

Interprofessional Simulation Center Faculty Orientation Module





Objectives

At the end of this presentation the viewer will be able to:

- Define simulation
- Identify types of events supported by the GVSU Simulation Center
- Understand how to submit a simulation request
- Describe how to effectively design a simulation (i.e. write objectives, design scenarios)
- Identify best practices in simulation

What is Simulation?



An educational strategy in which a particular set of conditions are created or replicated to resemble authentic situations that are possible in real life. Simulation can incorporate one or more modalities to promote, improve, or validate a participant's performance.

(INACSL Standards Committee, 2016)



This is done through the use of task trainers, manikins, standardized patients, virtual technology, review of recorded student videos, briefing, and debriefing exercises.

Advantages of Simulation

- Encourages active, experiential learning.
- Is student centered.
- Provides a “safe” environment for making mistakes and learning from them.
- Develops critical thinking skills.
- Encourages self-reflection and evaluation.
- Provides opportunity to evaluate students in low volume/high risk patient situations.
- Incorporating simulation into programs enhances learning and builds confidence.



Key Terms

- **Briefing:** An activity preceding the start of a simulation where the participants receive essential information about the scenario such as background information, vital signs, instructions, or guidelines.
- **Conceptual Fidelity:** In healthcare simulation, ensures that all elements of the scenario relate to each other in a realistic way so that the case makes sense as a whole to the learner(s) (low, medium, & high fidelity exist).
- **Debriefing:** An activity that follows a simulation experience and led by a facilitator. To encourage participants' reflective thinking and provide feedback about their performance while various aspects of the completed simulation are discussed.
- **Facilitator:** An individual who is involved in the implementation and/or delivery of simulation activities (ex: faculty, educators, etc.)
- **Manikin:** A life-sized human like simulator representing a patient for healthcare simulation and education. Manikins can be full or partial body simulators that have varying levels of physiologic function and fidelity.
- **Moulage:** The application of makeup and molds to a human or simulator's limbs, chest, head, etc. to provide elements of realism (such as blood, vomitus, open fractures, etc.) to the training simulation.
- **Psychological Safety:** A feeling (explicit or implicit) within a simulation-based activity that participants are comfortable participating, speaking up, sharing thoughts, and asking for help as needed without concern for retribution or embarrassment.
- **Reflective Thinking (guided reflection):** A process to assist learners in identifying their knowledge gaps and demonstrating the areas in which they may need further improvement; this reflection requires conscious self-evaluation to deal with unique patient situations.

Key Terms - Continued

- **Scenario:** A description of a simulation that includes the goals, objectives, debriefing points, narrative description of the clinical simulation, staff requirements, simulation room set up, simulators, props, simulator operation, and instructions for SPs.
- **Simulation Patient/Standardized Patient (SP):** An individual who is trained to portray a real patient in order to simulate a set of symptoms or problems used for healthcare education, evaluation, and research.
- **Standardized Technology Communicator:** Unique to Grand Valley State University's Simulation Center, the technology communicator runs the manikin simulation scenario via the programmed software while being the voice of the manikin patient.
- **Task Trainer:** A device designed to train in just the key elements of the procedure or skill being learned, such as lumbar puncture, chest tube insertion, central line insertion or part of a total system.
- **Virtual Patient:** A computer program that simulates real-life clinical scenarios in which the learner acts as a healthcare provider obtaining a history and physical exam, and making diagnostic and therapeutic decisions.
- **Virtual vs. Augmented Reality:** Virtual reality is computer-generated three-dimensional environment that gives an immersion effect. Augmented reality is technology that layers computer generated enhancements atop an existing reality in order to make it more meaningful through the ability to interact with it. Augmented reality and virtual reality are inverse reflections of one in another with what each technology seeks to accomplish and deliver for the user. Virtual reality offers a digital recreation of a real-life setting, while augmented reality delivers virtual elements as an overlay to the real world.

Mission, Vision, and Values

Mission

The mission of the GVSU Interprofessional Simulation Center is to promote interprofessional healthcare delivery by teaching professional competencies in a safe and interactive learning environment. This is accomplished by the application of existing and evolving best practices, principles of andragogy, and technologies.

Vision

The GVSU Interprofessional Simulation Center will be recognized as an innovator in interprofessional healthcare education. Learners' experiences and interactions, grounded in best practices, will result in the development of collaborative healthcare professionals and improved patient safety. Realizing this vision will strengthen the life-long connections between GVSU, its alumni and the greater community.

Values

- **Education:** Excellence in teaching, enhancing curriculum goals and objectives, experiential learning, innovative simulation events and programming
- **Quality:** Outcome measures, continuous quality improvement, benchmarking, evidence based best practices.
- **Teamwork:** Working together to achieve common goals using open communication, integrity, problem solving, critical thinking and respect
- **Scholarship:** Sharing knowledge through research, publication, presentation, and professional development
- **Community:** Strategic partnerships through collaboration, service learning, and healthcare education
- **Inclusion and Equity:** Advocacy, diversity, social justice

Note: All GVSU simulation activities are required to align with the mission, vision, and values of the Center.

Diversity, Equity, and Inclusion Statement

The GVSU Interprofessional Simulation Center respects the diverse backgrounds and lived experiences of learners. As such, we are committed to evidence-based, pedagogical approaches that are theoretically appropriate, mitigate harm, and elevate inclusion and equity as outcomes. Simulation methodologies or practice-based instruction in the Simulation Center will not result in marginalizing or privileging others, or intentionally subjecting learners to unnecessary physical, emotional, psychological, or spiritual vulnerability.

Code of Ethics

The GVSU Interprofessional Simulation Center has formally adopted the *Healthcare Simulationist Code of Ethics* via the Society for Simulation in Healthcare which supports the quality and ethical practice of healthcare simulation globally.

The Healthcare Simulationist Code of Ethics draws on six fundamental values:

- I. Integrity
- II. Transparency
- III. Mutual Respect
- IV. Professionalism
- V. Accountability
- VI. Results Orientation

Integrity

Healthcare Simulationists shall maintain the highest standards of integrity including honest, truthfulness, fairness, and judgement in all matters affecting their duties. They shall:

- Respect and cultivate the ethical organizational environment.
- Provide, as appropriate, disclosure of simulation activity design assumptions, limitations, alterations, and problems.
- Be explicit and unequivocal about the applicability of specific simulation activities and methods according to the available evidence.
- Work to eliminate unnecessary harm to humans, animals, and the environment.
- Honor privacy rights of individuals and organizations, and uphold the confidentiality of data and outcomes as appropriate.
- Respect and acknowledge all intellectual and property rights and give due credit where appropriate.

Transparency

Healthcare Simulationists shall perform all healthcare simulation activities in a manner that promotes transparency and clarity in the design, communication, and decision-making processes. They shall:

- Adhere to accepted standards in the documentation, analysis, design, development, implementation, and evaluation of simulation activities.
- Disclose any activities that may involve real or perceived conflicts of interest.
- Be explicit about the nature and purpose of the simulation activity, including research activities.
- Restrict simulation activities involving deception, ensuring that deception is minimized to the extent possible and does not involve the concealment of risk or intent to harm or punish.

Mutual Respect

Healthcare Simulations shall respect the rights, dignity, and worth of all. They shall practice empathy and compassion to support beneficence and non-maleficence towards all involved in simulation activities. They shall:

- Honor the knowledge, skills, values, and vulnerability of learners and colleagues.
- Listen to others' points of view, seeking to understand them.
- Exhibit human behavior, honor diversity, and foster inclusion, avoiding prejudicial treatment.
- Maximize safety and minimize physical and psychological risk.

Professionalism

Healthcare Simulationists shall conduct themselves in a manner that upholds the professional standards inherent in healthcare simulation. They shall:

- Demonstrate professional competence and attitudes.
- Exhibit continuous personal and professional development.
- Encourage and develop colleagues and new entrants to the healthcare simulation profession.
- Cultivate opportunities for the advancement of the healthcare simulation profession.

Accountability

Healthcare Simulationists shall be accountable for their decisions and actions in fulfilling their duties and responsibilities. They shall:

- Continuously seek, reflect on, and incorporate feedback.
- Submit themselves to professional review as required.
- Be role models of ethical behavior.
- Exhibit professional conduct that is a credit to the healthcare simulation community, employer, and self.
- Identify and notify relevant parties of unsafe, unethical, or unprofessional behaviors.
- Design and use simulations in a way that wisely uses available resources.
- Maintain vigilance regarding not only desired outcomes, but also potential unintended consequences of the simulation activity.

Results Orientation

Healthcare Simulationists shall serve to support activities that enhance the quality of the profession and healthcare systems. Outcomes are inclusive of all parts of the process of healthcare simulation and are not exclusive to a final product. They shall:

- Assure the reliable and credible use of healthcare simulation, in line with acknowledged standards of practice.
- Engage in continuous quality improvement.
- Create and measure impact across the range of achievable outcomes, including the practice of simulation, human performance, systems improvement, and direct patient results.
- Incorporate and embed the Code of Ethics throughout healthcare simulation and organizational culture.
- Use the Code of Ethics to inform ethical practices in relevant fields.
- Advance public knowledge about healthcare simulation by promoting access and sharing knowledge and experience.

GVSU Simulation Team



Located in the heart of Grand Valley State University's Health Campus in downtown Grand Rapids



Simulation Advisory Committee

The Grand Valley State University (GVSU) Simulation Advisory Committee (SAC) is comprised of GVSU faculty from various health disciplines that offer expert recommendations to promote simulation methodologies that enrich student learning experiences and support the development of professional competencies.



Deans Advisory Committee

The Simulation Center's Deans Advisory Committee is comprised of the GVSU Deans from the various colleges at GVSU that have programs within their colleges that utilize the Simulation Center.



Event Types Supported by the GVSU Simulation Center

Patient Simulator

- 11 high-fidelity manikins including; a maternal/fetal simulator, newborn simulators, pediatric simulators, and several adult female and male simulators.
- Several low fidelity manikins.
- A wide variety of task trainers, ranging from anatomical models to augmented reality.

Standardized Patient (SP)

- SPs are community members that are recruited and hired as temporary employees that provide an opportunity for students to practice assessment and communication skills.
- Adult SPs are trained to portray patients with a variety of physical & mental health conditions.
- Child SPs “act” as themselves. They do not role-play cases.
- The GVSU SP pool includes over 200 adults and children.
- SPs with specific conditions are recruited by faculty.

Assessment/Skills Lab

Multimedia – Virtual Reality, Augmented Reality

Audio/Video – Livestreaming and Recording

Scheduling an Event in the Simulation Center

Due Dates:

- **March 1st** for spring/summer semester
- **July 1st** for fall semester
- **November 1st** for winter semester

Submit your request through the GVSU simulation website:

<https://www.gvsu.edu/simcenter/>

Click on *Submit a Request* and fill out the Request Form.

Patient Simulator Events

Contact: **Doug Ayers**
Simulation Technology Manager
616-331-3059, ayersdo@gvsu.edu

- Tabletop exercises are required for all new manikin simulations.
- In your simulation request, list scenario description, supplies needed, and number of briefing/debriefing rooms needed.
- Manikins and rooms are assigned based on the best fit for the objectives of the event and availability.
- Faculty livestream viewing area is in CHS 315H.

Contact the Simulation Technology Manager for any changes or equipment needs for simulations.



Standardized Patient (SP) Events

Contact: **Sharon Baker**

SP Program Manager

616-331-5984, bakersha@gvsu.edu

- Faculty requesting an SP event for the first time **MUST** meet with the SP Program Manager first.
- Cases and schedules should be provided with event request.
- SPs are paid for a minimum of three hours every time they work. Please keep this in mind when planning events so that resources are utilized most efficiently.



Nursing Lab Events

Contact: **Robin Van Wingen**

Simulation Lab Assistant Manager

616-331-5707, vanwinro@gvsu.edu

- Lab setup for undergraduate and graduate nursing courses.
- Equipment is available for check out in CHS 343 for both faculty and students.
- Lab assistants are available to help with any lab setup issues.
- Contact the Simulation Lab Manager or for any changes with lab setups.



College of Health Professions Lab Events

Contact: **Lisa VanDyken** Simulation Lab Manager
616-331-5667, naymickl@gvsu.edu

- Coordinates lab setup for Audiology, PAS, PT, OST, SLP, Sonography, TR, and Clinical Dietetics.
- Equipment check out in CHS 343 or RFH 021.
- Lab assistants are available to help with any lab setup issues.

Contact the Simulation Lab Manager for any changes with lab setups.



Multimedia Requests

Contact:

John Sterling, Multimedia Manager, sterlijo@gvsu.edu, 616-331-5799 or

Kelly Klerk, Multimedia Manager, klerkk@gvsu.edu, 616-331-5655.

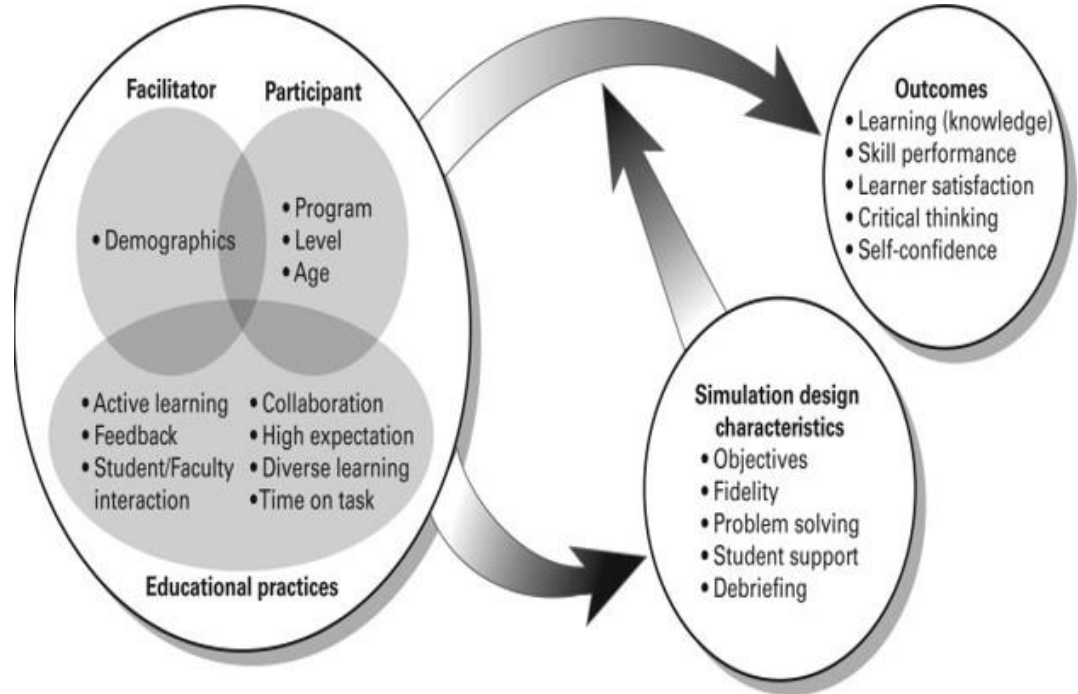
- CHS, DCIH, and RFH are equipped with state-of-art technology including, recording/evaluation software systems. Use of the systems are requested through the simulation event request process.
- Other video requests to record a guest speaker, class, or special event, etc. can be submitted through the GVSU simulation event request process.
- Video editing is done as soon as possible, based on other scheduled events.
- If the Simulation Center is unable to accommodate your request, recording equipment is available to check out to record speaker/event via a student or self.

Submit your request through the GVSU simulation website: <https://www.gvsu.edu/simcenter/>

Designing a Simulation

Simulations are created to meet objectives and attain expected outcomes.

Simulation Design Resources



Adult Learning Theories

Simulation designs incorporate best practices from adult learning, education, instructional design, clinical standards of care, and evaluation.

Experiential Learning (David Kolb):

- Tying Reality to Create Meaning

Andragogy (Malcolm Knowles):

- Tapping into Prior Experiences

Scaffolding Learning Theory (Lev Vygotsky):

- Completing manageable steps to reach a goal in collaboration with a skilled instructor or knowledgeable peers help make connections between concepts

Novice to Expert (Patricia Benner):

- Five stages: novice, advanced beginner, competent, proficient, and expert

Transformational Learning (Jack Mezirow):

- Revealing Perspectives to Create Aha Moments



Writing Objectives

- Develop broad and specific objectives to achievement optimal outcomes.
- Use measurable objectives.
- Facilitators are responsible for ensuring objectives are met throughout the simulation.
- Design objectives for the learning level of the participants.
- Determine which objectives the participants will see before or after the simulation.



SMART Objectives

Specific:

- What exactly are we going to do for whom?

Measureable:

- Is it quantifiable and can we measure it?

Achievable:

- Can we get it done in the proposed timeframe with the resources and support we have available?

Realistic:

- Will it have an effect on the desired goal or outcome?

Time-Phased:

- When will this objective be accomplished?

Participant Evaluation

All simulations require participant evaluation.

Criteria include:

- Determine the method of participant evaluation before the simulation-based experience.
- Simulation-based experiences may be selected for formative evaluation.
- Simulation-based experiences may be selected for summative evaluation.

The [Kirkpatrick Model](#) is a commonly used evaluation tool to look at measurable objectives and outcomes.



Preparation for Simulation: Faculty

Promote Fidelity

- Treat the simulation like a real clinical experience.

Promote Professional Integrity

- Stress in simulation evokes student responses, such as laughing, joking, or defensiveness.

Acknowledge Student Vulnerability

- Simulation is a safe environment for participants to learn and build upon their skills. Be aware of your responses to student performance.



Preparation for Simulation: Participant

Promote Professionalism

- Professional appearance and demeanor before, during, and after simulation.

Promote Professional Integrity

- Treat each patient as a real patient, including adhering to HIPAA Privacy Rules.

Prepare for Simulation

- Learners are expected to complete any preparation work assigned by the facilitator prior to participating in a simulation.



Pre-Briefing: Key Points



Discussion prior to simulation:

- Can be done as a large group or in individual groups.
- Activities include review of learning objectives, orientation to the environment, and overview of roles.
- The nature of the simulation: formative, summative, or for research purposes.
- Pertinent materials, such as patient charts, labs, diagnostic tests, web-based modules, and health histories are also reviewed.
- Reminder of learner confidentiality
- How simulations will be ended.

Pre-Briefing: Key Points



- The facilitator will clarify learner expectations and assist in the suspension of disbelief to foster learner engagement.
- Works towards achieving learner objectives.
- Clear instruction has been proven to be beneficial in improving learner performance.
- As simulation evolves, emphasis on briefing is expanding in contributing to the learning experience.

Debriefing: Key Points

- Debriefing is a learned skill.
- The debriefing process enhances learning and heightens participant self-awareness and self-efficacy.
- Debriefing promotes transfer of knowledge, skills, and attitudes while developing the participant into a professional role.
- Unsuccessful debriefing leads to participants' feeling uncomfortable and not taking the simulation seriously.



The Importance of Debriefing in Clinical Simulation



Empirical studies have demonstrated that learning does not occur in simulation-based education in the absence of debriefing.



Poorly conducted debriefing results in persistent poor clinical judgment.



The quality of debriefing was positively correlated with improved learning outcomes.



Simulation plus theory-based, reflective debriefing led to a significant and measurable difference in nurse practitioners' critical thinking skills.



Using simulation plus theory-based debriefing allowed instructors to broaden the conversation beyond technical errors and influence learner reflection on professional development.



Students say structured debriefing minimizes their distress and insecurity, provides positive reinforcement, enables interactive practice and encourages students to repeat and participate in the activities.



Students say these debriefing exercises strengthen relationships between themselves and teachers/facilitators and teamwork skills.



Students feel as if their mistakes are not pointed out in a negative way; rather, they are comfortable asking questions and consider criticism during the debrief process as constructive and positive.

Debriefing Principles

- Facilitated by a person(s) competent in the process of debriefing.
- Conducted in an environment with adequate facilities to allow for privacy, open discussion, trust, review, and confidentiality.
- The debrief is facilitated by a person(s) capable and competent in providing appropriate feedback, debriefing, and guided reflection.
- Based on a structured theoretical framework.
- Congruent with the participants' objectives and outcomes of the simulation-based learning experience.



5 Phases of Debriefing

1. Student Reaction Phase

- Allows students to vent their feelings immediately after the simulation.
- Invites students to share initial thoughts about the simulation.
- Students may experience intense emotional responses, especially if the patient suffered a negative outcome.

2. Student Reflection Phase

- Encourages to reflect on decision making process and on interventions conducted during the simulation.
- Encourages all participants to participate in the discussion.
- Observers should be encouraged to provide feedback.
- Review of own performance video enhances this phase.

3. Responsive Inquiry Phase

- Stimulate critical thinking and model clinical decision making for the students.
- The **Performance Checklist** could be reviewed, including both positive feedback and honest evaluation of events.
- Review recording with students, allowing facilitator to pause and ask critical thinking questions at pivotal points during the simulation.

4. Integration Phase

- Link theory to practice.
- Facilitate transfer of knowledge to clinical setting.
- Review any pre-simulation learning exercises students completed prior to simulation.
- Lead guided discussion of concepts and/or major skills such as; therapeutic communication, teamwork, professional communication, patient safety, quality of care considerations, documentation.

5. Closure Phase

- Conclude the debriefing with the students final thoughts on the scenario – positive or negative.
- If the scenario was particularly challenging for the students, take care not to offer false praise.
- Offer an honest appraisal.

Debriefing Assessment for Simulation in Healthcare (DASH)

A good debriefer:

- Establishes and maintains an engaging learning environment.
- Structures the debriefing in an organized way.
- Provokes engaging discussions.
- Identifies and explores performance gaps.
- Help students achieve or sustain good future performance.

To learn more about DASH, visit the Center for Medical Simulation:

Center for Medical Simulation

PEARLS Model

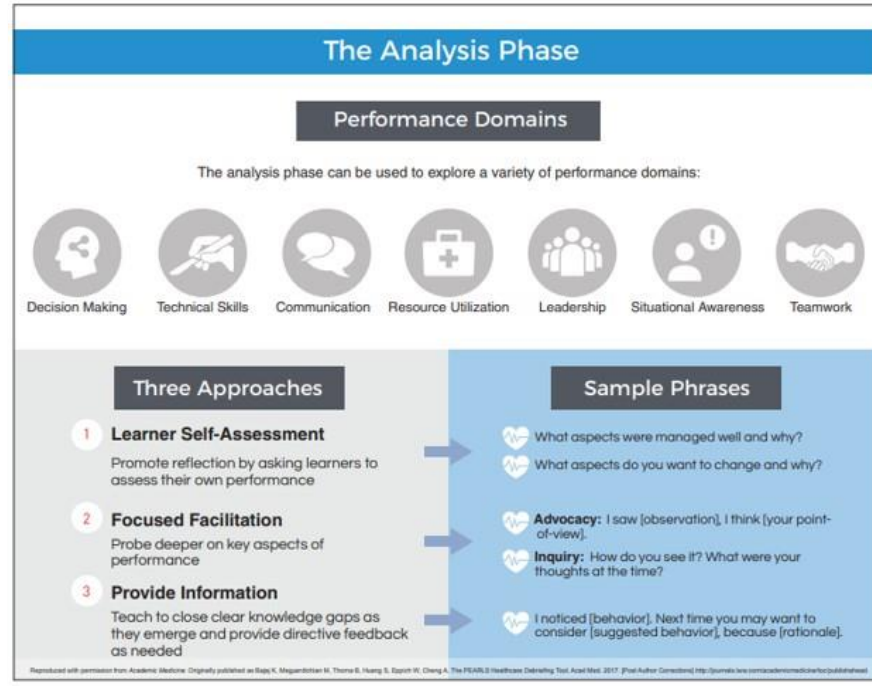
(Promoting Excellence and Reflective Learning in Simulation)

The PEARLS Healthcare Debriefing Tool			
	Objective	Task	Sample Phrases
1 Setting the Scene	Create a safe context for learning	State the goal of debriefing; articulate the basic assumption*	"Let's spend X minutes debriefing. Our goal is to improve how we work together and care for our patients." "Everyone here is intelligent and wants to improve."
2 Reactions	Explore feelings	Solicit initial reactions & emotions	"Any initial reactions?" "How are you feeling?"
3 Description	Clarify facts	Develop shared understanding of case	"Can you please share a short summary of the case?" "What was the working diagnosis? Does everyone agree?"
4 Analysis	Explore variety of performance domains	See backside of card for more details	Preview Statement (Use to introduce new topic) "At this point, I'd like to spend some time talking about [insert topic here] because [insert rationale here]" Mini Summary (Use to summarize discussion of one topic) "That was great discussion. Are there any additional comments related to [insert performance gap here]?"
Any Outstanding Issues/Concerns?			
5 Application/Summary	Identify take-aways	Learner centered Instructor centered	"What are some take-aways from this discussion for our clinical practice?" "The key learning points for the case were [insert learning points here]"

*Basic assumption: Copyright © Center for Medical Simulation. Used with permission.
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PEARLS Model

(Promoting Excellence and Reflective Learning in Simulation)



Plus-Delta Debriefing

Consists of three questions:

1. What went well?
2. What did not go well?
3. What can we do differently?

Plus-Delta Debriefing

Debrief Diamond: Key Phrases to Remember

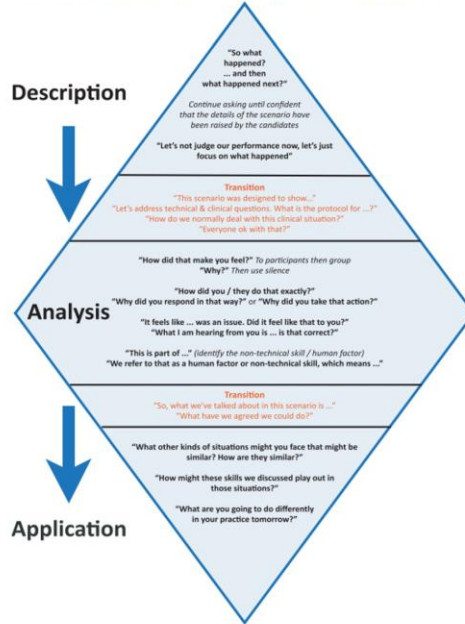


Figure 1. The first side of the Diamond contains the scaffold with a series of specifically constructed questions for each phase of the description, analysis and application debrief

Debrief Diamond: Underlying Principles

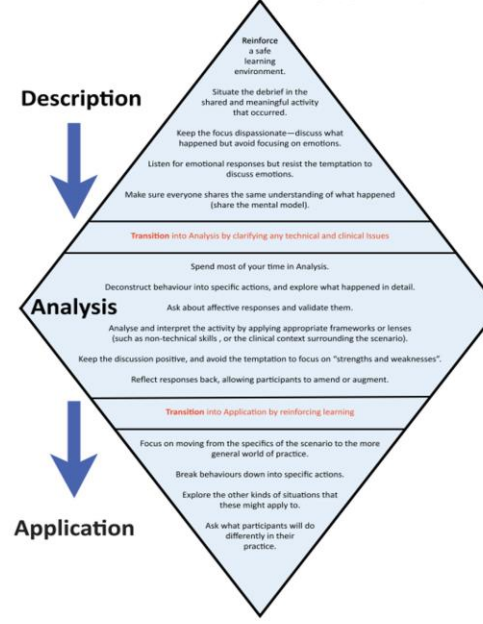


Figure 2. The second side of the Diamond lays out the theory behind the questions and the debriefing process

Debriefing for Meaningful Learning

- **Engage:** Learners complete the initial part of their own worksheet by themselves. They are asked to reflect about the clinical situation by naming the patient and briefly telling the patient's story. In addition, they should note their immediate reactions to the situation, what went right and what did not.
- **Explore:** The group is encouraged to reflect on how each participant and faculty viewed the events, how opinions differed and where in the scenario decisions were made. Faculty guide the learners through thinking-in-action and thinking-on-action by creating a concept map that focuses on patient care. Relationships between assessments, findings, decisions, actions, and responses form the patient framework of what is expected and what is unexpected.
- **Explain:** Faculty and learners discuss assessments, findings, decisions, actions, and responses. Students are encouraged to challenge taken-for-granted assumptions and to consider thinking processes that include deduction, induction, analysis, and inference.
- **Elaborate:** The DML uses the nursing process as a framework for learners to integrate their simulation assessments and actions with patient responses and outcomes. The method uses concept mapping tools to link these components along with worksheets to review knowledge, skills, and attitudes. Students develop frames for meaningful learning by thinking-on-action.
- **Evaluate:** Debriefers guide learners through a series of questions to identify what did not go well, and to consider what would students do differently and why. This is a crucial step in the process since it creates a framework of knowledge which is correct and which prompts correct actions in future events.
- **Extend (Thinking-Beyond-Action):** Learners are encouraged by the use of "what if" questions to extrapolate to different patient situations or frames such as changes in patient assessments, diagnosis or client responses. This allows learners to anticipate actions in future events which do not exactly mimic the simulation clinical event.

Learn more about [Debriefing for Meaningful Learning](#).

Reflective Journaling

After guided debriefing, students may have more in-depth thought processes initiated. Reflective journaling is recommended for capturing deeper reflection after the debriefing exercise is complete.



Conclusion

Simulation is a technique used to enhance learning through the use of manikins, standardized patients, task trainers, augmented/virtual reality, and briefing and debriefing exercises.

Simulation involves utilizing adult learning theories, measurable objectives, and realistic outcomes.

Following best practices in simulation includes:

- Training facilitators
- Promoting professional integrity
- Briefing participants
- Debriefing based on theory
- Providing a safe learning environment



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