

# Utilizing AI Chatbots as a Training Tool for Nursing Students

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# Research Team

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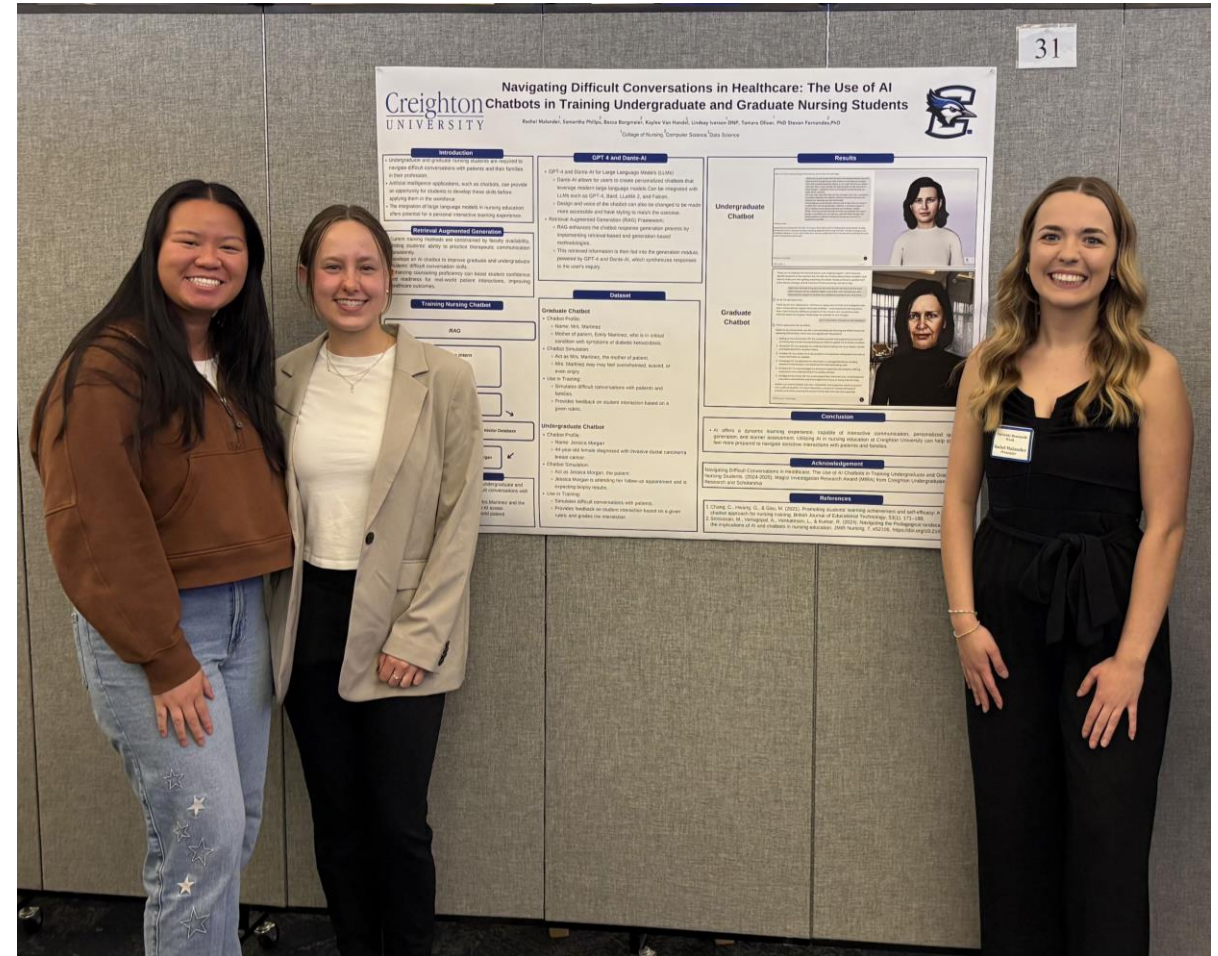
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- Kara Morgan, MSN, RN
- Lauren Guthrie, MSN, RN, CNE-n - **Presenter**
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# Research Team (continued)

## Undergraduate Student Researchers:

- Samantha Phillips
- Kaylee Van Handel
- Rachel Malander



# Disclosures

Lindsay Iverson has a financial relationship with Laerdal Medical. However, Laerdal did not sponsor, influence, or contribute to the development of this project/presentation, and no Laerdal products or content will be discussed.

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Award (MIRA)

# Objectives



1. Describe an AI-based communication tool used for training graduate and undergraduate nursing students in difficult conversations.



2. Discuss the experience of graduate and undergraduate nursing students' perception of the AI-based communication tool.



# Background

- Verbal communication as a fundamental competency <sup>1, 2, 4</sup>
- AI is used in higher education
- AI chatbots have been used in nursing curriculum with positive outcomes <sup>3, 5</sup>
- Lack of AI chatbots being used to train nursing students in difficult conversations



# Purpose & Aims



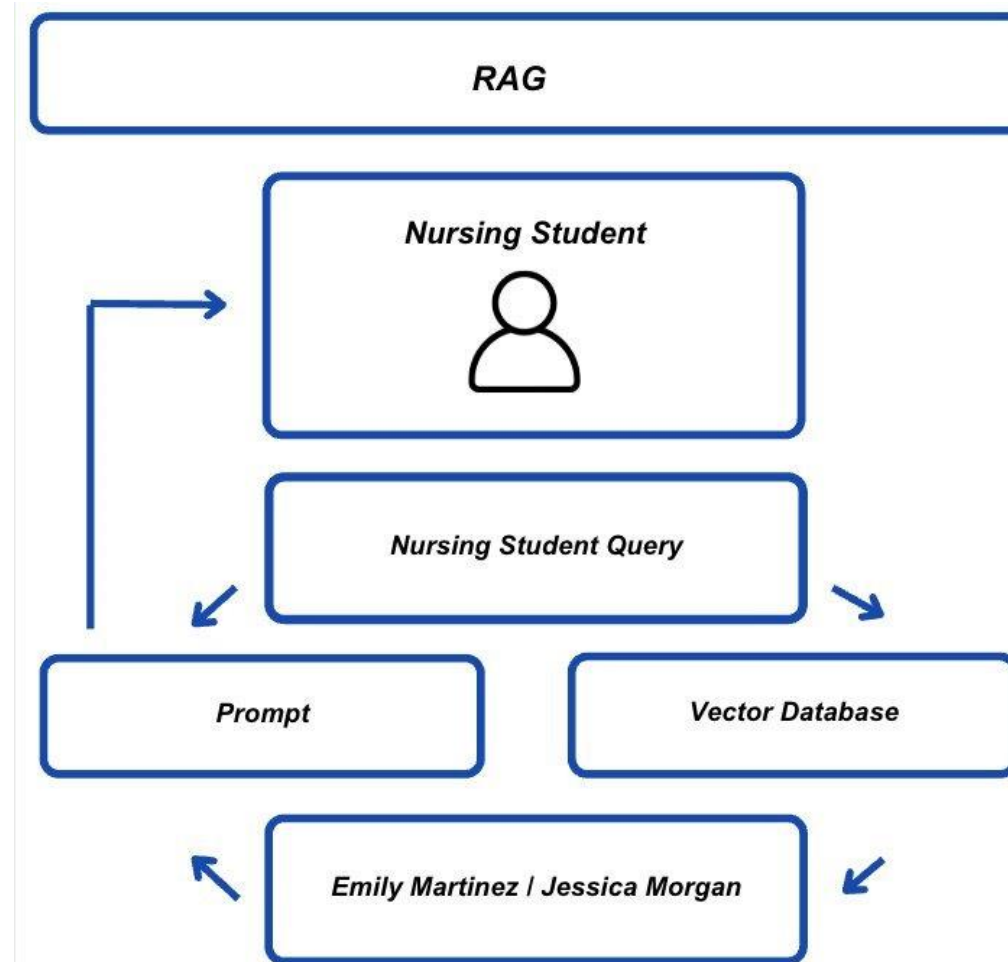
To develop a tiered experiential approach to preparing graduate and undergraduate nursing students for difficult conversations prior to interacting with standardized patients.



To adapt, pilot, and evaluate an AI-based communication tool for student engagement in practicing difficult conversations.



# Chatbot Development



# Methods

## **Phase 1:**

Students were provided with a scenario and recorded themselves navigating a difficult conversation with the AI chatbot.

## **Phase 2:**

Students engaged in a simulation with a standardized patient.

## **Evaluation:**

Rubric used in Phase 1.

Evaluation tool used in Phase 2.

Students completed a survey between phases.



# Sample

## **Engaged with chatbot (required)**

- 70 undergrad nursing students (2 campuses)
- 12 grad nursing students (2 programs)
- Total engagement = 82 students
- 100% of students enrolled in courses

## **Completed survey (optional)**

- 41 undergraduate & 3 graduate
- Total sample = 44 students
- 53.6% response rate

# AI Chatbot Rubrics

Undergraduate

Both

Graduate

Ask-Tell-Ask  
Framework

Empathy

Clarity

Overall  
Effectiveness

Camera On

**SPIKES  
Protocol**

# Undergraduate & Graduate Chatbots

ne is Jessica Morgan. What can you tell me about the next steps.

Jessica, as you go through chemotherapy and possibly radiation, there will likely be some changes to your daily routine, but we'll help you navigate them. Many people experience fatigue, so you might find that you need to rest more often or pace yourself with daily activities. It's also common to have changes in appetite or taste, so focusing on nourishing foods you enjoy will be important. You may notice side effects like hair loss, changes in your skin, or sensitivity to sunlight, especially with radiation. Wearing sunscreen and loose, soft clothing can help keep your skin comfortable. I encourage you to prioritize self-care and ask for help when you need it—whether that's with household tasks, childcare, or emotional support. If you're working, we can discuss adjusting your schedule if needed. Finally, I want you to know that there are resources available, like support groups or counselors, who can help you cope with these changes. Let's decide together to address anything that comes up, so you feel as supported as possible.

BT...

rou sharing all of this with me. It's just a lot to take in, and I'm feeling pretty overwhelmed. I'm really t how I'm going to manage everything, especially with my kids and work. The idea of losing my hair ifferent in my own skin is really scary. How do I explain all of this to my kids without scaring them? And atment doesn't work?

essage

Submit



Thank you for keeping me informed and for your ongoing support. I don't have any specific questions at the moment, but I do feel very anxious about Emily's condition. I just want to make sure she's getting everything she needs. Please continue to update me if there are any changes, and let me know if there's anything I can do to help.

Right now, the best thing you can do is be here for her and trust the care team to focus on her medical needs. If you'd like, I can connect you with resources for support or answer any additional questions you may have.

Oh, let me see about that...

Thank you for your reassurance. I will focus on being here for Emily and trusting the care team. If there are any support resources available, I would appreciate learning about them. I don't have any additional questions at the moment, but I would like to stay informed about her progress. Please keep me updated on any changes.

End of simulation. Provide me with feedback.

That's a good point, let me reflect...

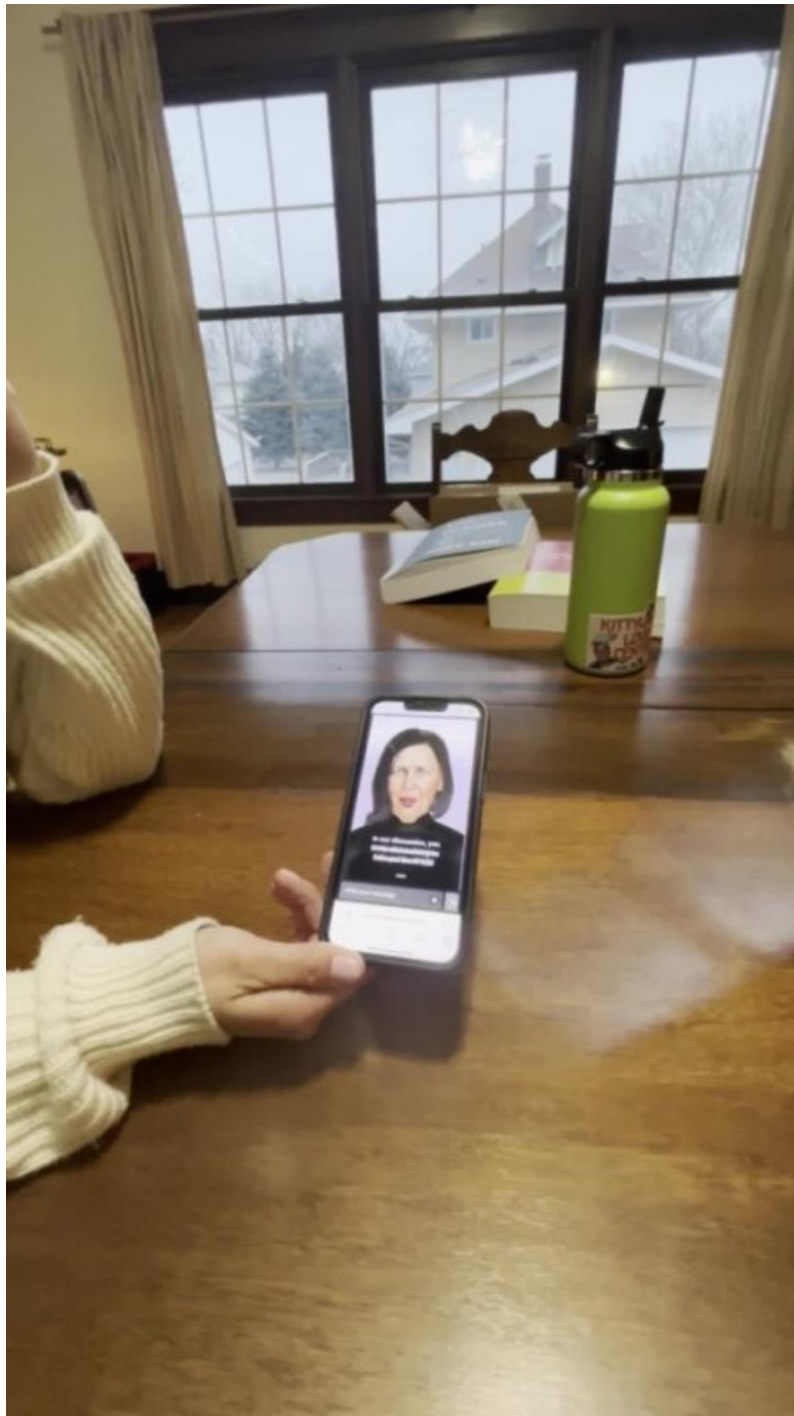
Based on our conversation, you did a commendable job following the SPIKES Protocol for Delivering Difficult News. Here's how you aligned with the protocol:

1. Setting up the conversation (S): You created a private and supportive environment by introducing yourself and expressing your intent to update me on Emily's condition.
2. Perception (P): You assessed my understanding by asking how much detail I wanted and explained Emily's condition clearly.
3. Invitation (I): You invited me to ask questions and expressed willingness to provide as much information as I needed.
4. Knowledge (K): You delivered the information in manageable pieces, avoiding excessive medical jargon, and explained the treatments being used.
5. Emotions (E): You acknowledged my emotional responses with empathy, offering reassurance and understanding of my anxiety and fear.
6. Strategy and Summary (S): You summarized Emily's treatment plan, emphasized the care team's commitment, and encouraged me to focus on being there for Emily.

Overall, your communication was clear, empathetic, and supportive, which is crucial in such a difficult situation. For future interactions, continue to maintain this level of empathy and clarity, ensuring the patient's family feels informed and supported.

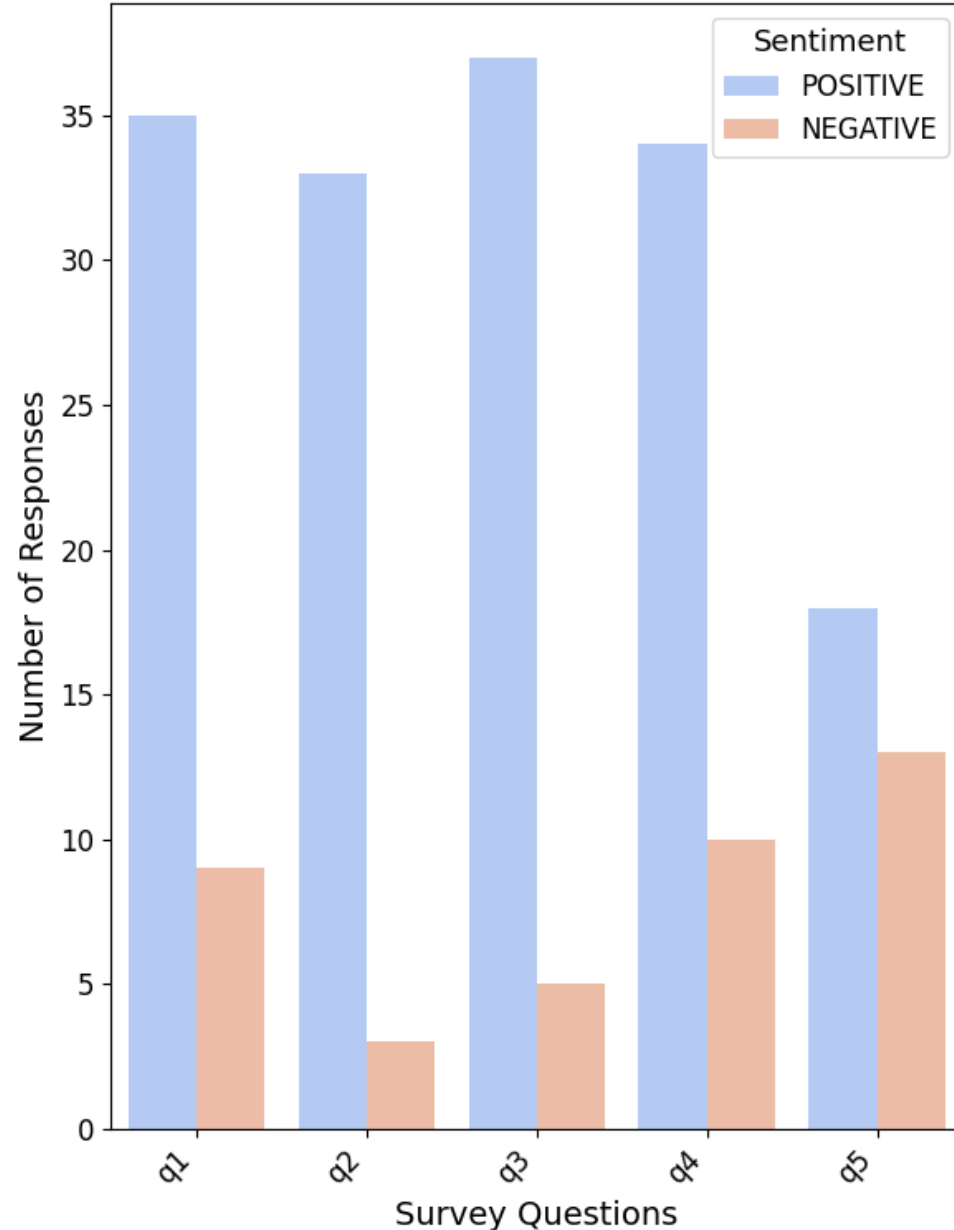
Write your message







## Sentiment Distribution Analyzed Using AI



## Quantitative Results

- q1: I felt more confident in having difficult conversations after interacting with the AI chatbot
- q2: The feedback received from the AI chatbot was valuable for improving my performance in difficult conversations
- q3: Engaging with the AI chatbot prepared me for real-world encounters involving difficult conversations in healthcare settings:
- q4: Overall, I enjoyed engaging with the AI chatbot to practice difficult conversations.
- q5: Please share what specific aspects of the activity with the AI chatbot contributed the most to your learning and development in engaging with or delivering difficult news

# Qualitative Themes

## Practice and Preparedness

- "Helpful as a first interaction"
- "...a good way to improve and try new ways to deliver sensitive information"
- "It gave me a different perspective being the one to give education and support"

## Realism and Emotional Awareness

- Many students noted how the chatbot portrayed "desperation" and emotional realism
- "I realized how often parents might say 'I'm anxious, worried, scared'"

# Qualitative Themes (continued)

## Feedback and Self-Reflection

- Immediate and specific feedback from the chatbot was a major strength
- "...the feedback that I received from the chatbot was the most impactful part of my learning"
- "I think receiving feedback allowed me to reflect on what I did and how I can better improve"

## Engagement and Critical Thinking

- Cognitively engaging, prompting students to think on their feet
- "...asking me for resources by name forced me to critically think"
- One student noted the benefit of "thinking on the spot and responding to patient questions"

# Qualitative Themes (continued)

## Technical Challenges

- Students reported frequent technical issues
  - Slow responses
  - Audio recognition errors
  - Full system crashes
- For some, these problems interfered with the flow and realism of the simulation

# Limitations of the Study



Low Response Rate



Data Analysis Method



Limited Pilot Data

# Implications for Healthcare Education

Transforming Communication Training

Bridging Classroom and Practice

Expanding Access and Scalability

Alignment with AACN Essentials (2021)





# Next Steps



Address Technical Challenges

Scalability and Expansion

New Scenario Development

Interprofessional Integration

Sustained Intervention

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*Thank you.*

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