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**Prebriefing: An Effective and Efficient Strategy to Maximize
Simulation Based Learning**

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Prebriefing: An Effective and Efficient Strategy to Maximize Simulation-Based Learning

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Abstract

Developing and implementing effective teaching methods require careful planning and time-intensive implementation by nursing faculty and their leadership (Fey & Jenkins, 2015). This is especially true when introducing new strategies. Simulation-based learning (SBL) is one such strategy. SBL is an evidence-based approach that enhances student learning and promotes knowledge retention necessary to safely provide care for patients (Kirkman, 2013). However, the adoption and implementation of SBL is highly variable across schools of nursing and other disciplines (Hayden, 2010).

Interprofessional education (IPE) has made significant gains in the past decade with several disciplines mandated by accreditors to provide evidence of IPE within the curriculum. Interprofessional simulation provides an excellent way to integrate these concepts.

Whether simulation is conducted as a single or multiple discipline experience, one critical component of the overall success of SBL is establishing sound prebriefing principles. Prebriefing is the term used for the preparation component of SBL and occurs prior to students beginning in the simulated experience (McDermott, 2016). Prebriefing has three phases: Planning, briefing, and facilitation. Although the literature is replete with articles on debriefing, that which occurs after students complete the simulated experience, there is a dearth of literature on prebriefing (McDermott, 2016). Given the scarcity of articles about prebriefing, best practices are currently

evolving. This evolution can create a level of ambiguity for faculty who want to incorporate prebriefing effectively (McDermott, 2016).

There are other barriers that may undermine SBL and prebriefing integration such as budget constraints for faculty training and managing workloads. Inadequate time and concentrated efforts for faculty training poses a serious threat to effective and efficient use of prebriefing (Al-Ghareeb & Cooper, 2016; Page-Cutrara, 2014). These factors may contribute to a failure to meet the objectives of the entire SBL experience, leading to additional frustration for the faculty and students as well. Regardless of the inherent barriers, experts agree that prebriefing is every bit as important as the simulated experience and debriefing (McDermott, 2016). Therefore, for SBL to succeed, prebriefing must be an integral part of faculty training (Chmil, 2016).

In 2014, SBL experts conducted a Delphi study to reach consensus related to prebriefing. The findings suggested there should be three phases of prebriefing: 1) planning, 2) briefing, and 3) facilitation (McDermott, 2016). This article will describe these three phases in detail and with recommendations for academic leaders for managing this implementation.

2014 Prebriefing Study

Developing and implementing effective teaching methods require careful planning and time-intensive implementation by nursing faculty and their leadership (Fey & Jenkins, 2015). This is especially true when introducing new strategies. Simulation-based learning (SBL) is one such strategy. SBL is an evidence-based approach that enhances student learning and promotes knowledge retention necessary to safely provide care for patients (Kirkman, 2013). However, the adoption and implementation of SBL is highly variable across schools of nursing and other disciplines (Hayden, 2010).

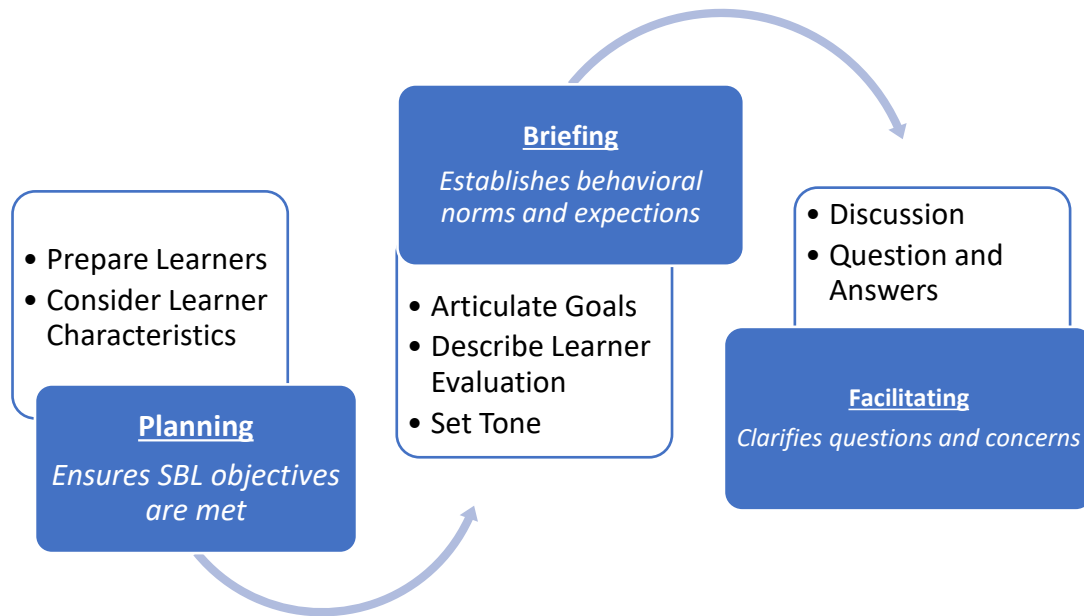
Whether simulation is conducted as a single or multiple discipline experience, one critical component of the overall success of SBL is establishing sound prebriefing principles. Prebriefing is the term used for the preparation component of SBL and occurs prior to students beginning in the simulated experience (McDermott, 2016). Prebriefing has three phases: Planning, briefing, and facilitation. Although the literature is replete with articles on debriefing, that which occurs after students complete the simulated experience, there is a dearth of literature on prebriefing (McDermott, 2016). Given the scarcity of articles about prebriefing, best practices are currently evolving. This evolution can create a level of ambiguity for faculty who want to incorporate prebriefing effectively (McDermott, 2016). Prebriefing has three phases: Planning, briefing, and facilitation. Although the literature is replete with articles on debriefing, that which occurs after students complete the simulated experience, there is a dearth of literature on prebriefing (McDermott, 2016). Given the scarcity of articles about prebriefing, best practices are currently evolving. This evolution can create a level of ambiguity for faculty who want to incorporate prebriefing effectively (McDermott, 2016).

In 2014, McDermott conducted a study with a panel of simulation experts to address gaps in the literature related to the topic of prebriefing. All expert panelists were Certified Healthcare Simulation Educators (CHSE). She sought to identify what experts believed were “the best strategies for preparing students for SBL” (McDermott, 2016 p 219).

The study design used a three-round, modified Delphi method. Prebriefing statements, generated from the first round of qualitative responses were used in rounds two and three (McDermott, 2016). Panelist were asked to respond to prebriefing statements using a Likert scale. Agreement was set at 70%. The results indicated there are three phases of prebriefing that yields the best outcomes for learning. The identified phases for prebriefing included planning, briefing, and facilitating (McDermott, 2016).

Three Phases of Prebriefing

Experts agreed upon three phases of prebriefing. (Figure 1) The first phase identified in prebriefing is the *planning phase*. During the planning phase, faculty prepare students for the simulation experience tailored to the learner characteristics, such as the year of student and prior experience with simulation. In addition, faculty outline any preparation required before the simulated experience begins, such as readings, pre-simulation quizzes, and/or videos related to the simulated scenario (McDermott, 2016). For example, if the simulation is related to post-operative complications from abdominal surgery, the students would prepare by reviewing surgical procedures (pre, intra, and post-operative care), review videos related to assessment, care for the post-operative surgical patient, types of complications, and may complete a pre-simulation quiz related to the readings and videos (McDermott, 2016).

Figure 1. Prebriefing Phases

Adapted from McDermott, 2016

The second phase of prebriefing involves *briefing* the students. In the briefing phase, students are oriented to the simulation room, mannequins, other equipment, and the realism of the experience (McDermott, 2016). Expectations of trust and respect should be role-modeled by the faculty and should be outlined in professional integrity guidelines (Table 1), the ground rules (Table 2) for the simulation, and in the Fiction Contract (Appendix A). During this phase, faculty review these documents with the students and address any questions or concerns. Good facilitation sets the tone for the experience and establishes trust and respect (McDermott, 2016).

The third phase of prebriefing is *facilitating*. Understanding is a focal point of the facilitation phase. Facilitating includes a question and answer period with a robust discussion related to the upcoming simulation experience (McDermott, 2016). Faculty should create an

environment where the students feel comfortable seeking clarification regarding the upcoming scenario. As students are discussing the scenario and asking any questions pertaining to the scenario, faculty can identify any gaps in learning prior to simulation experience and bridge these gaps with additional information and clarification. The final simulation plan is derived from the totality of prebriefing experience, particularly from the identified gaps in the facilitating phase (McDermott, 2016).

Recommendations for Academic Leaders

As with any new strategy, sufficient resources are a fundamental to successful implementation. In addition to recommendations for the prebriefing process, the Delphi study provided guidance for academic leaders to make all components of SBL work to include prebriefing (McDermott, 2016). The following describes the two over-arching recommendations, followed by these authors' suggested ways to accomplish each.

Ensure an adequate number of trained simulation faculty

Without proposed evidence-based ratios for the adequate number of dedicated simulation faculty, leaders for each academic unit must determine what is feasible, given the priority placed on SBL, available resources, and in consultation with faculty (McDermott, 2016). There would be two ways of looking at allocating resources for SBL; concentration within the curriculum and course organization. Both are important to consider.

Concentration Within the Curriculum

If SBL is implemented as a substitute for traditional clinical experiences, then most, if not all clinical faculty should be trained in best practices for simulation (Hayden, Keegan, Kardong-Edgren, & Smiley, 2014). If SBL is used primarily for students to gain exposure to rare and

difficult to obtain clinical experiences, then a smaller group of faculty should be trained (Hayden et al., 2014).

Course Organization

Another way to address and resource faculty training is to consider how courses are organized. If team teaching is the predominant model for course delivery, at least one faculty on each team should initially gain simulations expertise to guide these experiences, provide support, and mentor other faculty over time until all team members feel comfortable leading SBL. The leads can serve as the de facto, super-user for the team. Eventually, with clearly established goals, expectations and defined competencies, other faculty on the team will gain knowledge and expertise allowing them to function more autonomously.

If team teaching is not the model for course delivery, all faculty who teach in the course should be trained. If this is not possible, at least one person should assume the super-user role as outlined above. Specific faculty competencies and time-bound benchmarks should accompany each competency. Additionally, a fair and equitable workload adjustment should correspond to this new level of responsibility for the super-user.

Budgeting for SBL Training

Academic budgets continue to tighten. State appropriations for colleges and universities also continue to decline. Private universities have additional financial constraints since they do not receive federal or state funding and students are not eligible for certain tuition aid programs. Fortunately, unlike some disciplines, nursing enrollments consistently approach or reach maximum capacity, thus, tuition dollars continue to flow into nursing program budgets. However, with full capacity of classes comes the need for either hiring additional faculty or

paying existing faculty for overload assignments. Regardless of these challenges, a realistic yet tangible financial commitment must support any new teaching strategy to realize its full potential and for helping faculty reach a level of competence. If adding a simulation fee, separate from a technology fee is not feasible, then new revenue streams must be considered or funds must be garnered from existing budget lines. Those charged with managing academic budgets face significant challenges that traditional cost-cutting solutions may not alleviate. However, methods used by other industries may provide effective strategies to manage these fiscal constraints.

Lean Methodology

One such strategy is Lean methodology (Scoville and Little, 2014). Lean methodology originated in manufacturing. Lean has gained favor in the healthcare industry when organizations seek to improve efficiency without sacrificing quality patient care. Lean focuses on reducing or eliminating waste in processes and human effort while maintaining quality. It is not a top-down approach, rather it engages teams throughout the organization to study the problem from a variety of lenses. The emphasis on teams is coupled with respect for all members in pursuit of solutions to identified problems. These teams are part of the Lean process from start to finish to optimize buy-in for any implemented changes.

It is easy to dismiss the Lean approach by saying students are not widgets, cars, or even pressure ulcers. But, academic leaders, faculty, and staff would find it difficult to assert that waste does not exist within the academic enterprise.

Curriculum Integration

Unless there are concerted efforts to systematically review and eliminate content that is nice to know versus imperative to know consider the following. Two metaphors, bandwidth

(Bandwidth, 2018) and requirement creep (Larson and Larson, 2009), and one story, *The Saber-Tooth Curriculum*, (Peddiwell, 2004) may be helpful when considering integrating SBL into an already full curriculum.

Bandwidth and Requirement Creep

Bandwidth refers to the capacity for data transfer within a closed communication system (Bandwidth, 2018). The larger the bandwidth, the faster data transfer occurs. However, once capacity is reached, data transmission slows and can stop all together. An example of this is when a streaming video is interrupted when the capacity of the system is breached. The screen may slow or freeze until normal data transmission resumes. Only after this happens does the video continue smoothly.

For individuals, in this case, faculty, bandwidth is the energy or mental capacity required to deal with a situation or multiple situations simultaneously (Bandwidth, 2018). When humans reach mental capacity, the results may include difficulty making decisions, poor decision-making, stress, and anxiety. When capacity is reached, and additional data flow, the situation may reach the point of diminishing returns.

Requirement creep, sometimes called scope creep, refers to continuous changes or uncontrolled growth in a project's scope, at any point after the project begins (Larson and Larson, 2009). This occurs when the parameters of a project are not properly defined, documented, or controlled. It is considered harmful and may put the delivery date or entire project at risk.

Now consider how we traditionally deal with new educational strategies, particularly those requiring significant effort and resources like SBL. Rather than analyze, modify, or replace outdated content, processes, or strategies, the default is to add the new strategy to an

already full curriculum. Thus, human and organizational bandwidth is breached and requirement creep abundant, both of which may jeopardize the successful implementation of all components of SBL.

The Saber-Tooth Curriculum

The Saber Tooth Curriculum, originally published in 1939, is satirical commentary explaining how unexamined traditions of schooling can result in resisting needed changes (Peddiwell, 2004). The author believed education needs to be responsive to the emerging needs of the life experience and he felt education in his time was sticking to teachings of old rather than of present times. In short, New-Fist, a senior tribesman in the Paleolithic era, refused to eliminate ‘fish-grabbing-with-bare-hands’, ‘wooly-horse-clubbing’, and ‘scaring-saber-tooth-tigers-with-fire’ even after evolution proved these skills obsolete. Most schools of nursing have their own version of The Saber-Tooth Curriculum. However, integrating SBL and all necessary components will take a tangible commitment to fully engage faculty to determine the best way to replace outdated or ill-fitting strategies that are comfortable, but fail to meet today’s complex patient care realities.

Conclusion

SBL is an evidence-based strategy that enhances student learning, promotes knowledge retention necessary to provide safe patient care, and is suitable for single or multiple disciplines (IPE). The effectiveness and efficiency of this strategy is dependent on careful planning for all aspects of this experience. Experts agree that prebriefing is especially important in that it lays the ground work to ensure students understand what is expected of them, are familiar with the equipment and environment and can clarify any questions they may have. These prebriefing

activities are divided into three phases; planning, briefing, and facilitation, all of which should occur before the simulated experience begins.

Faculty training is crucial to maximize the potential of SBL. Allocating adequate resources, even during times of budgetary constraints, is a difficult, yet essential task. To do so, academic leaders must secure new funding or reallocate funds from existing budget lines to defray training expenses and identify and eliminate waste. Methods like Lean methodology may support this challenging agenda.

There are three other considerations for optimizing prebriefing and the entire SBL experience. Faculty should not be asked to exceed their physical or mental bandwidth, allow for constant requirement creep, or be asked to continue with outdated learning strategies.

Finally, prebriefing, which has gained far less attention than debriefing, must be a priority in practice, formal lines of inquiry, and additional publications to build the scientific base. This evidence will strengthen the field of SBL and create an acceptable paradigm, while engaging students and faculty alike to reach their full potential.

Author Affiliations

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Appendix A: Example of Fiction Contract

Student's Name

Fiction and Confidentiality Agreement for Simulation

The purpose of simulation-based training is for you to develop skills, including judgment and reasoning, for the care of real people. Using patient simulators and simulation teaching techniques, your instructors will recreate realistic patient care situations. The realism of each simulation may vary depending upon the learning goals for the session. The simulated environment and patient have certain limitations in their ability to exactly mirror real life.

When participating in the simulations, your role is to assume all aspects of a practicing healthcare provider's professional behavior. Additionally, when a gap occurs between simulated reality and actual reality, it is expected that you try to understand the goals of the learning session and behave accordingly.

During your time in your program at **[Insert name of program.]** you will participate in simulation, be observed by others and also observe the performance of others in managing clinical events.

To maintain the learning, safety, and integrity of the simulation environment, please maintain confidentiality regarding the performance of others and the details of the simulation scenarios. Sharing information about scenarios with students who have not yet participated is considered academic misconduct or cheating. ONLY approved electronic devices are to be used in this setting such as cell phones, iPods, laptops, or iPad/tablet(s) that have your learning resources to assist with the simulation. No tape recorders or video recording are permitted by students during this simulation.

Instructor Responsibilities:

- Create goal-oriented, practical simulations based upon measurable learning objectives.
- Add enough realism to each simulation so the learner receives sufficient clues to identify and solve a problem.
- Create and maintain a safe, productive learning environment.
- Maintain the integrity of simulation learning activities.
- Provoke interesting and engaging discussions, fostering reflective practice.
- Identify performance gaps and help close the gaps.

Learner Responsibilities:

- Suspend judgment of realism for simulation in exchange for the promise of learning new knowledge and skills.

- Maintain a genuine desire to learn even when suspension of disbelief becomes difficult.
- Treat the simulated patient with the same care and respect due an actual patient.
- Maintain confidentiality regarding the performance of others and the details of the simulation scenarios.

Video & Photo Release:

- The **[Insert name of program.]** photography / video release document applies to simulation.

By signing below, I acknowledge that I have read and understood this contract. I will maintain confidentiality about any observations, the performance of individuals, and the simulation scenarios themselves.

Student's Signature

Date

Muckler, V. (2016). Exploring suspension of disbelief during simulation-based learning. *Clinical Simulation in Nursing*, 13 (1), 3-9.

<https://doi-org.lynx.lib.usm.edu/10.1016/j.ecns.2016.09.004>

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faculty for clinical nurse educator roles. *Clinical Simulation in Nursing*, 8(6), 249-255.

doi:10.1016/j.ecns.2010.12.006.

Table 1. Professional Integrity Guidelines

Based on clear expectations and/or past experiences

Attribute	Definition
Organized	Behaves in a purposeful manner
Prepared	Readiness is apparent
Engaged	Attends to and responds within the learning environment
Accountable Behavior	Accepts responsibility
Acting Collaboratively	Mutually respectful, non-confrontational, supportive, sharing
Awareness of Diversity	Understands needs of patients vary based on demographics
Culturally Competent	Understands needs of patients based on culture
Honest	Demonstrates truthfulness
Ethical	Adheres to the ANA Code of Ethics, recognizes unethical behavior

INACSL Standards Committee (2016, December). INACSL standards of best practice: Simulation SM Professional Integrity. *Clinical Simulation in Nursing*, 12 (S), S30-S33. <https://doi.org/10.1016/j.ecns.2016.09.010>

Table 2. Ground Rules

Ground Rules
Wears appropriate attire
No cellphone or electronic devices
No food, drinks, or gum
Maintains clean and organized environment
Treats human simulator as real patient (See Appendix A- Fiction Contract)
Punctual
Adheres to all Professional Integrity Guidelines (See Table 1)

INACSL Standards Committee (2016, December). INACSL standards of best practice: Simulation SM Professional Integrity. *Clinical Simulation in Nursing*, 12 (S), S30-S33. <https://doi.org/10.1016/j.ecns.2016.09.010>

