Sue & Bill Gross School of Nursing Simulation Orientation

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Course Objectives

As a result of this course, the participant will:

1. **Describe** the role of simulation in nursing education
2. **Identify** simulation best practices
3. **Discuss** the features and capabilities of the various simulator platforms at the simulation center and SON
4. **Utilize** effective debriefing techniques and teaching strategies in simulation activities
5. **Follow** simulation template submission guidelines
6. **Create** SON Simulation goals and expectations

What is Simulation?

- Simulation is about anticipation, preparation, and unveiling clues to identify conditions, and ultimately, practice.
- Simulation is an activity that reproduces a health condition, scenario, or interaction.
- Simulation comes in many forms:
  - Task trainers
  - High-fidelity patient simulators
  - Standardized patients
  - Role playing
  - Table top exercises

Types of Medical Simulation

Hybrid Simulation

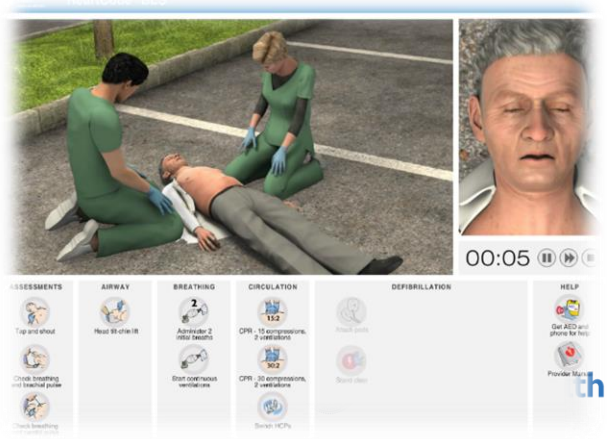
When more than one type of simulator is used in a simulation

Ex. Combining a manikin and a standardized patient in a scenario

Virtual Simulation

Using computers and gaming to create a virtual environment in which the learner interacts

Ex. AHA Basic Life Support On-line component



Simulation Defined

Simulation is a teaching methodology -not a technology- to replace or amplify real experiences with guided experiences that replicate substantial aspects of the real world in a fully interactive manner (Gaba, 2004, 2007).

Allows students to experience a representation of a real event for the purpose of practice, learning evaluation, testing, or to gain understanding of systems or human actions (Healthcare Simulation Dictionary).

Simulation in nursing education can be used for formative and summative assessment of behaviors and skills while providing feedback to reinforce in an encouraging manner.

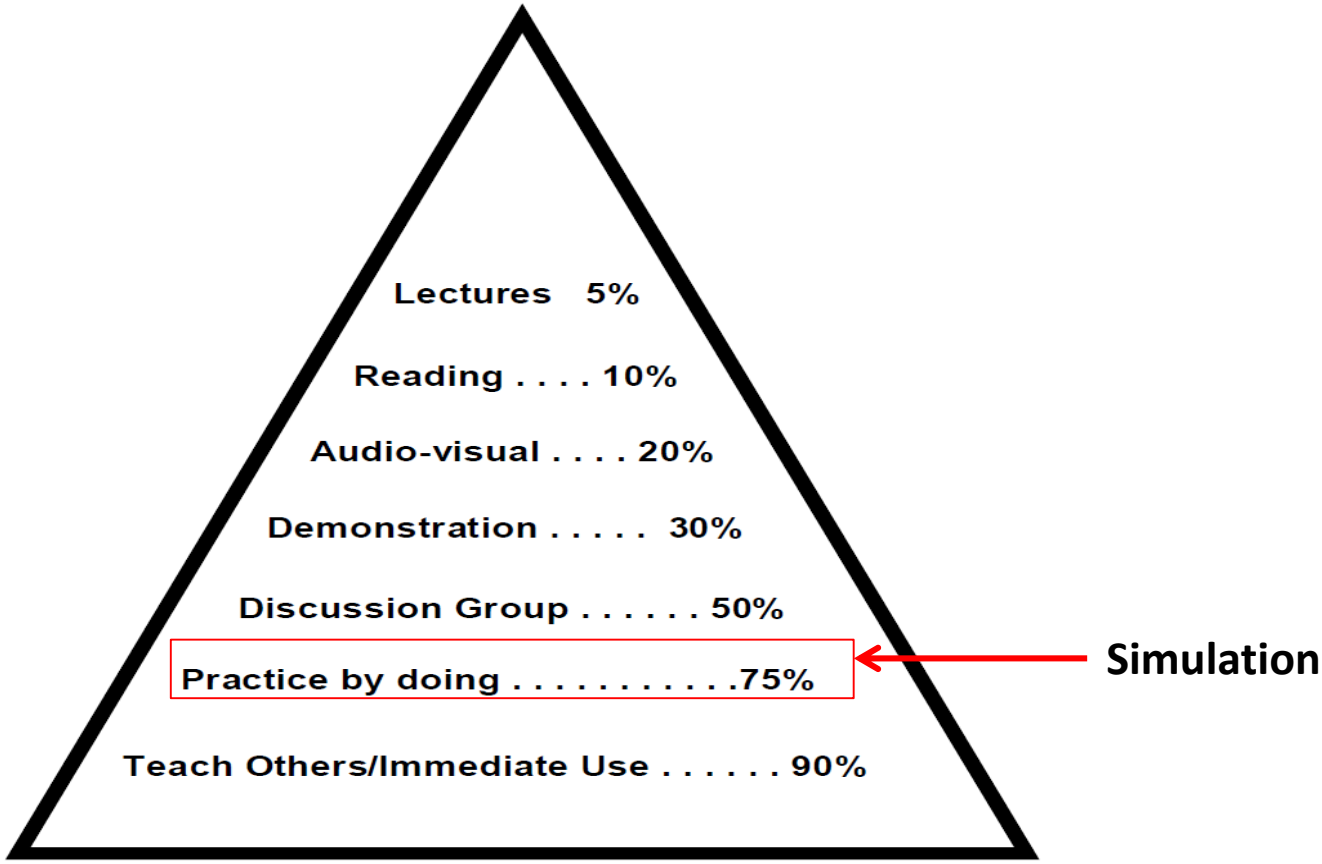
Simulation Purpose

The goals of simulation are *not* to teach new knowledge, but rather augment and **help to bridge the gap between core coursework and clinical practice**

Simulation can help identify areas where individual knowledge and understanding is lacking.

Right Thinking Wrong Action	**Right Thinking Right Action**
Wrong Thinking Wrong Action	Wrong Thinking Right Action

How We Learn – Retention Rates



The Learning Pyramid. The learning pyramid originates from the National Training Laboratories (NTL) for Applied Behavioral Science. The percentages represent the average "retention rate" of information following teaching or activities by the method indicated.

History of Simulation

- As early as 1847, the *Handbook for Hospital Sisters* called for "every nursing school to have 'a mechanical dummy, models of legs and arms to learn bandaging, a jointed skeleton, a black drawing board, and drawings, books, and models'" (Nehring, 2010).
- Mrs. Chase was the first life-sized manikin produced in 1911 for the purpose of nursing education at Hartford Hospital in Rhode Island (Nehring, 2010).
- Since then, tremendous advances in technology…

SimMan 3G

- Eyes blink, Pupils dilate/constrict
- Diaphoresis
- Secretions: eyes, ears, mouth, nose
- Heart, lung, bowel sounds
- Pulses
- Seizure activity
- Vital Signs/ECG
- Labs/Radiology images
- Intubation
- IV medication administration
- Defibrillation/Chest Compressions
- O2 Delivery, Suction, Dressing change

What's Available?

- Standardized Patients
- Simulation Center
  - Manikins
    - Adult x 3
    - 5 yo Child x 2
    - Infant x 2
  - Task Trainers – IO insertion, NG-tube, IV arms, Foleys, etc.
  - http://sites.uci.edu/medsim/
- SON Resources
  - Manikins (HBU)
  - Task Trainers
  - Clinical Supplies
  - Sim Scenarios
  - Planning & Scenario Templates
  - http://sites.uci.edu/sonskillscenter/

Why Simulation?

- Current challenges to providing high-quality clinical experiences for nursing students:
  - Short pt length of stays
  - High pt acuities
  - Disparities in learning experiences
  - Amount of time instructors spend supervising skills
  - Programs competing for limited clinical sites
  - Faculty shortages
  - Facilities not granting student access to EMRs
  - Patient safety initiatives – decreasing # of students on a unit or restricting student activity to observing care

(NCSBN, 2014)

Why Simulation?

- High-fidelity simulation can replicate patient situations
  - Rare and/or critical experiences
- Students can develop and practice skills without endangering patients!
- “Hands-on” learning
- Safe learning environment
- Supervised skills
- Can be used for evaluation of competencies
- Increase SON admissions

National Council of State Boards of Nursing (NCSBN) National Simulation Study (2014)

- Sought to provide evidence demonstrating simulation as an effective teaching pedagogy in order to inform policy decisions
- 10 prelicensure nursing programs across US (666 students) randomized into 3 study groups:
  - Control – traditional clinical experience, no more than 10% sim
  - 25% of clinical hours replaced by sim
  - 50% of clinical hours replaced by sim
- Study spanned across all core clinical courses and through first 6 months of clinical practice
- Students assessed on clinical competency and nursing knowledge
- Students rated how well their learning needs were met

NCSBN National Simulation Study: FINDINGS

- No statistically significant differences in clinical competency
  (assessed by clinical preceptors and instructors)
- No statistically significant differences in comprehensive nursing knowledge assessments
  (ATI – comprehensive and specialty content exams)
- No statistically significant differences in NCLEX pass rates
- No statistically significant differences in manager ratings of overall clinical competency and readiness for practice at any of the follow-up survey time points (6 weeks, 3 mons, 6 mons)
- CONCLUSION: up to 50% of simulation can be effectively substituted for traditional clinical experiences under conditions comparable to those described in the study*

NCSBN Study Conditions

- Faculty members formally trained in simulation pedagogy
- Adequate # of faculty members to support student learners
- Subject matter experts who conduct theory-based debriefing
- Equipment and supplies to create a realistic environment

- **The most important way to ensure high-quality simulation is to incorporate Best Practices!

Simulation Best Practice Resources

- National League of Nurses (NLN)
- Laerdal Medical
  - Simulation Innovation and Resource Center (SIRC)
- International Nursing Association for Clinical Simulation and Learning (INACSL)
- Society for Simulation in Healthcare (SSH)
- California Simulation Alliance (CSA)
- Best Evidence in Medical Education (BEME)

What is everyone doing?

- California BRN Annual School Report 2015-2016:
  - 96% of nursing programs are using clinical simulation
  - Clinical hours allocation
    - 80% direct pt care, 13% skills lab, 7% simulation
  - Largest # of hrs of clinical simulation
    - Med/Surg (24.3) & Fundamentals (9.6)
  - Largest *proportion* of clinical training hrs for sim
    - OB & Peds (9%), Fundamentals (38%)
  - 38% of the programs have plans to increase staff dedicated to Sim (decrease direct pt care, increase clinical sim)

What is everyone doing?

- California BRN has mandated that up to 25% of traditional clinical hours can be replaced with simulation
- Exemplary nursing programs that have effectively integrated simulation into their curricula:
  - Oregon Health and Sciences University
  - Boise State University
  - Johns Hopkins University
  - New York University
  - Robert Morris University
  - Florida International University
  - George Washington University

INACSL Simulation Best Practice Standards

- **Simulation Design**
- **Outcome & Objectives**
- **Facilitation*** - key to participant learning (NLN, 2014)
- **Professional Integrity**
- **Participant Evaluation**
- **Debriefing*** - most important part of sim-based learning (NLN, 2014)
- **Simulation Enhanced IPE**
- **Operations**

INACSL Simulation Best Practices

Standard I: **Simulation Design**

- Simulation based experiences are purposefully designed to meet identified objectives and optimize achievement of expected outcomes.
  - Perform needs assessment
  - Construct measureable objectives
  - Determine format and design scenario based on purpose of the experience
  - Use various types of fidelity to create realism
  - Provide preparation materials to promote participants' ability to meet objectives and achieve expected outcomes
  - Begin sim experience with prebriefing/orientation
  - Maintain a facilitative approach that is participant centered and driven by the objectives
  - Follow sim with debriefing
  - Include evaluations of participants, facilitators, experience, and facility
  - Pilot test simulation experience before full implementation

INACSL Simulation Best Practices

Standard II: **Outcomes & Objectives**

- All simulation-based experiences begin with the development of measurable objectives designed to achieve expected outcomes.
  - Determine expected outcomes for simulation-based activities
    - Domains of learning: cognitive, psychomotor, affective
    - Bloom's Taxonomy: remember, understand, apply, analyze, evaluate, create
  - Construct S.M.A.R.T. objectives based on expected outcomes
    - Specific
    - Measurable
    - Achievable
    - Realistic
    - Time phased

INACSL Simulation Best Practices

Standard III: **Facilitation***

- A facilitator assumes responsibility and oversight for managing the entire simulation-based experience.
  - Requires skills and knowledge in simulation pedagogy
  - Approach is appropriate to the level of learning, experience, and competency of the participants
  - Include preparatory activities and a prebriefing to prepare participants for the simulation-based experience.
  - Deliver clues during sim experience to assist participants in achieving expected outcomes (verbal or physiologic)
  - Support participants in achieving expected outcomes after and beyond simulation experience through debriefing, post-sim activities, and continued learning processes

Pre-Briefing

- *Briefing at start of session*
  - Demonstrate capabilities of simulator and simulation environment (done by simulation specialists)
  - Instruct the learner to call out all medications that are to be given and the associated dosages
  - Discuss resources available
  - The learner should not assume there is a problem with the simulator
  - Establish a safe environment by explaining this is a training environment
  - Learner will sign both a consent and a video recording policy letter*
  - Review case stem and pertinent information
  - Assign roles – Nurse 1, Nurse 2, team leader, observer, family member, etc.

INACSL Simulation Best Practices

Standard VI: **Professional Integrity**

- Professional integrity is demonstrated and upheld by all involved in simulation-based experiences.
  - Foster and role model attributes of professional integrity at all times
  - Follow standards of practice, guidelines, principles, and ethics of one's profession
  - Create and maintain a safe learning environment
  - Require confidentiality of the performances and scenario content based on institution policy and procedures

INACSL Simulation Best Practices

Standard V: **Participant Evaluation**

- All simulation-based experiences require participant evaluation.
  - Determine the method of participant evaluation BEFORE the sim experience
  - Guided by the type of evaluation:
    - **Formative**
      - Provide ongoing feedback, identify and close gaps, facilitate teaching and learning
      - Small group ratios (**1 facilitator: 3-5 students**)
    - **Summative**
      - At a discrete point in time (end of course/midterm), standardized format and scoring method
    - **High-stakes**
      - At the end of the learning process, based on specific objectives, predetermined parameters for scenario and scoring, clearly explained to participants, pilot tested, more than one evaluator per participant (can utilize video recording).

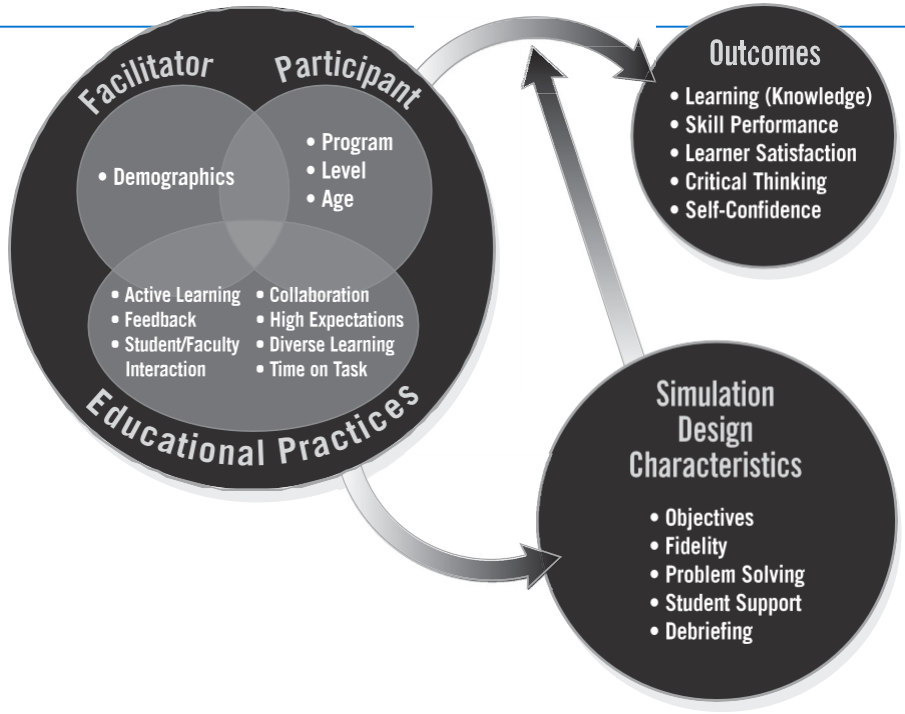


Figure **NLN/Jeffries Simulation Framework**. (From Jeffries, P.R. (Ed.). (2012). *Simulation in nursing education: From conceptualization to evaluation* (2nd Ed). New York, NY: National League for Nursing, with permission).

A framework for designing, implementing, and evaluating simulation

INACSL Simulation Best Practices

Standard IV: **Debriefing***

- All simulation-based experiences include a planned debriefing session aimed at improving future performance.
  - Debrief is facilitated by a person competent in the process of debriefing, who has witnessed the simulation experience
  - Conducted in an environment that is conducive to learning and supports confidentiality, trust, open communication, self-analysis, feedback, and reflection
  - Debrief is based on a theoretical framework that is structured in a purposeful way
    - GAS (gather, analyze, summarize), Debriefing with Good judgment, PEARLS, Debriefing for Meaningful Learning (DML), Plus-Delta, 3D Model of Debriefing, & the OPT Model of Clinical Reasoning.
  - Debrief is congruent with the objectives and outcomes of the simulation-based experience

SON Simulation Goals

- Focus on Simulation Education Best Practices to achieve an integrated curriculum and enhanced student learning experience!

- 1st year – **Curriculum Integration Goals**
  - Include a minimum of 1 high quality simulated clinical experience into *each course*
  - Adopt a *unified debriefing model*, and ensure faculty is competent using the model
  - Develop and facilitate a formal staff orientation and training program
  - Plan for future developments of the sim center using the allocated budget

- **Student Learning Goals**
  - Improve critical thinking and application of knowledge.
  - Improve skill performance.
  - Increase opportunities for clinical learning.
  - Provide experiences that are unavailable or that are not permitted in a clinical setting

Debriefing is different than lecture

- **Debriefing** - Where the "real learning" takes place
- Primary emphasis is not on knowledge and facts
- Highlight thinking process, communication, broadly applicable skills
- Instruction may be included in your debriefing technique, but the primary drive is to facilitate the learner(s) thought processes in an open environment so that they can formulate their own conclusion of their performance
- Majority of talking should be by participants, not instructor

Debriefing following the scenario/session

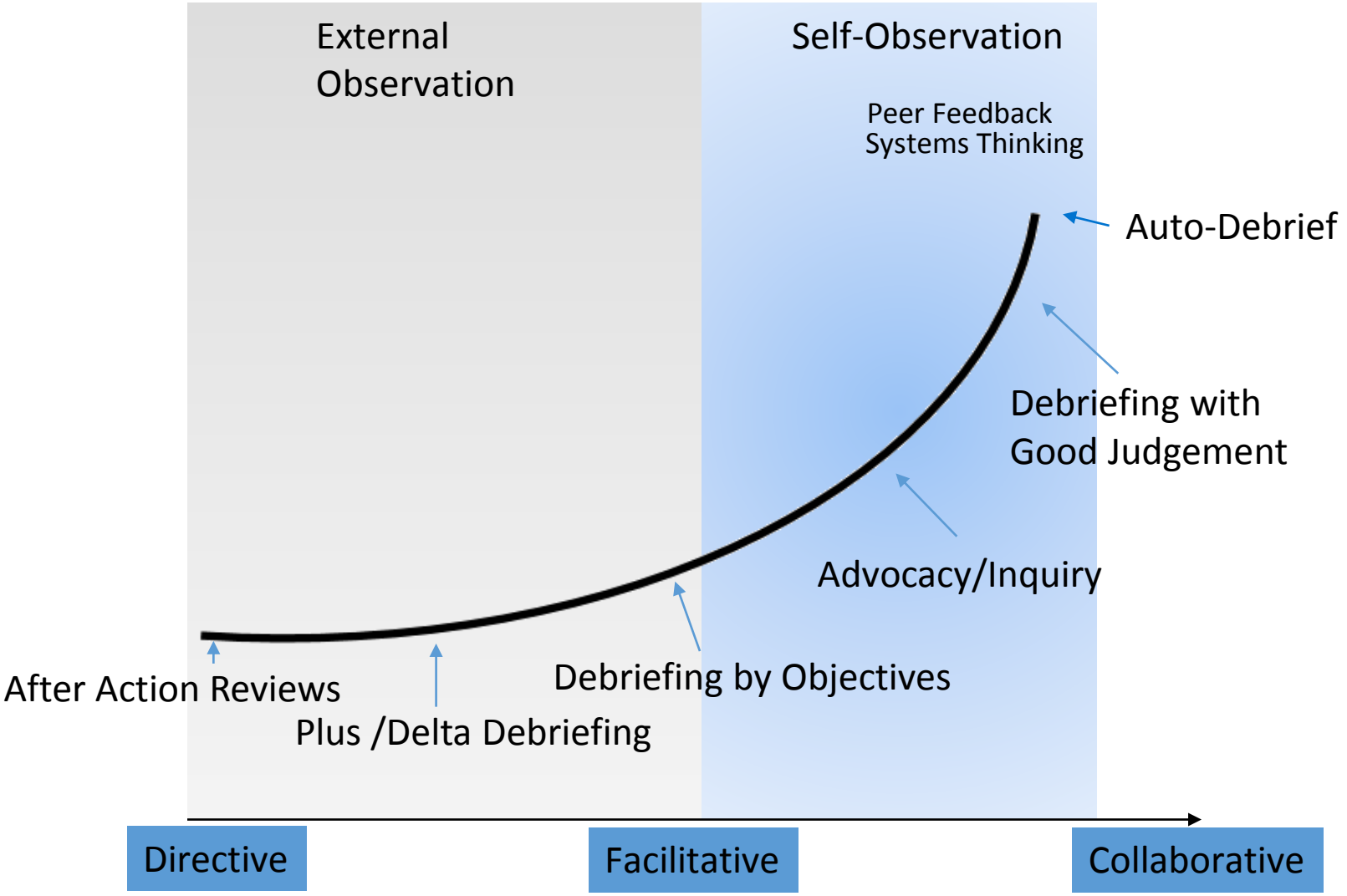
- Simulation is associated with high anxiety and emotional stress, debrief away from simulator if possible

- Set ground rules prior to debriefing:
  - Vegas rules, confidential
  - Respectful
  - Closed to outside observers

- Conversational, guided by objectives

- Debriefing is a delicate process
  - Be cautious how you say things
  - Be cautious of the non-verbals
  - Cognizant of positional power

Debriefing Continuum



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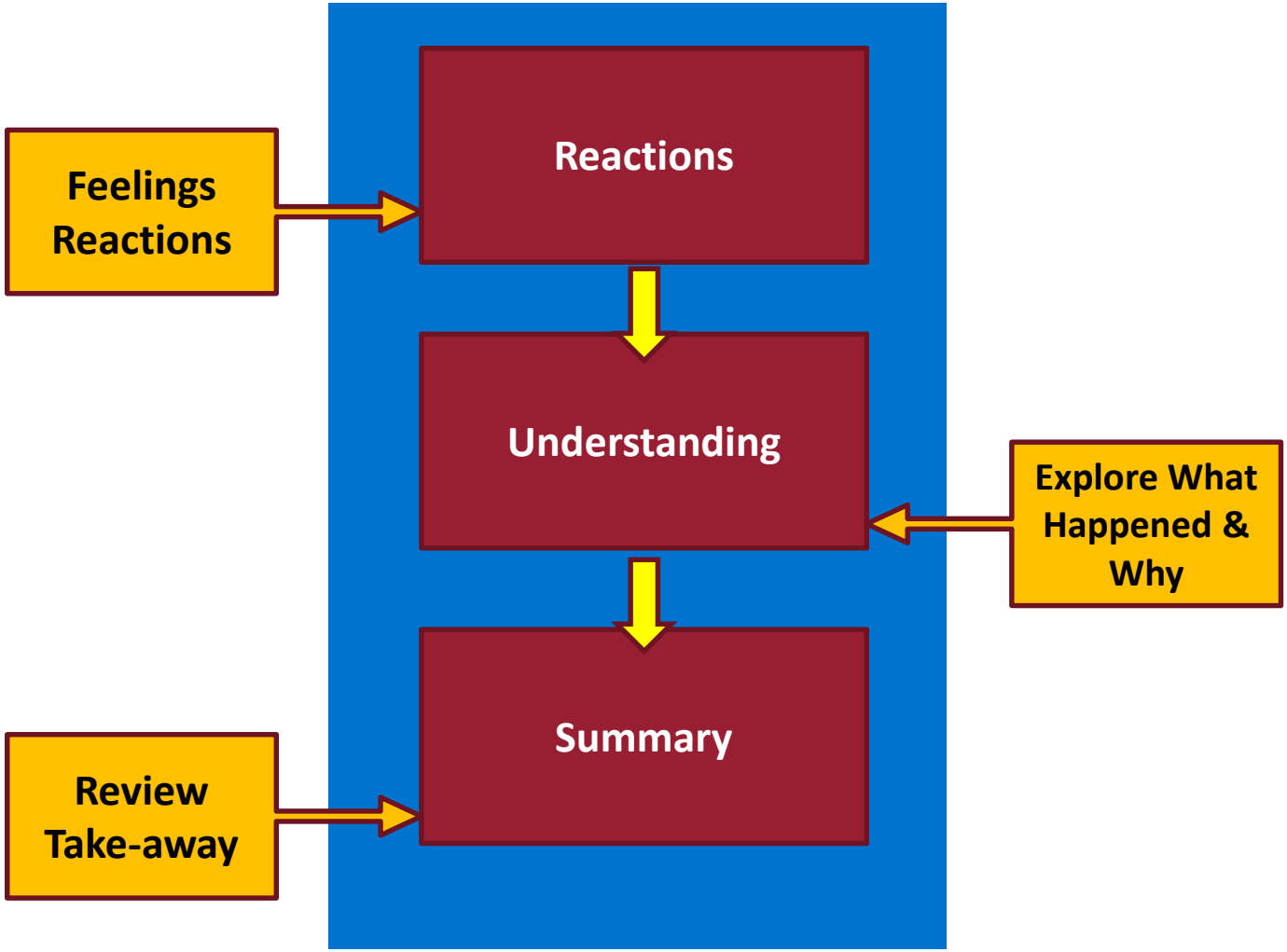
3 phases of debriefing



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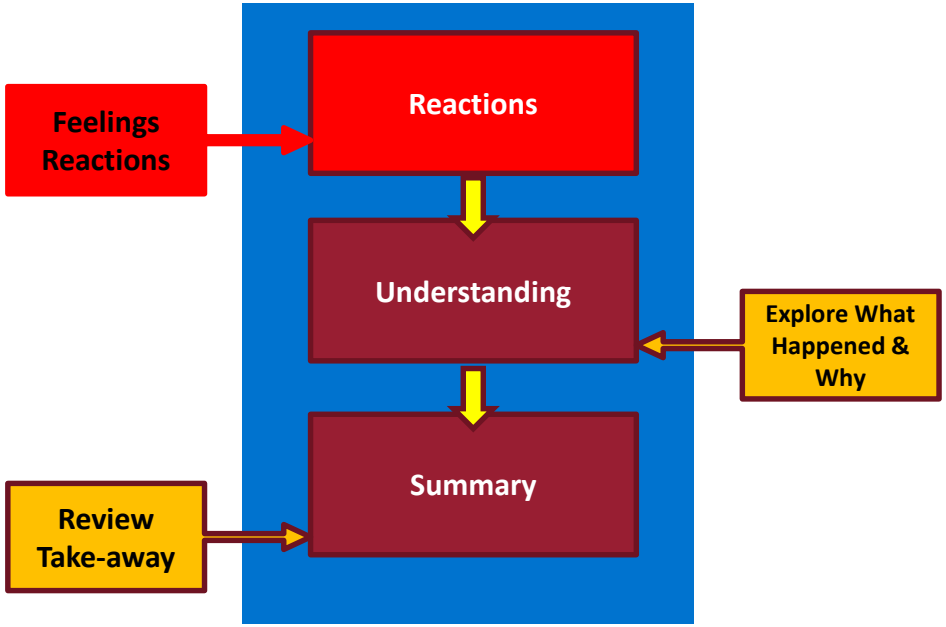
Phase 1 - Reactions

What happened?

- Participants often want to know "the answer" or how they did
- Stick to the facts

How did you feel about that?

- Accept expression of feelings
  - Acknowledging is not the same as agreeing
  - Try to mirror feelings instead of evaluate them
  - Don't tell participants "That's ok" when it may not be



- Normalize-Give perspective if participant feelings get hurt
  - i.e. "I've seen this happen a dozen times…I've made the same mistake"

Reference: Center for Medical Simulation, Boston.

Phase 2 - Understanding

Explore

- Participants' perspective

Inquire

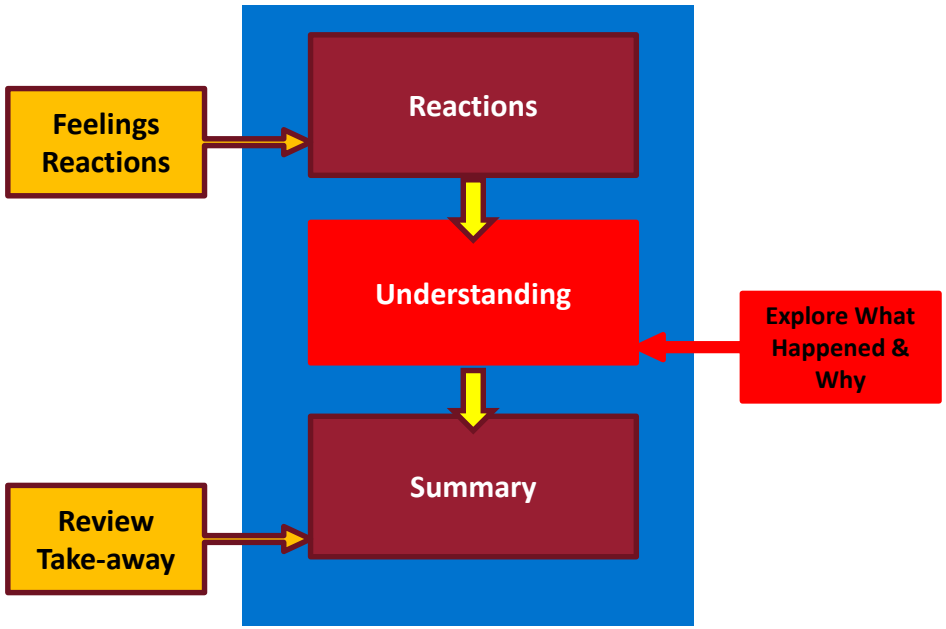
- Ask questions
- "What were you thinking when…?"

Discuss and Teach

- Approaches to the problem
- New perspectives, understanding, & skills

Generalize

- Apply lessons learned to real settings
- Relate to higher level principles



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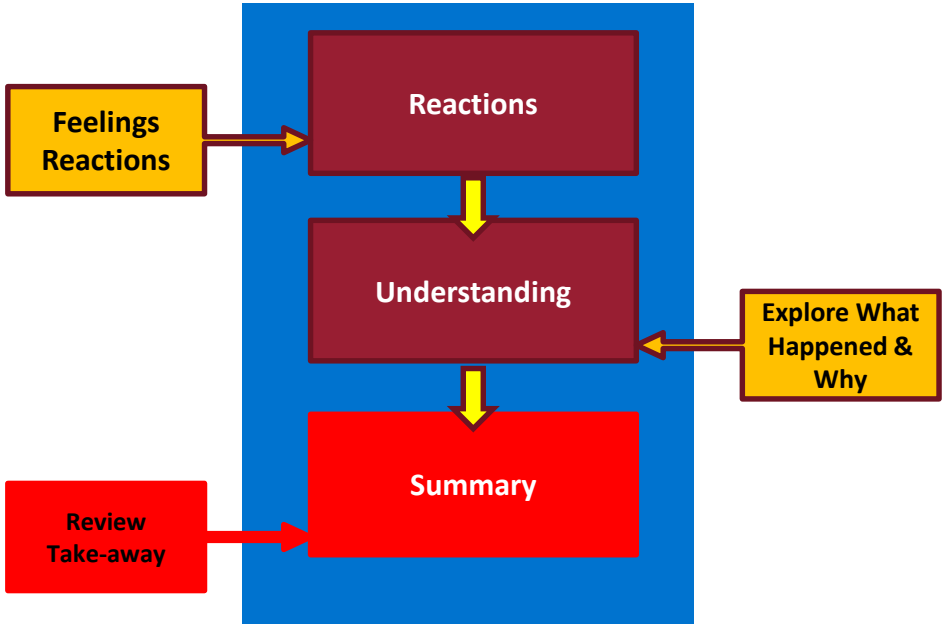
Phase 3 - Summary

What did you do well?

What would you do differently?

What are your major take-home messages?



Reference: Center for Medical Simulation, Boston.

Dirty Questions?
Clean it up

"Dirty" Question

"Do you really think that was enough time?"

"Did it occur to you to call for help?"

"Don't you know to check for responsiveness first?"

"Why wouldn't you double check?"

Dirty Questions?
Clean it up

Productive (clean) Questions

Focus your inquiry on learning and not proving right and wrong

Ask open-ended questions

Ask for illustrations or examples

Check your understanding by re-affirming

- "let me make sure I understand you…"

Don't ask questions unless you are genuinely interested

Listen, Listen, Listen

Silence in Debriefing

Use silence; don't lead them to depend on you for the answer.

If they say nothing, repeat the question, or ask if question was unclear/too hard/too easy.

Ask if they have had a similar experience or heard of something like this before.

Ask how they might see this again in their own practice.

Ask what was learned, what they might try to do next time, or how else it could have been done.

Styles of Debriefing

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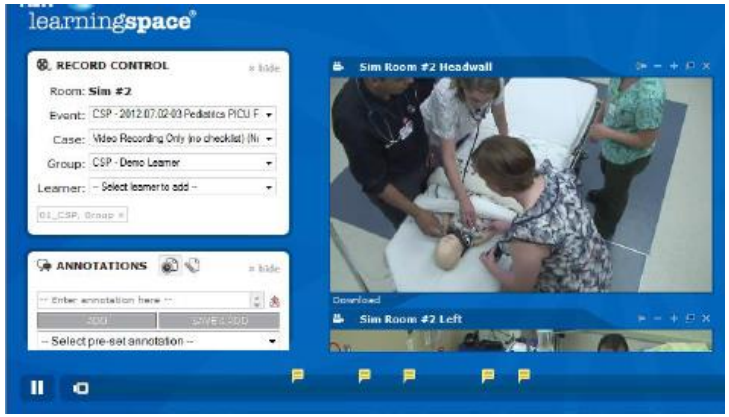
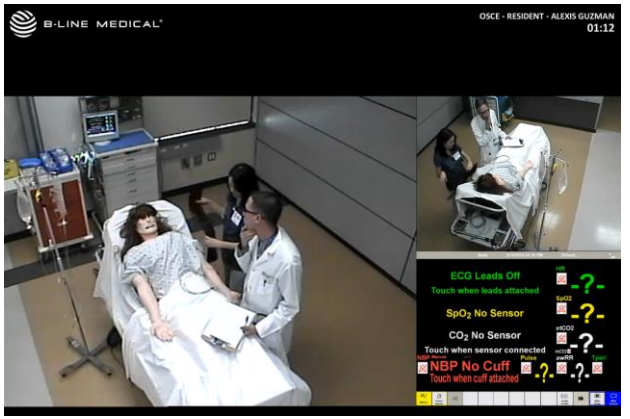
Video Debriefing





Pros

- Factual
- Exact spot can be accessed
- Digital checklists can be applied and attached to video record
- Quantitative data can be obtained after the fact

Cons

- Some video recording software is costly
- Time constraints
- Can fragment the debrief

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Jury is out on Video Feedback…

*There was **no added performance improvement** when review of a video recording was added to facilitator-led debriefing*

Garden, A. L., Fevre, D. M. Le, Waddington, H. L., & Weller, J. M. (2015). Review Debriefing after simulation-based non-technical skill training in healthcare : a systematic review of effective practice. Anaesth Critical Care, 43(3), 14–16.

*We have demonstrated that constructive feedback provided by skilled instructors is effective, but we **did not observe extra benefit from adding a videotape review** to the debriefing. These findings highlight the role of reflection and debriefing during simulation-based education.*

Savoldelli, G., Naik, V., Park, J., Joo, H., Chow, R., & Hamstra, S. J. (2006). Value of Debriefing during Simulated Crisis Management. Anesthesiology, 105(2), 279–285.

UCI Simulation Center Debriefing Outline

Debriefing

Reactions

1. What Happened?
2. How did you feel about _____?

Understanding (advocacy/inquiry)

1. What were you thinking when _____ happened?
2. It looked to me that _____?
3. I felt that you _____?
4. I saw you do/use _____?
5. What led you down that road?
6. Has this happened in your practice, if so how was it addressed?
7. Now that you have completed this simulation, how will this (if any) change your practice?

Summary

1. What did you do well?
2. What could you have done better/differently? (+/▲)
3. Takeaway

CASE FLOW / TRIGGERS/ SCENARIO DEVELOPMENT STATES			
Initiation of Scenario :			
STATE / PATIENT STATUS	**DESIRED LEARNER ACTIONS & TRIGGERS TO MOVE TO NEXT STATE**		
1. Baseline	**Operator** **Triggers:**	**Learner Actions**	**Learning Objectives/Debriefing Points:**
STATE / PATIENT STATUS	**DESIRED ACTIONS & TRIGGERS TO MOVE TO NEXT STATE**		
2. Stage 1	**Operator:** **Triggers:**	**Learner Actions:**	**Learning Objectives/Debriefing Points:**

Plus Delta +/▲ Debriefing Style

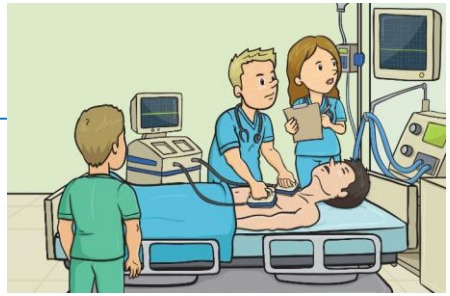
Can be a student centered or instructor centered style

Designed to rapidly gain insight and provide feedback

Plus Delta Debriefing Style

	Plus	Delta
Instructor/ Facilitator	Identifies positive good performance • Technical skill • Communication • Patient centered	Identifies 2 or 3 key things to improve
Student/self	Self reflects to identify things that went well	Identifies things that could have gone better

Code Example



+

▲

CPR was initiated < 1 min

Code was called right away

Closed loop communication

Teamwork was good

Not clear who was in charge initially

Too many people, pharmacy couldn't get in the room

Too much time elapsed from rhythm recognition to defibrillation

Debriefing by Objectives

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Debriefing by Objectives

Method of debriefing in which the discussion is central to the scenario objectives.

Considered a variant of Plus/Delta

- *Did we meet objective 1 and how?*
- *Did we meet objective 2 and how?*

This is also a very efficient technique for limited time in debriefing.

Advocacy and Inquiry Debriefing

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Advocacy Inquiry

Provides a model of conversation that promotes transparency and minimizes guesswork

Advocacy is stating one's views about how one thinks or feels, or expressing one's judgment or promoting a course of action

Inquiry is asking a question

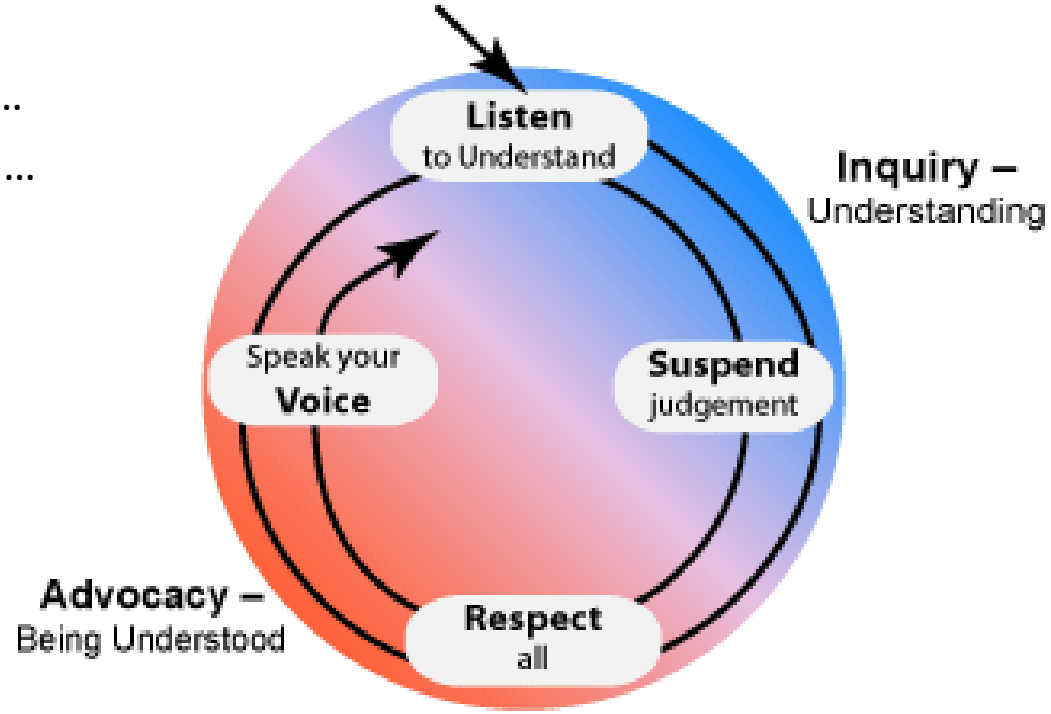
Advocacy Inquiry

Advocacy: Give your perspective (as the facilitator)

Use “First person” voice

Make your perspective clear

- I observed, I noticed, I witnessed…
- I am concerned/pleased because …



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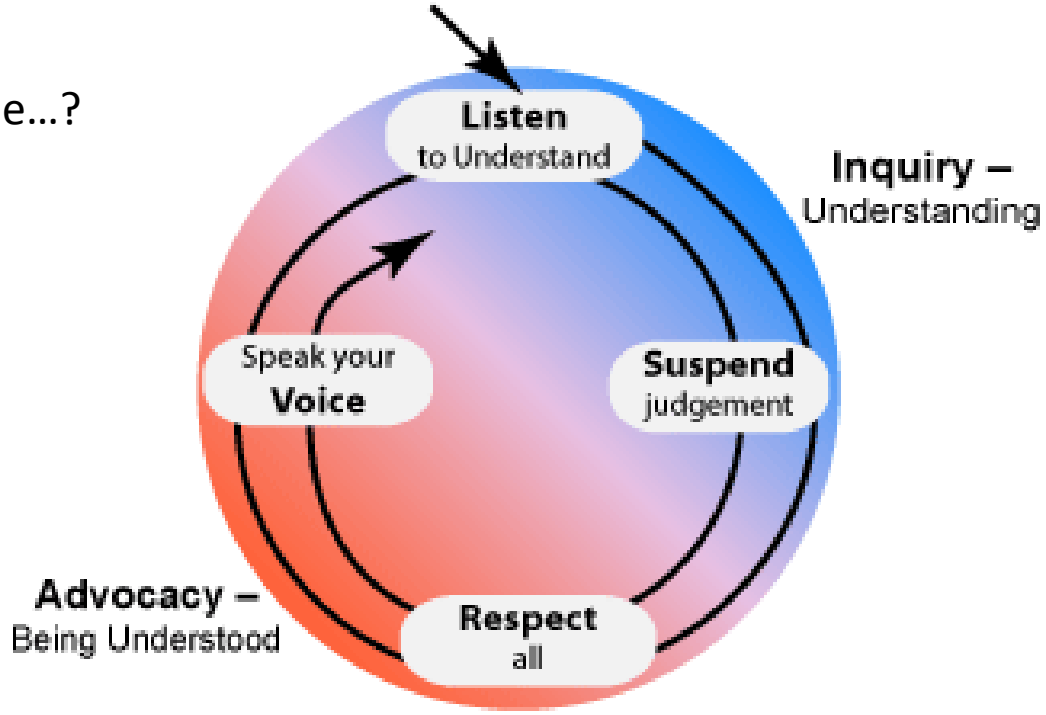
Advocacy Inquiry

Inquiry: Find the learner's perspective

Short open ended questions and statements

- What happened when …?
- I'm curious how you see…?
- What was on your mind at the time…?
- I wonder why ….?



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Advocacy Inquiry

Advocacy: "I was concerned her K+ was so high…"

Inquiry: "Could you walk me through what was on your mind when you got that result?"

Advocacy: "I noticed some confusion about who was in charge…"

Inquiry: "Joe, did you know who was in charge, and explain why you felt that way?"

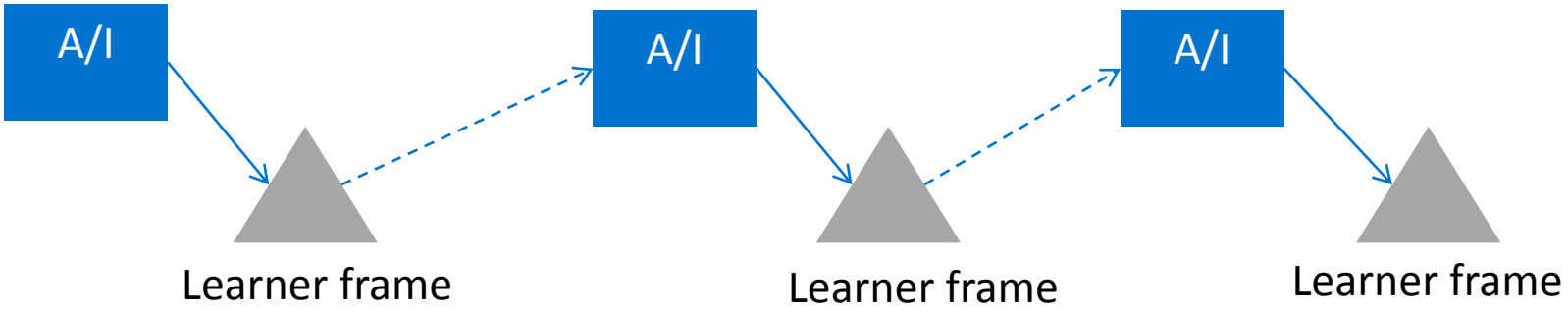
*You may find the participants did not notice something important, or that they did, and misinterpreted it.

Advocacy Inquiry

As conversations unfolds,

- Learner FRAMES are discovered/revealed
- Facilitator builds genuine inquiry based on frames

The debriefer becomes a facilitator/collaborative problem solver and helps participants gain new perspectives



Frames

Right Thinking Wrong Action	**Right Thinking Right Action**
Wrong Thinking Wrong Action	Wrong Thinking Right Action

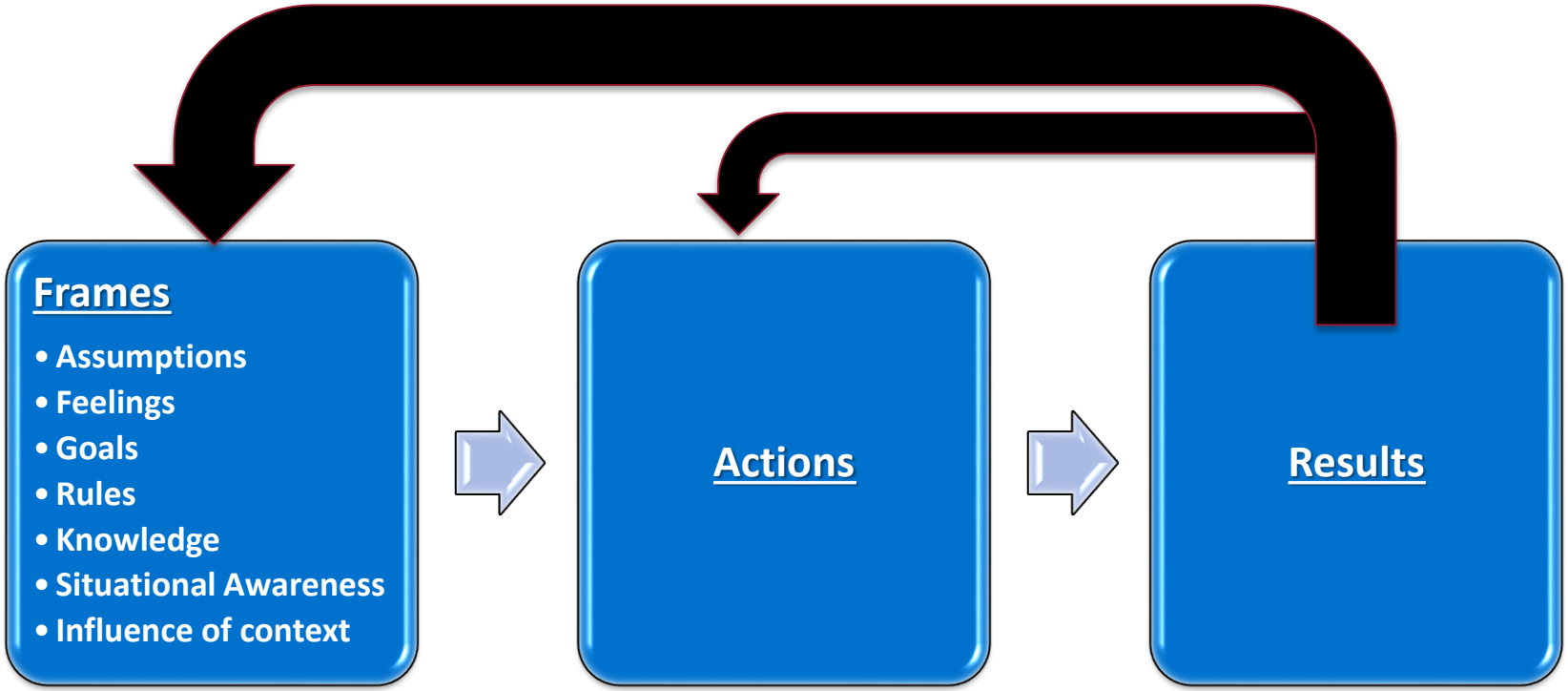
Frames

Explore to expose frames of the participant

- **Influenced by knowledge, communication, background**

- "I've been burned."
- Dependent on training/experience level
- Misinterpreting data or absence of data
- What is their point of view?
- What did they think was going on?
- What information did they have/lack?
- What were they prioritizing?

Revealing frames



Adapted from Center for Medical Simulation, Boston

Revealing Frames
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Debriefing with Good Judgment

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Rudolph: Sharing Good Judgment

Good judgment *is sharing observations and opinions*, but not blaming or ridiculing.

- Take stance of curiosity and respect: "Help me understand your thought process."
- Your thoughts about what happened may not be entirely accurate
- Assume the participant meant to do the right thing

Curiosity + Advocacy + Inquiry = Debriefing with good Judgment

Crucial that you DO share your opinion of what you saw and the unfolding events. You must – you are the instructor, and have the benefit of knowledge, expertise, and experience.

G.A.S. Model for Debriefing

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G.A.S. Model

Phase	Goal	Actions	Possible Scripts
Gather	(1) Listen to participants to understand how they feel (2) Identify what happened during the scenario	•Elicit participants emotional state •Request narrative from team leader •Request clarifying or supplemental information form team	To All: How do you feel? To Team Leader: Can you tell us what happened? To Team members: Can you add to the account?
Analyze	(1) Assure continuous focus on session objectives (2) Facilitate participant's reflection *on* & analysis *of* their individual actions (3) Facilitate team's reflection *on* & analysis *of systems issues*	•Review of accurate record of events •Direct/redirect participants to assure continuous focus on session objectives <u>Using Advocacy/Inquiry:</u> •Report observations (correct/incorrect steps) •Ask a series of questions to reveal participants' thinking processes •Assist participant to reflect on their performance <u>Using Plus/Delta:</u> •Identify systems/team issues: to reinforce the '+' and consider action on the 'Δ'	•I noticed… •Tell me more about… •How did you feel about… •What were you thinking when… •I understand, however, tell me about "X" aspect of the scenario •Let's refocus – "What's important is not how its right but what is right for the patient •What systems/teamwork aspects went well? •What systems/teamwork aspects need improvement?
Summarize	Facilitate identification & review of lessons learned	•Summary of comments or statements	•Looking at our original objectives, what have we learned? •What will you do differently based on this experience?

Debriefing for Meaningful Learning (DML)

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(Dreifuerst, 2015)

Debriefing for Meaningful Learning

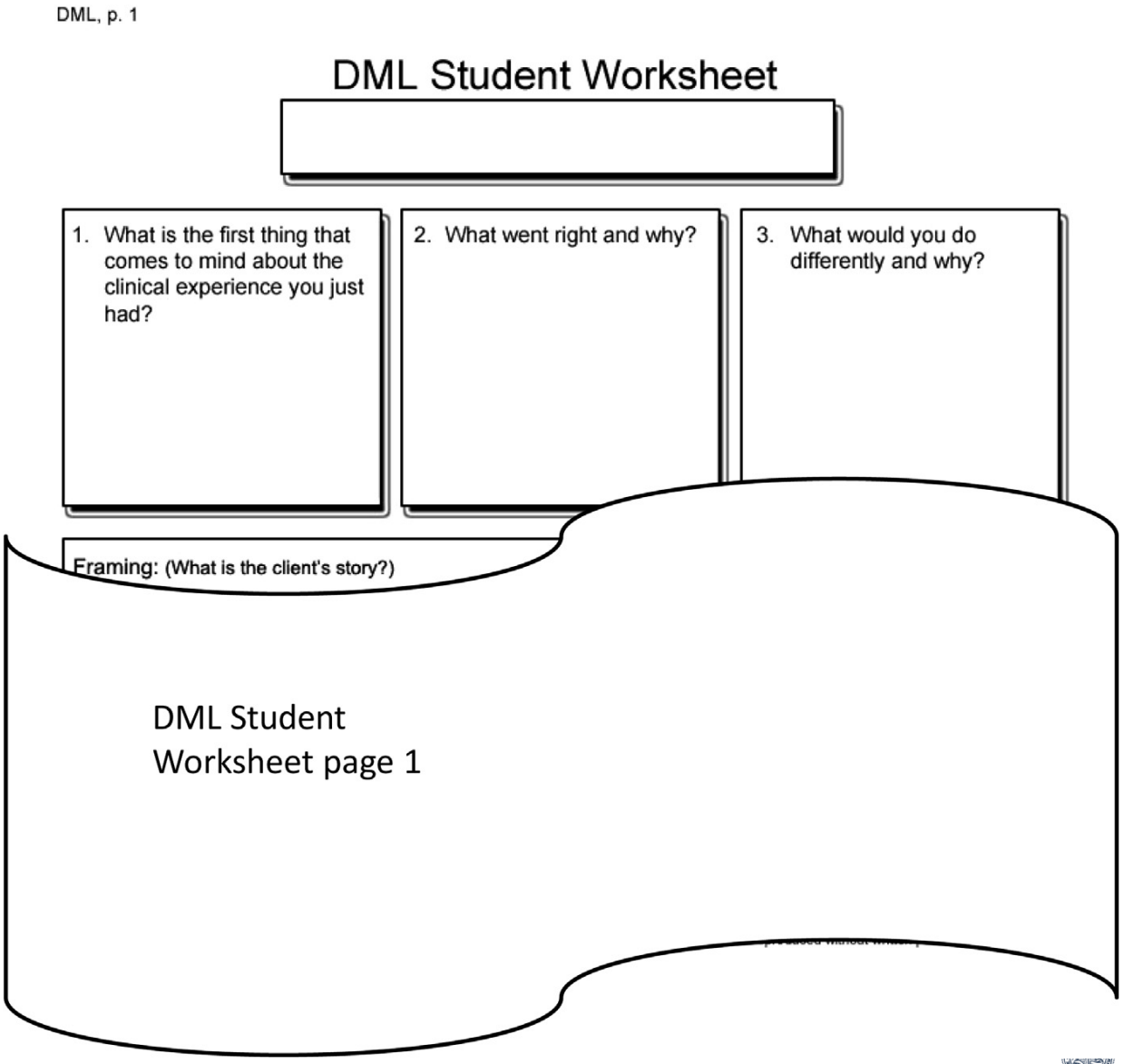
- Utilized in NCSBN Simulation Study
- Successfully used with prelicsensure nursing students, graduate nursing students, and interdisciplinary health care students
- Grounded in reflection, discussion is purposeful & specific
- Uses Socratic questioning to foster students' reflective thinking and learning (who, what, when, where, why)
  - Asking a series of questions so students come either to the answer or deeper awareness of the limitations of their knowledge
- Six phases: Engage, Explore, Explain, Elaborate, Evaluate, Extend
- Focuses on patient situation as the frame and then moves to discussing actions and thinking of students within the clinical context to reveal students' reasoning behind their actions.

- Facilitates development of clinical reasoning and thinking like a nurse

Debriefing for Meaningful Learning

- ENGAGE – initial minutes of debriefing
  - Participants are asked to complete worksheet – name pt, first thing that comes to mind about encounter, what went well, what did not go well, describe patient's story (reflection-on-action)
  - Facilitator discusses patient story and frames clinical issues & nursing priorities
  - Engages student interaction through Socratic questioning

DML - Engage


DML, p. 1
DML Student Worksheet
1. What is the first thing that comes to mind about the clinical experience you just had?
2. What went right and why?
3. What would you do differently and why?
Framing: (What is the client's story?)
DML Student Worksheet page 1

DML

- EXPLORE
  - Review clinical experience from the perspective of the roles they had
  - Review pertinent assessments, findings, decisions, actions, and responses that occurred during the sim experience
  - List or conceptually map the care of the patient including the central issue, diagnosis, or area of concern
  - Note the relationships between assessments, findings, decisions, actions, and responses
  - Use Socratic questioning to uncover students' thinking and identify inconsistencies between actions and reasoning.

DML - Explore

DML, p. 2

Problem # _____:
General Goal:

Desired Client Outcome:

Nursing Interventions:

Associated Client Responses:

DML Student
Worksheet page 2

DML

- EXPLAIN – interactive process between facilitator and student
  - Questioning and responding uncovers the reasoning behind actions and helps students challenge previous assumptions
  - "What if?" "Tell me more…"
  - Review clinical experience
  - Review what went right, what went wrong
  - Add details about assessment, findings, decisions, actions, and responses
  - Correct errors and identify incorrect steps/actions – emphasis impact on overall care of the patient
  - White Board: Black – students' recall, Green – correct, Red – incorrect, Blue – changes discussed

DML

- ELABORATE – on specific ideas, concepts, knowledge, behaviors, and components of the clinical experience
  - Emphasize links in nursing knowledge and application
  - Discuss concepts of interest in greater depth
- EVALUATE – review key areas that did not go well and how they could have been done differently.
  - Set the experience in the students' memory with the correct actions and responses so it can be recalled when a similar experience is encountered
- EXTEND – challenge students to think-beyond-action "what if"
  - Encourage the student to think beyond the boundaries of one situation and anticipate the next different, yet conceptually similar clinical situation (anticipatory reflection) – seasoned nurse
  - Ask students to consider what would be similar and what would be different in a patient with different history, age, setting, etc.

Avoiding Simulation Pitfalls

Lecturing Larry

Helpful Hank

Pretending Paul

Intimidating Tim

Overhead Ozzy

Funny Frank

New Simulation Process

- Simulation Coordinator Responsibilities
  - Collaborate with SON and Simulation Center staff in coordinating and implementing simulation-based activities.
  - Assure efficient and maximal utilization of simulation center and resources.
  - Assess needs and facilitate integration of simulation-based activities in graduate and undergraduate curricula to meet the identified needs.
  - Review simulation-based cases and learning activities to ensure best practices and meet accreditation standards.
  - Continuously update and refine simulation experiences based on identified needs and serve as an expert resource for faculty utilizing simulation activities.
  - Facilitate evaluation assessments relative to simulation-based learning experiences.
  - Provide orientation and continuing education for faculty and staff relative to simulation-based activities.
  - Interact with outside vendors for evaluation and selection of hardware, software, equipment, and supplies.
  - Engage in simulation continuing education activities to stay current on new simulation technologies, innovations, and evidence-based practices.

Simulation Templates

- http://sites.uci.edu/medsim/
- http://sites.uci.edu/sonskillscenter/

- UCI Planning Template
  - Required for ALL sim done at Sim Center

- UCI Scenario Template
  - Required when doing a scenario with the manikins
  - *Scenario Template Companion Guide
  - May use CSA, MERT, or other sim scenarios if they include all necessary information

University of California, Irvine
Medical Education Simulation Center

Nursing Simulation Planning Template

Curriculum/Session Title: Nursing Fundamentals Injection

Point of Contact: Mickey Mouse, RN 99999-9999

Professor/instructor(s): Mickey Mouse, RN 99999-9999

Length and Number of Sessions: 1 session

Participant Groups: Junior Nursing Students | Senior Nursing Students | MEPN Students | Other

If other, please list: _____

Number of Participants/Learners: 50

Primary Goal: Demonstrate intramuscular injections without Error

Learning Objectives

LO 1: Identify

LO 2: Consent

LO 3: Demonstrate

LO 4: Demonstrate

LO 5: Document

Curriculum Planning *(Each session should have 3-4 session specific goals / objectives. Goals / objectives should be centered on specific knowledge, skills, and attitudes that you want the participants to acquire.*

Method of Evaluation: Checklist

Pre Test: Post- Yes

Test: Post- Yes

Survey: Yes

Pre-Session Requirements/pre-requisites: Module 1 (Mosby Online)

Pre-Simulation Session Learning Material: Yes

Needs Assessment (if applicable):

Identified need to have x hours of hands-on clinical application with the ability to demonstrate and evaluate senior nursing students on intramuscular injections.

Session Description:

Students will be assigned in teams of 4-5 and will perform the intra muscular injections. There will be multiple hour long sessions from 0800-1200, allowing for 20 minute travel time between SOM and Nursing. See attached layout

Required Instructor/student ratio: 1:10, Ideal ratio 1:5 Requires Nursing
Simulation Staff for set-up and clean-up

Equipment Requested:

Mayo Stands and/or tables

Items to be brought over from Nursing for this session: IM Injection Pads

Supplies Requested:

Sharps containers, IM needles, syringes, non-sterile gloves (S,M,L), alcohol wipes, 2x2 gauze, sani-wipes

Items to be brought over from Nursing for this Session: Educational Poster (IM Injection sites)

Flow Planning

See attached layout

Notes:

This is a formative skills station session

UCI Scenario Template

- Who, what, when, where, why
- Required prerequisite knowledge & skills background
- Learning Objectives and Outcomes
- Preparation
  - Supplies needed (manikin, O2, IV, suction, monitor, meds, etc.)
  - Support materials (orders, labs, MAR, images, etc.)
  - Standardized patients
- Time Duration
- Information for participant (case stem)
- Information for Sim Operator
  - Initial presentation, scenario progression, critical actions

Simulation Events Table

Minute (State)	Participant action/ Trigger	Patient Status (Simulator response) & Operator Prompts	Monitor Display (Vital Signs)
0:00 (Baseline)		Simulator voice: Confederate script:	**Rhythm: B/P: P: R: T: O2 sat:**
0:00-5:00 (State 1)		Simulator voice: Confederate script:	**Rhythm: B/P: P: R: T: O2 sat:**
5:00-10:00 (State 2)		Simulator voice: Confederate script:	**Rhythm: B/P: P: R: T: O2 sat:**
			Rhythm: B/P: P: R: T: O2 sat:

CASE FLOW / TRIGGERS/ SCENARIO DEVELOPMENT STATES			
Initiation of Scenario :			
STATE / PATIENT STATUS	**DESIRED LEARNER ACTIONS & TRIGGERS TO MOVE TO NEXT STATE**		
1. Baseline	**Operator** **Triggers:**	**Learner Actions**	**Learning Objectives/Debriefing Points:**
STATE / PATIENT STATUS	**DESIRED ACTIONS & TRIGGERS TO MOVE TO NEXT STATE**		
2. Stage 1	**Operator:** **Triggers:**	**Learner Actions:**	**Learning Objectives/Debriefing Points:**

Simulation Evaluation Tools
http://sites.uci.edu/medsim/education/evaluation-tools/

- Simulation Instructor Evaluation Form
  - Administrative, instruction, professionalism, debriefing
- UCI Med Ed Sim Center Sim Evaluation (student eval)
- PNCI Simulation Effectiveness Tool
  - Student eval of sim experience
  - 0-2 scale, 13 items
- NLN Sim Design (student eval)
  - Objectives, Support, Problem Solving, Feedback, Fidelity
  - 1-5 scale
- NLN Educational Practices (student eval)
  - Active learning, collaboration, diverse learning, high expectations
- NLN Student Satisfaction & Self-Confidence in Learning
- DASH (Student & Instructor Versions)
  - Debriefing Assessment for Simulation in Healthcare
  - 6 elements, 1-7 scale

Simulation Goals and Challenges

- **3 year goals**
  - 1 sim Day per course to replace clinical rotation hours
  - Sim rotations, incorporating high fidelity simulation experiences with task trainers and other learning activities
  - Expand sim training to clinical instructors, TA's, foundations helpers
  - Incorporate new scenarios and techniques based on best practices and student feedback
  - Collaborate with other schools, departments, and experts (IPE, new ideas, consulting, etc)
  - Other goals/ideas?

- **Concerns/Challenges**
  - Sim Center Scheduling
  - Student scheduling and rotation design
  - Lack of trained facilitators to assist in sim
  - Time
  - What else?

gramming files were not needed. A team of programmers reviewed each scenario included in the curriculum and created programming files for each type of human patient simulator being used at the study schools. Programming was provided for two reasons: Team members had varying levels of experience with running manikins prior to the study, and the programming ensured that the scenarios were being run the same way at each school.

Schools were not required to use any particular scenarios in a course but were required to use scenarios from the study curriculum when using simulation, to provide consistency across all sites. Study sites used the scenario curriculum like a menu and selected those scenarios that worked best for their curricular objectives.

All study-related scenario information was housed on a wiki accessible only to study team members. The wiki was organized by course and contained an overview of the scenarios available for that course, the scenario template, and the programming files.

Appendix C

Example of a Simulation Day Schedule

TABLE C

Sample Simulation Day Schedule for Three Clinical Groups

Time	Clinical Group 1	Clinical Group 2	Clinical Group 3
0700-0725	Pre-conference	Pre-conference	Pre-conference
0730-0845	Scenario: S M Bed: 1 Topics: Chemical ingestion, potential abuse	Scenario: J P Bed: 2 Topics: Tylenol overdose, depression	Scenario: J G Bed: 3 Topics: s/p appendectomy, POD#1 pain, nausea, vomiting
0845-0900	Break	Break	Break
0900-1010	Scenario: S R Bed: 4 Topics: Tay-Sachs disease, pneumonia, DNR	Scenario: J G Bed: 3 Topics: s/p appendectomy, POD#1 pain, nausea, vomiting	Scenario: S M Bed: 1 Topics: Chemical ingestion, potential abuse
1010-1015	Break	Break	Break
1015-1125	Scenario: J P Bed: 2 Topics: Tylenol overdose, depression	Scenario: S M Bed: 1 Topics: Chemical ingestion, potential abuse	Scenario: S R Bed: 4 Topics: Tay-Sachs disease, pneumonia, DNR
1125-1205	Lunch	Lunch	Lunch
1205-1315	Scenario: J G Bed: 3 Topics: s/p appendectomy, POD#1 pain, nausea, vomiting	Scenario: S R Bed: 4 Topics: Tay-Sachs disease, pneumonia, DNR	Scenario: J P Bed: 2 Topics: Tylenol overdose, depression
1315-1330	Break	Break	Break
1330-1430	Computerized critical thinking simulation	Computerized critical thinking simulation	Computerized critical thinking simulation
1430-1530	Post conference	Post conference	Post conference

Note. Each Scenario time slot includes

- 10 minutes for report
- 20 to 25 minutes for simulation
- 10 minutes to document
- 30 minutes to debrief

New Ideas*

- Simulate nursing assignment
  - Up to 3 patients – prioritize/delegation
  - Team leader – patient assignments
- Sim rotation stations
  - Manikin, task trainers, skills, case studies, documentation, etc.
- ½ group observes, switch, case unfolds, debrief all together
- Faculty actors
- Standardized patients
- Involve students in needs assessment
- Community – disaster drill
- IPE – OR, Skills, Star call

Thank you!

Keep calm and sim on!!!

UC Irvine Health