Debriefing: The Essential Step in Simulation

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Simulation focuses on active learning, builds confidence, and enhances judgment. Debriefing provides purposeful direction to help improve thinking and clarify thought processes. Debriefing is reflective practice at its best and a critical element in the learning process. Answering who, what, when, where, and how to debrief help focus both instructor and learner, while softening judgment and enhancing positive reinforcement and repetition. Though there are many avenues now supporting simulation in health care, gaps remain, and the future of outcome-related studies requires analysis.

Keywords: Simulation; Debriefing; Reflective practice

Background

Professional nurses must process and apply specific scientific knowledge, which is learned and developed from practice and experience, with judgment and critical thinking to affect outcomes and improve patient’s health and well-being. This active response is known as competence and must be demonstrated for nurses to maintain licensure and credentialing. Simulation standardizes exposure to specific events, teaches specific clinical skills, decreases errors, increases patient and student safety, and analyzes and improves clinical judgment. The use of simulation in nursing is exploding as an effective alternative for health care professionals to demonstrate competence because it provides the opportunity to practice basic, or advanced, patient care scenarios with unending possibilities to promote patient safety and improve outcomes by deterring potential human errors. In its 1999 report, the Institute of Medicine recommended “using simulation for training novice practitioners, problem solving, and crisis management.” Simulation promotes learning because it improves skills through repetitive practice, is student-centered, provides individualized learning based on experience, delivers breadth of experience through multiple clinical variations, provides an environment that allows mistakes, focuses on active learning opportunities, develops critical thinking skills, improves both confidence and judgment, and finally, helps learners evaluate and reflect upon their learning experience. This reflection can be purposefully directed with thoughtful feedback from an instructor or facilitator and should help the learner build awareness, improve thinking, recognize patterns, and clarify relevancy of thought processes. Student reflection directed by instructor feedback during simulation is also known as debriefing. This article explains how simulation and debriefing facilitate learning, reviews the elements important to debriefing, and describes methods to debrief a simulated experience. Debriefing is an essential step in the learning process and may well be the key to cultivating clinical judgment.

A Clinical Judgment Model

Tanner developed a model to describe clinical judgment that includes four key elements—noticing, interpreting, responding, and reflecting—that interact in a circular fashion based on the idea that reflection improves reasoning. Noticing is the knowledge that nurses bring to the patient as well as the assessment and cues that they obtain from the patient. In a pediatric acute respiratory distress scenario, this would include the general assessment of appearance, breathing, and circulation as well as the cues obtained from the environment and caregiver. Knowledge is based on experience; a student nurse will have basic knowledge obtained from fundamentals—in this case, muscle tone, work of breathing, and color; a novice nurse adds practical experience—qualifying breath sounds, pulse oximetry, and capillary refill time; and an advanced practitioner has knowledge derived from a multifaceted contextual base—considering the patient’s history, the current incidence of a particular illness, and other physiologic cues from both patient and caregiver. Interpreting is how, and with what skill set, the nurse analyzes and clarifies a situation to determine a response. Responding can be action or inaction, appropriate or inappropriate, but always results in an outcome. If this scenario were developed for a pediatric nurse practitioner student, interpreting and responding would be illustrated as she determines if an airway is maintainable, initiates assisted ventilation, and eventually establishes end-organ perfusion. Finally, reflection requires honest self-assessment, open communication, and an understanding of how one’s actions or decisions led to a particular outcome.
Reflection, in the form of debriefing, requires critical thinking and an understanding of the connection between actions and outcomes. Therefore, it can be suggested that thorough reflection can demonstrate accountability. Furthermore, if learning and retention occur and transfer from the simulation to the clinical environment, then clinical judgment may be enhanced. In Tannen's model, both “reflection-in-action” and “reflection-on-action” are considered. Reflection-in-action is the way a nurse modifies care in response to the patient. In the scenario above, the nurse may respond by administering oxygen, initiating vascular access, and continuing her assessment. Reflection-on-action occurs when outcomes related to clinical judgment are evaluated. In the debriefing, there may be discussion around the patient’s oxygen saturation levels, vital signs, and the nurse’s response. Clinical learning can occur if this is done in a supportive environment, and the nurse is accountable for her actions.

Learning Theory

Learning can be described as an individualized process to acquire knowledge and skills and then to transform them into actions modified by attitude and judgment. To appreciate how learning is facilitated during simulation and debriefing, it is beneficial to briefly examine learning theory. Situated learning theory states that learning occurs because of the involvement and engagement, or participation, of the learner in the situation. We learn the initial steps of neonatal resuscitation by performing them repeatedly in a newborn simulation scenario... “Provide warmth, clear the airway if necessary, dry the baby...” until it becomes rote. Taking it a step further, actively engaging the learner in a discussion of provisions for the meconium-stained infant often involves a lively discussion of what the term “vigorous” constitutes and thereby facilitates additional participation, as well as repetition of the skill, and so enhances learning. Sofo and colleagues discuss action learning as learning from engaging in an experience and then reflecting on that experience. Ideas and viewpoints must be shared and discussed for learning to occur. The facilitator is a fundamentally necessary guide who ensures that learners are accountable to the process and funnels them down the path of progressive reflection. This process supports the experiential learning theorists who depict reflection, in and of itself, as a critical element in the cycle of processing and assimilating learning.

Simulation as an educational intervention in health care has been studied for more than 40 years. A recent and frequently cited systematic review of the literature on simulation in health education revealed 10 common elements that facilitate learning during simulation. Although repetition and skills were declared valuable tools in simulation, nearly half (47%) of the studies reported that feedback was the most important element, supporting the premise that debriefing during simulation affects learning. Multiple studies have explored the student’s perspective on the effect of simulation with repeated recommendations to increase the time spent in debriefing by adding direct feedback that included potential outcomes based on actions performed during the simulation.

Reviewing the Elements of Debriefing

Debriefing is becoming a focus of discussion in the simulation literature. Who participates, when to debrief, where it should occur, how it is done, and what outcomes are expected are all developing topics. The experts agree that debriefing should include a discussion of both the overall process and of the learner's individual performance as they relate to predefined objectives along with instruction, clarification, or critique as necessary and an opportunity for self-reflection with the goal of translating and transferring the experience into practice. Who

There is little information in the literature about who should be involved in the debriefing. The obvious choice includes facilitators, learners, and observers, but little is known regarding the effectiveness of facilitator-driven vs learner-driven debriefing. Even the term for the leader fluctuates between debriefer and facilitator, with descriptions around the role varying. One such description is the instructor who intervenes, corrects, and redirects the action using a Socratic approach. An example can be found in a simulated neonatal resuscitation when the instructor stops the student who fails to react to neonatal bradycardia, restates the rate, verbalizes the correct intervention, and then allows the scenario to continue. At the completion of the scenario, the instructor-debriefer might revisit the action, review heart rate parameters, explain the importance of rapid recognition and response, and elicit discussion around potential outcomes. Another style includes the instructor who encourages self-reflection with the focus on the perceptions and interpretations of the participants in conjunction with the knowledge and judgment of the instructor. In this debriefing, the instructor-facilitator would wait until the completion of the scenario, regardless of the outcome, to query, "I noticed that the baby's heart rate was 80 in the initial assessment. In the algorithm, the appropriate response would be positive pressure ventilation. As a team, how did you see the scenario unfolding?" This is known as the advocacy-inquiry approach or, as Rudolph and associates declared, “Debriefing with Good Judgment.” Both styles arguably help the learner improve thought processes and recognize patterns. Others that can bring their perspective to the debriefing include observers who might be students watching the simulation, or instructors assessing the skills demonstrated during the simulation. In addition, offering the viewpoint of the patient as either an instructor-controlled mannequin known as a Human Patient Simulator, or as a skilled actor known as a Standardized Patient, can add to the realism and learning that is occurring.

When

Fanning and Gaba discuss the element of time in debriefing and reflect on the importance of experiencing and then making sense of, an event over time. Outcome studies related
to the timing of debriefing are few. One study compared debriefing during simulation to debriefing after simulation and found that students’ perceived that they learned more effectively from the feedback received after the action. Another demonstrated that expert role modeling during the experience, such as intubation done by a nurse anesthetist during NRP recertification, may improve learner’s confidence, technical, and behavioral skills, when compared with learners who experienced instructor intervention during a simulation. One expert insists that debriefing in the form of journal writing over the course of weeks or months is the best way for an instructor to judge the degree of learning that has happened and to offer feedback that reinforces it. However, most of the literature around simulation places debriefing immediately after the action or experience.

Where

The environment is another consideration in debriefing. Most often, the debriefing takes place in a separate room offering privacy, comfort, and the equipment and opportunity to review the simulation if it was video recorded. Participants should be told that the debriefing is a safe and confidential environment. Role delineation, expected time frame, and format are other environmental concerns that should be addressed. Some centers have the facility for additional learners to observe the simulation via video conferencing and debrief without having participated in the actual scenario. Ultimately, the environment should be emotionally safe yet intellectually challenging.

How

How is debriefing performed and what does an effective debriefing look like? From written journals to verbal discussion, seminar, classroom, or computer assisted, most agree that debriefing after a simulated experience starts with the question, “What went well and why?” Learning is a process enhanced by positive reinforcement and repetition. With positive reinforcement, self-confidence is increased and motivation is heightened. Although negative critique has merit, there can be a debilitating effect in the opposite direction. The debriefing session presents an opportunity for both positive reinforcement and repetition. The student is given the opportunity to reanalyze the simulation event in a permissive environment and revisit their actions and interventions. The opportunity for self-evaluation and self-critique builds self-confidence and augments the learning process.

Debriefing: Two Effective Methods

Different debriefing techniques are suitable for, and may be dependent on, a particular simulation experience including journal writing, asking open-ended questions, and using periods of silence, plus-delta, and reflective feedback. Journal writing and reflective feedback, using the advocacy-

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Reflective Feedback

A debriefing approach recommended by Rudolph and colleagues encourages the instructor to notice a relevant result, observe the student actions that led to the result, and then respond to the student during the debriefing using a reflective statement in the style of advocacy-inquiry to understand the student's thought process. To advocate for someone is to support and encourage them, and debriefing should be an environment that supports and encourages reflective thinking. In this debriefing approach, advocacy is a statement delivered, and owned, by the instructor who is testing an assumption. When it is coupled with inquiry, an investigation into the learner’s thought process, it tests the instructor's assumption with a question directed at the learner. For example:

“I noticed that the term newborn was crying and had good muscle tone immediately after delivery (event). You administered blow-by oxygen in the first 15 seconds (action) although the algorithm recommends assessing color and administering oxygen after 30–45 seconds (advocacy). Can you tell me what concerned you during the initial assessment?” (inquiry)

The use of this type of debriefing may avoid some of the risks inherent to critical evaluation including defensiveness, embarrassment, criticism, confusion, fear, and blame. It values both the expertise of the instructor and the insight of the student. A list of tips to facilitate this type of reflective debriefing can be found in aviation training manuals that discuss debriefing (Table 2).

Where Do We Go From Here: Gap Analysis and Performance Criteria

Many institutions and organizations are offering simulation scenarios including hospitals, universities, and community settings. Regional simulation centers have been established and

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<td>Assessment (1st 30 s of NRP algorithm)</td>
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<td>Exploration (interdisciplinary communication)</td>
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Table 2. Debriefing Tips

- Use questions to promote in-depth participation.
- Follow up on topics and redirect questions and comments back to learners.
- Ask questions that begin with what, how, and why to encourage deeper discussion.
- Encourage learners to discover their own answers.
- Make sure all are fully drawn into the discussion.
- Direct questions to quiet learners; ask quiet learners to comment on what others said.
- Avoid unwittingly hindering learners' participation.
- Do not answer for the learner when they do not immediately respond to your question.
- Reword questions rather than giving the answer.
- Use active listening to encourage continued participation.
- Use silence/pauses to elicit thoughtful responses.

From McDonnell et al.
international forums and journals are available to teach, study, and support simulation.\textsuperscript{19} Although simulation is an acknowledged adjunct to clinical teaching modalities, there are still gaps in standardization, gaps in understanding effective debriefing, and gaps in outcome research studies. Peters and Vissers\textsuperscript{20} developed a model for debriefing design that offers suggestions to the style and process of debriefing depending on the purpose of the simulation. Combining their design with some of the methods discussed offers direction (Table 3). In debriefing, performance standards are tied to the objectives of the simulation, known as the target, and the analysis that takes place during debriefing is attempting to bridge the gap between actual performance and target performance.\textsuperscript{20} Gap analysis is a way to move from a current state to a desired future state by identifying current standards, identifying future objectives, and then analyzing the gap.\textsuperscript{20} So, too, might the outcome standards related to debriefing be analyzed; where are we now, where do we need to go, and how will it affect our teaching and learning strategies if nothing is accomplished (Table 4)?

References


