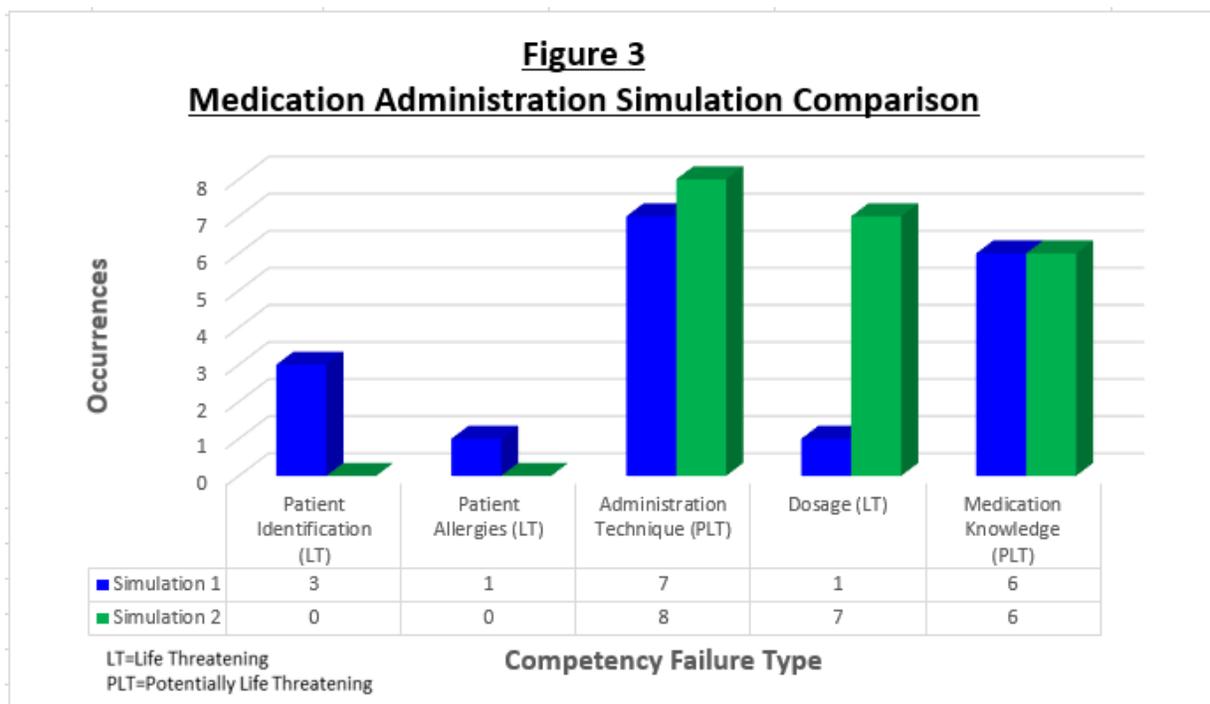


Figure 3: Medication Administration Comparison



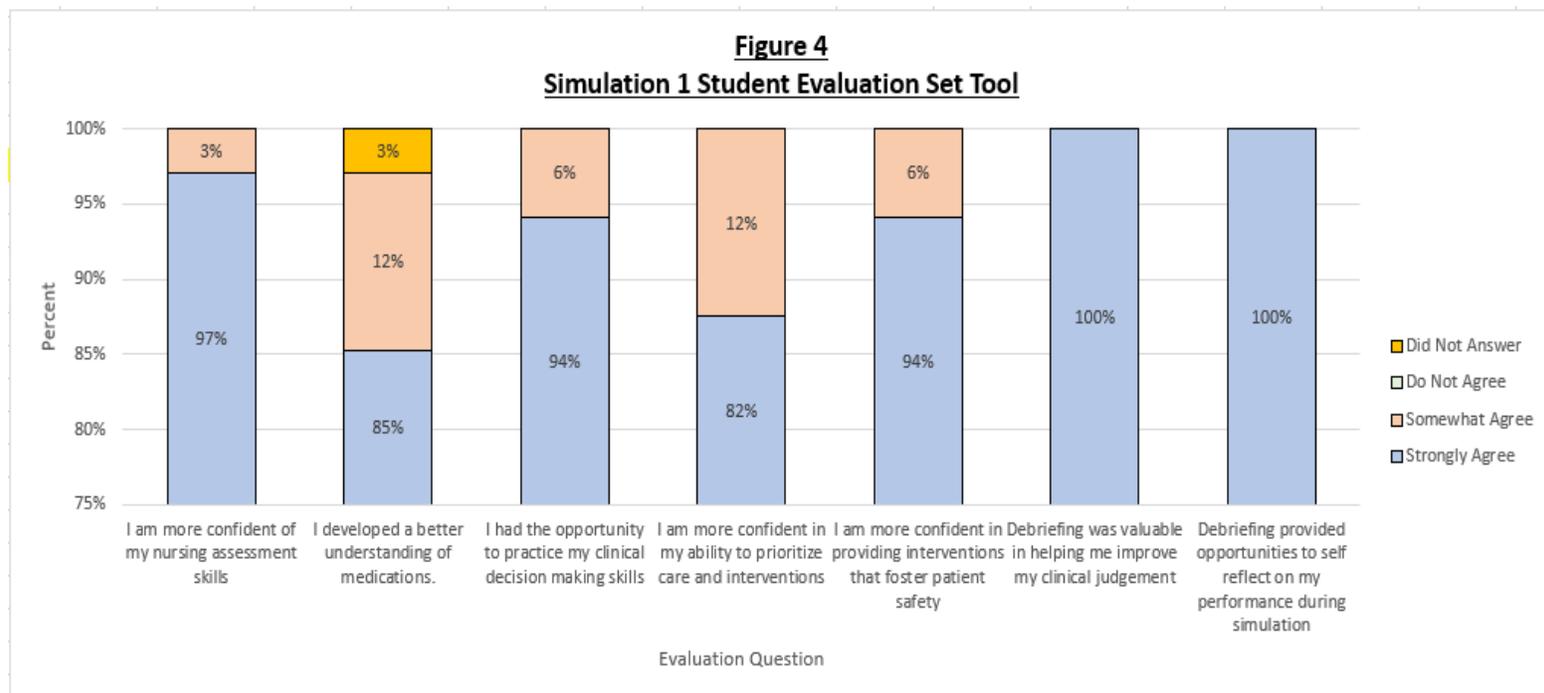
A modified Simulation Effectiveness Tool was utilized to gather students' perceptions of the simulation. The survey data were collected and entered into an excel spreadsheet for further analysis.

During the first simulation 34 students participated in the survey. The following are a selection of responses:

- 97% of students who took the survey either strongly agreed with the statement (85%) or somewhat agreed (12%) with the statement "I developed a better understanding of medications." One student did not answer this question.
- 100% of students who took the survey either strongly agreed (97%) or somewhat agreed (3%) with the statement, "I am more confident in my nursing assessment skills."
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- 100% of students who took the survey strongly agreed with the statement, "Debriefing was valuable in helping me improve my clinical judgment."

The following chart shows student responses for the first simulation on the Simulation Effectiveness Tool (SET):

Figure 4: Simulation 1: Student Evaluation SET Tool



Some of the essay responses from students included:

- “It was very nerve racking but once I took a deep breath I felt better, overall great experience.”
- “Loved it, made me more confident.”
- “It was amazing, I felt very prepared.”
- “Really enjoyed it, the pre-sim also helped.”
- “Practicing giving medications the way [the instructor] set it up really helped me understand medication administration and how to safely give them.”
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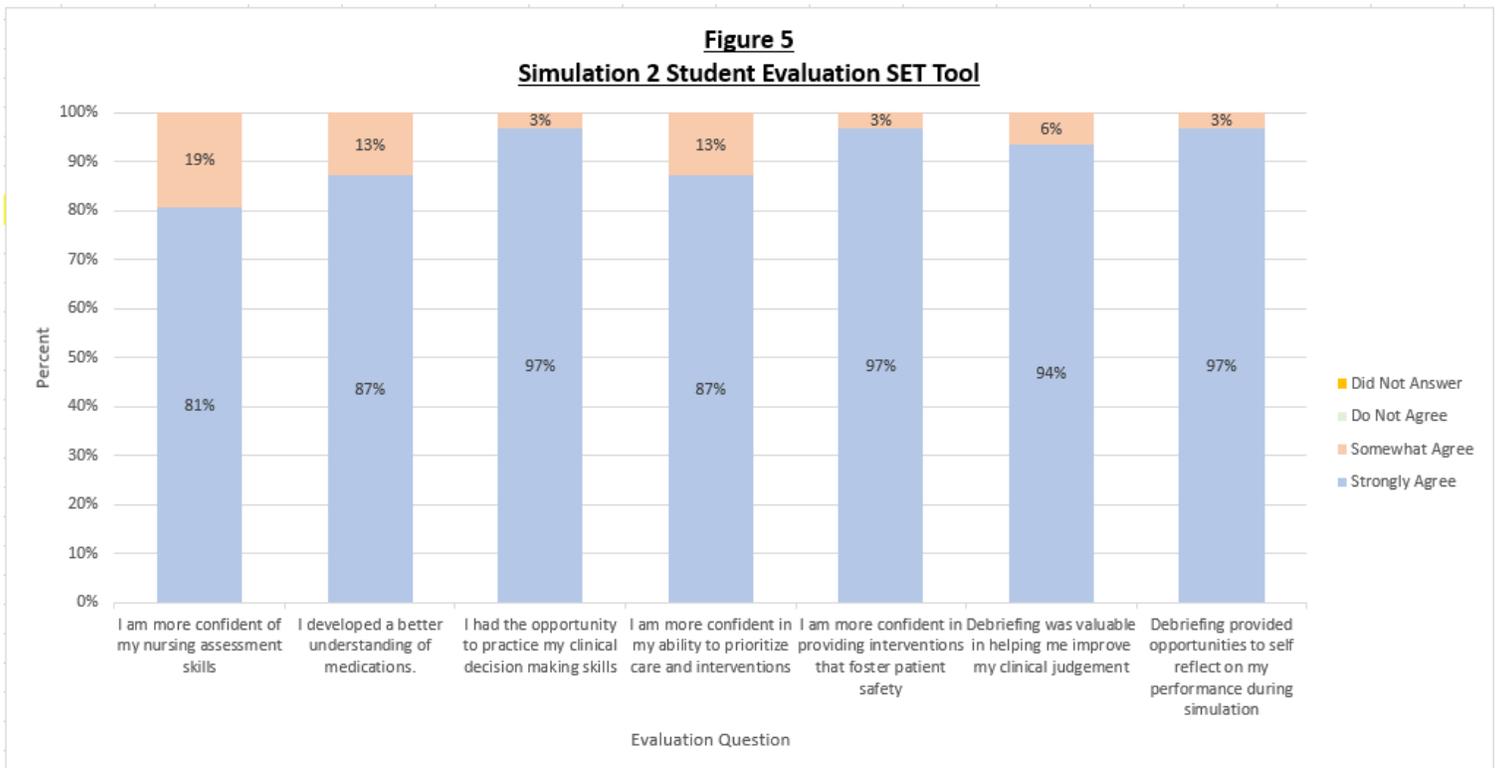
- “Really helps me, helps me with clinical as well as understanding medicine practices.”
- “I felt like I had the preparation I needed.”
- “I really enjoyed it and I am thankful for this experience.”

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- 100% of students who took the survey either strongly agreed (94%) or somewhat agreed (6%) with the statement, “Debriefing was valuable in helping me improve my clinical judgment.”

The following chart shows student responses from the second simulation on the SET:

Figure 5: Simulation 2: Student Evaluation SET Tool



Some of the essay responses included:

- “Great Simulation- Gave me the opportunity to experience real world scenarios.”
- “This simulation was very beneficial; it was more challenging than last semester and the distraction during helped make it more realistic.”
- “It was a good experience and helped me become more confident with administering medications.”
- “Being able to prioritize which patient I saw first helped a lot, as well as all of the feedback I got. Getting questioned about the medication made me critically think more and I was more engaged because of it.”

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- This simulation seemed more difficult but was needed to help my weaknesses.”
- “Helped me become more confident on knowing the medications and how to administer correctly.”
- “This made me feel much more confident.”

### **Discussion**

Data from the pre-simulation quiz, CSET tool, and student evaluation were collected to identify weaknesses that could be highlighted in a future medication simulation. Errors in identifying the patient and allergies were reduced to zero occurrences in the second simulation indicating student competency in those areas of medication administration. However, there was a significant increase in dosage calculation errors in the second simulation. Review of the CSET evaluation revealed that students showed weakness in calculating reconstitutions for either IM injection or IV piggyback. The students were not required to complete a reconstitution during the first simulation. There was also an increase in administration technique errors during the second simulation. All CSET tools indicated the students who made errors in administration were all interrupted during the administration process. There were no distractions during the first simulation. There was an even distribution of errors occurring within medication knowledge between the two simulations. However, it is important to note there were significantly more

medications during the second simulation therefore this was seen as an improvement. Review of the SET tools indicated the students found the second simulation with inclusion of distractions to be more challenging, but realistic. Several students indicated the desire for more practice in simulation with medications.

Review of the data indicated a need for a third and final medication simulation prior to graduation. Faculty used data to determine student's weaknesses and areas for remediation such as reconstitutions and continued use of distractions for use in the third and final simulation. A study by Hayes, Jackson, Davidson, Daly, & Power (2017) found that "Interrupting medication administration in realistic and safe settings facilitates awareness, allows for students to begin to develop management strategies in relation to interruption and increases their confidence." (p.4846). Leadership at the college agreed the simulation was beneficial and supported the third simulation implementation in NUR 103.

### **Conclusions**

This project found that allowing undergraduate nursing students practice with preparing and administering medications in a high-fidelity simulation experience with faculty feedback in real time increased their knowledge and confidence when preparing and administering medications. The increase in rigor among the two simulations allowed faculty implementing the simulation to focus on areas of weakness and remediation needs of the students. Future indications included adding a third medication administration simulation and continued implementation of all three simulations in future cohorts.

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## Appendix A- Clinical Simulation Evaluation Tool (CSET) Permission to Use

Student: \_\_\_\_\_ Date: \_\_\_\_\_ Evaluator/ Faculty: \_\_\_\_\_

Objectives	Checklist/Notes	Observed Patient A- Please write down patient initials here: _____
<b>*Hand Hygiene:</b> Performs proper hand hygiene before caring for each patient and as needed		___ Hand wash*
<b>*Introduces Self:</b> States name and role to patient, family member and/or health care provider.		___ Introduces Self* ___ Identifies Role *
<b>*Verifies Patient Identification:</b> Ask patient to state their name, DOB and verify on ID Band. <b>OR</b> verify patient name and Medical Record Number on ID band. Must look at ID band to receive points		___ Verify Patient Full Name* ___ Verify Patient DOB* <i>OR</i> ___ Verify MR# *
<b>*Verifies Allergy:</b> Asks the patient about allergies AND verifies correct allergy band. **Does not give medications that patient is allergic to.		___ Ask about allergies* ___ Verify allergy band*
<b>Communication:</b> Explains to patient/and or family member what they are doing and/or why.		___ Explain Assessment ___ Explain Medications
<b>Error:</b> Identifies medical error/s and states correction for error.		___ Differs per patient
<b>Identifies the Priority Patient</b>		___ Priority Patient to medication first if more than 1 patient. If no more than 1 patient write N/A.
<b>Assessment:</b> Assesses patient and asks questions relevant to the medication's being administered. Is able to correctly identify what the medication is for and any side effects and nursing interventions.		___ Differs per patient
<b>Focus Assessment:</b> Assesses systems appropriately based on patient presentation, signs and symptoms.		___ Differs per patient
<b>Correctly Administers Medications:</b> Able to demonstrate how to calculate and administer medications.		___ Allergies to medications ___ 6 Rights ___ Proper administration (SC, IM, IV, PO, SL, Topical, Eye drops, ear drops).
<b>Thinking Process:</b> Discusses out loud during/after scenario possible problems, pathophysiology, and/or rationale for assessment and interventions. Able to answer evaluator's questions.		___ Able to appropriately answer faculty questions regarding medication.

<b>Reflection:</b> Identifies strengths and areas for improvement when discussing with faculty.		___Strengths ___Areas of Improvement
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## About Us

Welcome to the Measurement Instrument Database for the Social Sciences (MIDSS). The site is designed to be a repository for instruments that are used to collect data from across the social sciences. Please use the site to discover instruments you can use in your own research.

We now have more than 500 instruments concerned with a wide range of topics (e.g. autism, health, pain). You can use the search function above to search the database using pre-identified key words, or generate your own terms to search the instrument titles.

We are currently in a growth phase and don't have staff dedicated to actively trawl the internet and scientific literature to find instruments for MIDSS. Rather, we rely on you to submit instruments that you have developed using a Wiki-type model.

Please consider submitting any instruments that you have developed. It is relatively painless and will only take a few minutes. There is no requirement to register or create a password. By adding your instruments to this database you are making them available for colleagues to use, thus sharing knowledge. If your instrument is available for others to use, you are likely to benefit from this in the form of citations to your instrument and to your own published work relating to it.

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The INACSL Standards of Best Practice (2019). In *The International Nursing Association for Clinical Simulation and Learning*. Retrieved from <https://www.inacsl.org/inacsl-standards-of-best-practice> simulation/

## Appendix B- Simulation Effectiveness Tool (SET)

1

### Simulation Effectiveness Tool - Modified (SET-M)

After completing a simulated clinical experience, please respond to the following statements by circling your response.

<b>PREBRIEFING:</b>	<b>Strongly Agree</b>	<b>Somewhat Agree</b>	<b>Do Not Agree</b>
Prebriefing increased my confidence	3	2	1
Prebriefing was beneficial to my learning.	3	2	1
<b>SCENARIO:</b>			
I am better prepared to respond to changes in my patient's condition.	3	2	1
I developed a better understanding of the pathophysiology.	3	2	1
I am more confident of my nursing assessment skills.	3	2	1
I felt empowered to make clinical decisions.	3	2	1
I developed a better understanding of medications. (Leave blank if no medications in scenario)	3	2	1
I had the opportunity to practice my clinical decision making skills.	3	2	1
I am more confident in my ability to prioritize care and interventions	3	2	1
I am more confident in communicating with my patient.	3	2	1
I am more confident in my ability to teach patients about their illness and interventions.	3	2	1
I am more confident in my ability to report information to health care team.	3	2	1
I am more confident in providing interventions that foster patient safety.	3	2	1
I am more confident in using evidence-based practice to provide nursing care.	3	2	1
<b>DEBRIEFING:</b>			
Debriefing contributed to my learning.	3	2	1
Debriefing allowed me to verbalize my feelings before focusing on the scenario	3	2	1
Debriefing was valuable in helping me improve my clinical judgment.	3	2	1
Debriefing provided opportunities to self-reflect on my performance during simulation.	3	2	1
Debriefing was a constructive evaluation of the simulation.	3	2	1
What else would you like to say about today's simulated clinical experience?			

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