Exploring an Adaptive Version of the 3D Model of Debriefing Using a Virtual Patient Simulation

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Disclosure

The authors of this presentation are current employees of an educational software company that develops virtual patient simulations for nursing education and allied health programs.

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Overview of Presentation

Virtual Patient Simulations

DCE Leadership Simulation

Learning Objectives

Conflict Management Virtual Simulation

- Simulation Scenario
- Learning Activities

Debriefing

- 3D Model of Debriefing
- Adaptive Standardized Debrief Activity

Pilot Study

- Purpose
- Methodology
- Results

Conclusions and Implications for Practice

Virtual Patient Simulations

Virtual Patient Simulations (VPS)



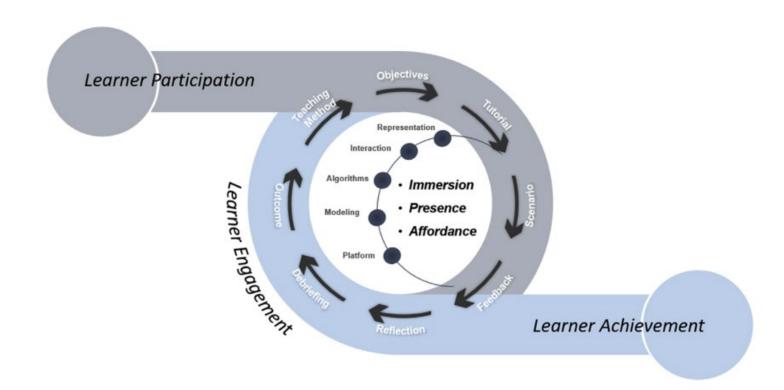
Asynchronous, computer-based, partially immersive clinical simulations in which students can interview and examine virtual patients.

Compared with traditional education, VPS can effectively improve knowledge, clinical reasoning, procedural skills, and a mix of procedural and team skills (Kononowicz et al., 2019).

Effectively supports several student learning outcomes and skills in nursing education (Foronda et al., 2020)

- History taking (Luo et al., 2019).
- Empathy (Strekalova et al., 2016).
- Diagnostic reasoning (Duff et al., 2016).
- Evidence-based practice (Foronda et al., 2017).
- Team training (White et al., 2015).
- Debriefing (Verkuyl et al., 2020).

Educational Characteristics of Virtual Simulation in Nursing (Shin et al., 2019)



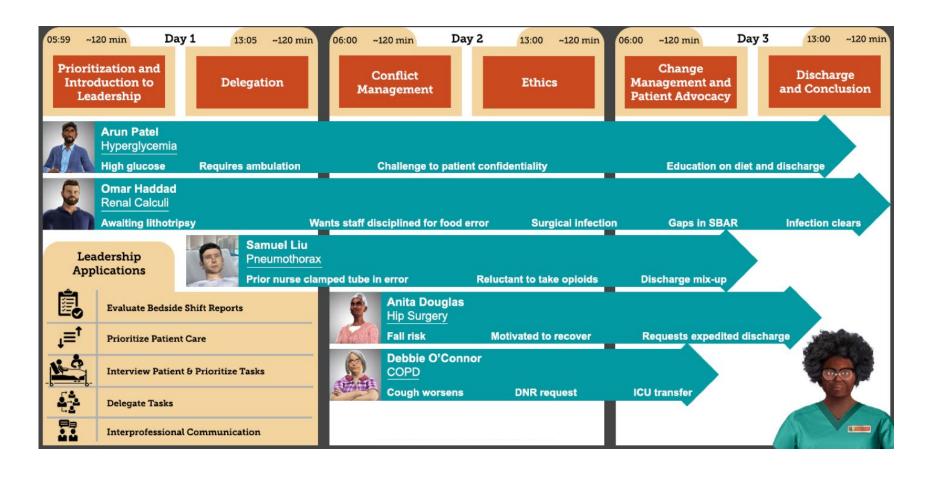
Reprint from "Educational Characteristics of Virtual Simulation in Nursing: An Integrative Review", by Shin et al., 2019, Clinical Simulation in Nursing, 37, p. 24.

DCE Leadership Simulation

DCE Leadership Simulation



DCE Leadership Simulation



Simulation Learning Objectives



Practice and evaluate professional communication within a healthcare team.

Develop clinical thinking.

Apply industry ethical standards to decision-making in support of patients' rights.

Understand effective leadership strategies.

Work as a change agent to bring organizational goals and policy in alignment with proper patient care.

Reflect on and evaluate own performance and leadership style.

Conflict Management Scenario

The learner

- takes on the role of a nurse at a hospital's medical-surgical unit using a day-in-the-life framework;
- faces challenges in the form of patient and workplace conflict;
- must identify and use appropriate conflict management strategies to ensure positive outcomes for patient care; and
- continues to practice prioritization, interprofessional communication, and delegation.



Simulation Learning Activities

Bedside Shift Report

Interprofessional Communication

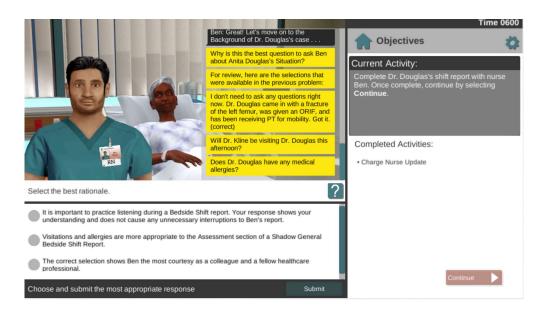
Team Delegation

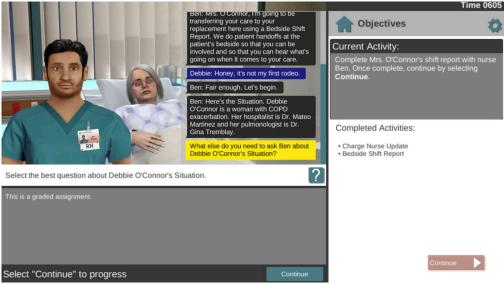
Prioritization of Delivery of Care

Prioritization of Individual Patient Needs

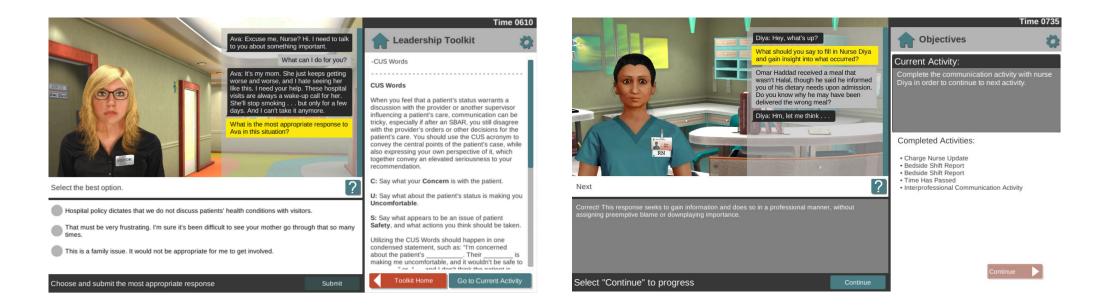
Bedside Shift Report

Learner receives patient bedside shift reports from another nurse in SBAR style.



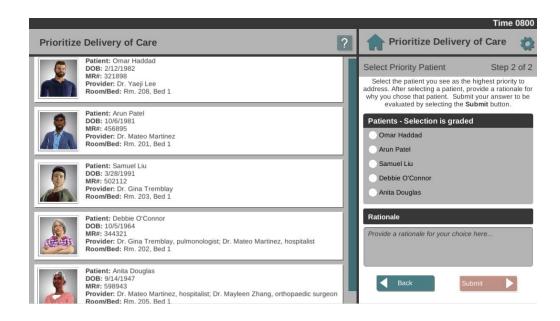


Interprofessional Communication



Learner practices interprofessional communication by selecting among appropriate responses and providing rationale.

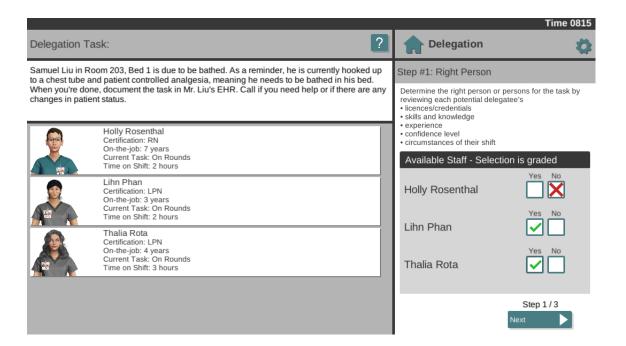
Prioritize Delivery of Care



Learner prioritizes delivery of care for multiple patients according to Leadership models and theories (e.g., Five Rights of Delegation).

Team Delegation

Learner delegates tasks to appropriate staff based on their licenses, experience, and current status.



Prioritize Individual Patient Needs





Learner conducts a thorough but focused patient assessment in order to best prioritize nursing interventions and in-room care.

Debriefing

Debriefing

One of the most fundamental components of any simulation learning experience in nursing (Chronister & Brown, 2012; Dreifuerst, 2009; Meakim et al., 2013; Verkuyl et al., 2017).

Through reflection, essential learning occurs in the debriefing phase of the simulation-based experience (Gordon et al., 2017).

Best practices include (INACSL Standards Committee, 2016)

- a facilitator who is trained and competent in debriefing and can fully focus on the simulation with the intention to facilitate the debrief;
- environments that promote learning;
- use of a debriefing framework; and
- alignment with simulation learning objectives and outcomes.

Challenges and Opportunities of Debriefing in VPS

There are **no specific**, **documented** standards of best practice for debriefing in VPS.

Most studies **do not even mention** debriefing practices (Foronda et al., 2020).

The individualized feedback provided to learners **during and after** VPS can facilitate reflection on their performance (Verkuyl, 2017).

Recent research shows that **self-debriefing experiences** are as effective as in-person and virtual debriefing after a VPS (Verkuyl, 2018a, 2018b, 2020)



3D Model of Debriefing (Zigmont et al., 2011)

Kolb's Experiential Learning Cycle	3D Model Components	Learning Outcomes Model
Concrete experience	Creating a safe environment	Individual
	 Introductions 	 feels "safe"
	 Ground rules and expectations 	 knows what to expect
	 Confidentiality 	 is prepared to complet
	 Orientation to simulation environment 	the task
	Simulation exercise	Experience
	Define objectives	creates a change in boo
	 Enhance realism: care-team, environment, 	state for individual
	progression Challenging to invoke emotional response	 is realistic to evolention for individual
		 is relevant, practical an useful to individual
	Pre-briefing	Individual
	 Ground rules 	 knows what to expect
	 Set expectations 	
	 Explain format 	_
		Environment (micro)
		is safe for learning
Reflective observation	Defusing	Individual
	Discuss emotions	distresses to set stage for
	Recap events	learning
	Conduct Needs Assessment	 engages in studen centered learning
	Discovering	Individual on Experience
	 Prompt reflection through objective observation and video review 	 analyzes behaviors an intended outcomes
Abstract conceptualization	 Discover mental models guiding behavior 	Individual
	 Discuss target mental models 	• uses "analogical re
	Cue analogical reasoning	soning" to compare exist ting mental model to target mental model
Active experimentation	Deepening	Individual within
	 Prompt individual to apply new information 	macroenvironment
	to practice	 mentally connects target mental model to practice us
		within larger clinical envi
	Summary	Individual
	 Restate learning objectives discussed and lessons learned. 	 leaves with practical an useful information.
	Simulation Exercise 2	Individual within
	 Allow individual to apply new information 	microenvironment
		 actively connects target

Based on adult learning theory

- Experiential Learning Cycle
- Learning Outcomes Model

Three distinct parts

- Defusing
- Discovering
- Deepening

Preceded by a pre-briefing and ends with a summary of lessons learned.

Research shows that deep learning and authentic reflection via self-debriefing can occur after a VPS using the 3D Model of Debriefing (Verkuyl, 2018b).

Adaptive Standardized Debriefing

Last activity in the Conflict Management simulation

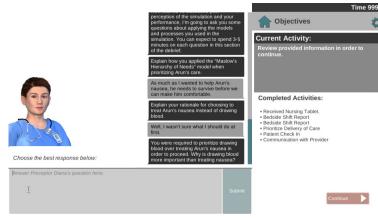
- ~ 30-minute conversation with the virtual preceptor.
- The debrief prompts adapt based on learner performance in critical decision points during the simulation.
- Learner reviews these decision points in context and then answer specific, structured debriefing questions about those decisions.

Decompress phase focuses on unpacking the feelings the learner had in the simulation.

Discovery focuses on discussing the learner's performance in this simulation.

Deepening phase focuses on preparing the learner for the future.





Pilot Study

Purpose of Study

In this experimental study, we explored the debriefing experience of students using the 3D Model of Debriefing (Zigmont et al., 2011) after completing a virtual patient simulation module on Conflict Management.

Methodology

Participants

 Forty four (44) students enrolled in a nursing Leadership course at a traditional four-year BSN program from a public university located in the southeast of the United States.

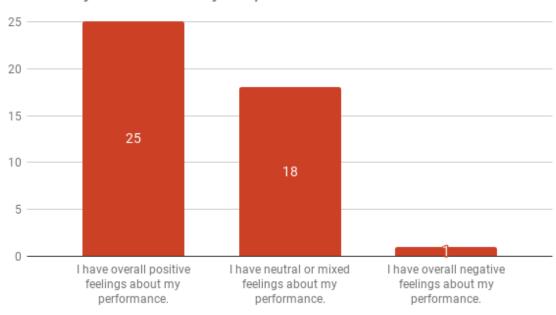
Procedure

- Students were recruited through a pilot program and were offered to access the Leadership simulation for free (6 modules).
- Students could run through the scenario as many as times as they wished (i.e., mastery learning approach)
- Students took, on average, 59 mins to complete the Conflict Management module.
- Unfortunately, the system could not capture how much time students spent on the Adaptive Standardized Debriefing activity.

Study Results

Perception of Performance

How do you feel about your performance in these situations?



Of the total number of students,

- 57% expressed positive feelings.
- 41% expressed neutral or mixed feelings.
- 2% expressed negative feelings.

Decompressing The Positive Experience

Students expressed how the simulation allowed them to safely practice deescalation and professional communication with patient and their family members

- I feel like I was able to effectively communicate with a patient and a family member in very tense situations. Tempers were running high, and I was able to get both calmed down.
- I feel like for the most part, I appropriately discussed the situations with the patients and their family members.
- They gave me a better understanding of how to communicate with patients and families during difficult situations.
- I felt like I was able to prioritize, delegate and communicate with not only my patients and their family members.
- These are things that can really happen to you in real life and practicing how to handle these situations correctly will help me in my future practice if I were to come in contact with this situation.

Decompressing The Negative Experience

Most students expressed having difficulties with **prioritization of delivery** of care

- It was hard for me to determine who I needed to see first... who I thought was most stable ended up being the top priority.
- I struggled with choosing the patient to see first. I would have liked more rationale as to why that patient was highest priority.
- Prioritization could have been better implemented on my part.
- ...I had a hard time choosing the best option for conflict resolution and prioritizing care.
- I had a hard time figuring out who to see first, but I thought I was able to communicate well with others.
- I believe I did well communicating with others throughout the simulation. However, when it come to prioritizing on my patients, I don't feel I did as well.

Decompressing: Professional Ethics

Understanding that the nurse needs to advocate for what is best for the patient first

- The daughter was very upset that I didn't want to do what she wanted, but we are taking care and are concerned about the best interest of the patient, not the family.
- I felt good about it because the patient is the number one concern and their well being is the most important even if it means turning and family member down for an ultimatum.
- It was hard for me to refuse the ultimatum because it would make the family member upset. However, its most important to advocate for your patient and do what is best for your patient.
- It was a very difficult situation in that I wanted to understand and empathize with the patient's family, however, remembering that my patient is number one is most important.

Understanding the scope of practice and role of nurse

- My job as a RN is to advocate for my patient and giving my patient an ultimatum does not advocate for their needs.
- It is not the nurses role or duty to give an ultimatum to the patient.
- It is not my scope of practice or place to deliver an ultimatum to a patient. I can offer education and support.

Discovering: Models and Processes

Composure (avoiding assigning blame preemptively), **consideration** (taking into account all dynamics and prior situations), and **open-mindedness** (considering all facets of the situation) were the main themes among student responses

- I didn't want to place blame but wanted to professionally get to the bottom of why this error occurred.
- I wanted her to know I was not putting blame on her, but still understand the situation fully to figure
 out the correct response to the patient's complaint.
- I wanted to approach her in a respectful manner. I did not want to accuse her or put the blame on her without knowing her side of the story.
- I knew that I did not want to put blame on her because we all make mistakes. I just wanted to make sure that she realized the correct polices and find ways to prevent this from happening again.
- I didn't want her to think that I was accusing her of doing anything intentionally because we are all human and make mistakes.

Deepening: Onto the Clinical Setting

Respect

- It is also important to remember that team oriented care relies on professional and respectful language, even when assessing for and correcting mistakes.
- I think I will try to think of ways to confront the issue without sounding disrespectful or accusatory.
- I will always try to remain calm and respectful.

Listening, empathy, consideration and composure

- I will think about the situation and try to be open and honest without putting blame on someone or making someone else feel uncomfortable.
- I will use the process of listening to the complaint and understanding the entire situation from both sides to understand how to resolve the situation.
- Another process will be to always remain empathetic, listen, and not place blame but state facts and ask the appropriate questions.

Professionalism, boundaries and roles

- It is important to always keep the patient in mind.
- Having a professional conversation to address the issue is the best away to solve conflict I believe.
- To remain professional and keep the patients best interest in mind while maintaining policy and patient confidentiality.

Deepening: Better Understanding

When asked what process or model students most want further instruction on before applying it in the clinical setting, they mentioned

How to prioritize patient care

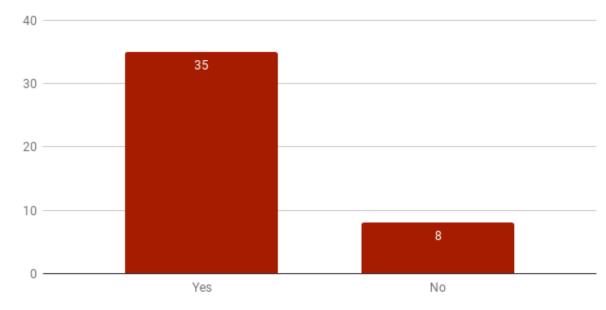
How to advocate for the patient

Practicing conflict resolution strategies under different scenarios

Understanding the role of a nurse

Looking Back at Debriefing

The majority of students (85%) felt that the debriefing helped them better understand the learning objectives of the simulation Do you feel that completing this debrief has helped you to better understand this assignment's learning objectives?



Conclusions and Implications for Practice

Impact of Debriefing in VPS

Learners experienced the benefits of a transformative learning experience when they were debriefed using the 3D Model of Debriefing after completing a virtual patient simulation.

Through transformative learning, the 3D Model facilitated the opportunity for students to reexamine their existing knowledge, assumptions, and biases.

Learners extrapolated what was learned to other situations and thought about how they would use it to guide their practice.

The adaptive nature of the debrief used in this study also allowed learners to reflect on those decisions and instances where patient-centered care leadership skills were needed to achieve the best patient care and outcomes.

Incorporating Debriefing in VPS

When handled skillfully, debriefing is the **most important aspect of simulation-based education**, as it is where the learning and processing of new information occurs (Zigmont et al., 2011)

To learn from experience in the simulated environment (Zigmont et al., 2011)

- the learner must feel safe to explore and experiment during the experience,
- the experience must have an impact on the learner and highlight learning objectives that are relevant, and
- the learner must have the opportunity to reflect on or analyze the experience.

We **must question** the simple transfer of in-person debriefing models and standards to VPS (Verkuyl, 2017).

Aligning with recent research, this study showed that **self-debriefing** offers an immediate debrief after the simulation experience and can easily be implemented in a virtual patient environment (Verkuyl et al., 2017, 2018a, 2018b, 2020)

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Thank you!

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