Methods and Evaluations for Simulation Debriefing in Nursing Education

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ABSTRACT
Debriefing is the most important aspect of simulated learning, but actual debriefing practices are not evidence based or widely known. Expert opinions on effective simulation debriefing have been widely published and likely guide debriefing in nursing education. However, various terms are used to discuss simulation debriefing, making it difficult to distinguish debriefing methods. Also, the means for evaluating simulation debriefing are lacking. The purpose of this review is to identify and examine methods and evaluations for simulation debriefing in the educational setting. Twenty-two methods and seven evaluations for simulation debriefing were found. Four areas of differences among methods—suggested uses, design features, supplemental resources, and means for evaluation—were demonstrated. This review offers nurse educators and researchers a comprehensive, practical examination of the methods and evaluations for simulation debriefing in the educational setting, clarifies terminology, and describes how the debriefing methods, phases, approaches, elements, and evaluations are interrelated. [J Nurs Educ. 2014;53(8):459-465.]

Use of simulation in nursing education is a rapidly growing trend as a result of the limited number of clinical sites for education, increased support from national health care and nursing organizations for its use, and the realized advantages of simulated learning (Nehring & Lashley, 2009; Seropian, Brown, Gavilanes, & Driggers, 2004). Evidence from simulation research strongly supports debriefing as the most important aspect of simulated learning (Fanning & Gaba, 2007; Neill & Wotton, 2011). It is during the debriefing that effective learning and gains of knowledge occur in students (Issenberg, McGaghie, Petrusa, Gordon, & Scalese, 2005; Lasater, 2007; Shimnick, Woo, Horwich, & Steadman, 2011). Accordingly, results from the first phase of the National Simulation Study indicated that only 75 of the 1,060 prelicensure nursing programs in the United States do not use simulation debriefing (Hayden, 2010). Yet, research on debriefing practices used in simulated learning is scant. Also, weak methodological designs and poor reporting of debriefing practices characterize much of the simulation debriefing research (Raemer et al., 2011). Despite the prolific use of simulation debriefing in nursing education, current simulation debriefing practices are not evidence based.

A recent national survey on sources of evidence for teaching practice in nursing (Patterson & Klein, 2012) supports that nurse educators are likely using journal articles and information from conference presentations, as well as individual teaching experience and feedback from students, to guide current debriefing practices. In fact, expert opinions on effective simulation debriefing practices are widely published in the military, aeronautics, gaming, education, psychology, and health care literature. However, various terms are used to discuss different aspects of simulation debriefing, with many terms used interchangeably, making it difficult to distinguish methods for debriefing. In addition, few instruments and other means for evaluating simulation debriefing are mentioned in the literature, and a review of these has not been published to date. More importantly, actual simulation debriefing practices in nursing education are not widely known.

Describing current simulation debriefing practices in nursing education is foundational for moving toward building evidence-
based best teaching practice guidelines for simulation debriefing. With limited research on simulation debriefing practices, examining the other sources that guide nurse educators in their debriefing practice can aid in the design of future simulation debriefing research that is both rigorous and feasible. In anticipation of building the evidence for effective simulation debriefing on student outcomes, examining the means for evaluating simulation debriefing is also warranted. Thus, the purpose of the current review is to identify and examine (a) methods used for simulation debriefing in the educational setting and (b) instruments other means for evaluating simulation debriefing in the educational setting.

LITERATURE SEARCH

The literature search included two separate, but related, searches to ensure that the aims of the review were thoroughly addressed. First, a broad search was conducted to explore the topic of simulation debriefing. Article inclusion criteria for the broad search were (a) written in the English language, (b) published in or after 1995, and (c) described debriefing or evaluation for debriefing. Database filters or limitations were applied prior to the broad search for the first two inclusion criteria. The broad search was conducted in 14 databases, including PubMed®, CINAHL® Plus with Full Text, PsycINFO®, Scopus®, ERIC®, Academic Search Complete®, Applied Science and Technology Full Text®, Web of Science®, ProQuest® Dissertations and Theses, Cochrane Database of Systematic Reviews, OpenGrey, the New York Academy of Medicine Grey Literature Collection, and OAIster®. The key terms that were truncated (when applicable) and searched with multiple spellings were debriefing, feedback, reflection, postconference, discussion, simulation, postsimulation, computerized manikin, education, teach, learn, training, instruction, health care, patient care, medical, medicine, nurse, and health care professional. An additional limit to the citations in nursing only was applied in the ProQuest database, decreasing the findings in this database from more than 89,000 citations to 1,201 citations. The broad search of filtered databases yielded a total of 7,475 citations.

In addition to searching the databases, the broad search included simultaneous search strategies for unpublished work and resources other than articles available on the topic of simulation debriefing. Additional broad search strategies included the ancestry approach, cited reference searches, relevant Web site searches, and electronic hand searching of three journals (e.g., Web page, presentation, handout) of these 102 citations. The titles and abstracts were screened for citations related to debriefing, yielding 102 citations. The full texts or entire contents (e.g., Web page, presentation, handout) of these 102 citations were hand searched for a description of debriefing or an evaluation for debriefing. Ninety-two articles met the inclusion criteria of the broad literature search.

Next, a narrow literature search was conducted to find instruments for evaluating simulation debriefing. Article inclusion criteria for the narrow search were (a) written in the English language and (b) describes an instrument for evaluating debriefing. Database filters or limitations were applied prior to the narrow search for the first inclusion criterion. The search was conducted in eight databases, including PubMed, CINAHL Plus with Full Text, PsycINFO, ERIC, Academic Search Complete, Applied Science and Technology Full Text, Health and Psychosocial Instruments, and PsycARTICLES®. The key terms used in the narrow search were debriefing, simulation, and instrument. All of the key terms were truncated, but only synonyms for the term instrument were included in the narrow search (i.e., tool, survey, questionnaire, evaluation, rubric, rating, and scale). The narrow search of filtered databases yielded 544 citations. Titles and abstracts were reviewed for citations that included an instrument for evaluating debriefing. Four articles met the inclusion criteria for the narrow literature search.

The broad and narrow searches resulted in a total of 96 articles. The full texts or entire contents of each reference were examined according to inclusion and exclusion criteria for the purpose of the review. The inclusion criteria for the review were (a) written in the English language, (b) described a method or evaluation for debriefing, (c) related to simulation, and (d) conducted in an educational setting. The review was not limited to the education of health care professionals, but it did have exclusion criteria. Forms of debriefing intended for use only in a professional environment were excluded from the review (e.g., debriefing of professionals in the airline industry, corporate world, military arena, or in a health care organization). Articles were also excluded if the debriefing method or evaluation was not intended for use with simulations, such as military or psychological debriefing after traumatic events, postconference of health care clinical experiences, or other experiential learning activities that are not simulated. Twenty-eight articles were included in the final review.

FINDINGS

Terminology

A variety of terms are used in the literature to describe simulation debriefing. The terms include debriefing, reflection, feedback, method, model, framework, process, phases, sections, parts, components, steps, techniques, strategies, styles, approaches, elements, characteristics, features, and considerations. The terms are not used consistently in the debriefing literature and many are used interchangeably. Terminology was clarified to aid in identifying and examining methods and evaluations for simulation debriefing. The clarified terms are used consistently throughout this review.

Although various definitions of debriefing are noted in the literature, the INACSL standards of best practice for simulation in nursing differentiate between debriefing, feedback, and reflection. Debriefing incorporates both feedback and reflection,
with the goal of improving future practice (INACSL Board of Directors, 2011). Feedback is one-way communication to participants about behaviors or performance, whereas reflection involves participants thinking about the experience. Dreifuerst (2009) defined the attributes of simulation debriefing as reflection, emotion, reception, integration, and assimilation. In short, reflecting on the simulation experience, the emotional release, being receptive to feedback, integrating the experience and reflection into a conceptual framework (e.g., the nursing process), and assimilation of the simulated learning into nursing practice are aspects of optimal simulation debriefing (Dreifuerst, 2009).

The terms method, model, and framework refer to the name or general description of the debriefing process (e.g., the Gather, Analyze, Summarize model, or three phases of debriefing). Each debriefing method consists of phases, sections, parts, components, or steps of the debriefing process. Approaches to the debriefing process are the techniques, strategies, or facilitation styles used in the phases of the debriefing process (e.g., open-ended questions). Finally, the elements, characteristics, features, or considerations of the debriefing process are the contextual variables that are believed to influence the effectiveness of the debriefing (i.e., allotted time, atmosphere).

Overview

Twenty-eight articles were included in the review, which included various sources of information on methods and evaluations for simulation debriefing, such as journal articles, papers, abstracts, presentations, and worksheets. The findings are primarily expert opinions, with only seven reports of research meeting the inclusion criteria for the review (Arora et al., 2012; Brett-Fleegler et al., 2012; Dreifuerst, 2012; Gururaja, Yang, Paige, & Chauvin, 2008; Kautz et al., 2009; Kuiper, Heinrich, Matthias, Graham, & Bell-Kotwall, 2008; Reed, 2012). The findings are presented according to the aims of the review (i.e., methods and evaluations for simulation debriefing), rather than as a list or description of the studies and articles found.

Twenty-two methods and seven means for evaluating simulation debriefing in education were found. Another finding was that the simulation debriefing methods, phases, approaches, elements, and means for evaluation are interrelated. Each method identified phases of the process or steps to follow during the debriefing. Among many of the methods, 19 approaches were found that may be used during the phases of any debriefing method (Table A; available in the online version of this article). Only six methods included a means for evaluation (Dreifuerst, 2010; Gururaja et al., 2008; Kuiper et al., 2008; Lederman, 1992; Rudolph, Simon, Raemer, & Eppich, 2008; Rudolph, Simon, Rivard, Dufresne, & Raemer, 2007). One method included a general model for evaluating any process of debriefing (Lederman, 1992). Another five methods included associated instruments for evaluating simulation debriefing (Dreifuerst, 2010; Gururaja et al., 2008; Kuiper et al., 2008; Rudolph et al., 2008; Rudolph et al., 2007), although one instrument (i.e., Debriefing Assessment for Simulation in Healthcare, DASH®) is used with three of these methods. Six of the seven means for evaluating simulation debriefing are instruments (Arora et al., 2012; Brett-Fleegler et al., 2012; Dreifuerst, 2012; Gururaja et al., 2008; Kuiper et al., 2008; Reed, 2012). Two instruments were not associated with a particular method for simulation debriefing (Arora et al., 2012; Reed, 2012). Finally, 13 elements of debriefing were found (Table B, available in the online version of this article) that influence the effectiveness of any method for debriefing.

Although the focus of the current review is on methods and evaluations for simulation debriefing, the phases, approaches, and elements were examined to distinguish the methods and evaluations for debriefing. The detailed findings of the current review are presented as the differences noted among the methods and evaluations for simulation debriefing. The following four areas of differences were found: (a) suggested uses, (b) design features, (c) supplemental resources, and (d) means for evaluation.

Suggested Uses

The suggested uses for different debriefing methods vary by discipline or context, despite all being applicable for use in the educational setting. Seven methods are designed for use in simulation debriefing in nursing education (Anderson, n.d.; Dreifuerst, 2010; Johnson-Russell & Bailey, 2010; Kuiper et al., 2008; Lusk & Fater, 2013; McClure & Gigliotti, 2012; Pivec, 2011), and two methods are intended for use in medical simulation debriefing (Owen & Follows, 2006; Rudolph, Simon, Dufresne, & Raemer, 2006). The suggested uses for six of the simulation debriefing methods are for education of health care professionals, including applicability to clinical education (Cheng, Rodgers, van der Jagt, Eppich, & O’Donnell, 2012; Flanagan, 2008; Gururaja et al., 2008; Rudolph et al., 2008; Wilkinson, n.d.; Zigmont, Kappus, & Sudikoff, 2011). Another six methods are developed for use in the broad context of debriefing simulation games in education (Kriz, 2010; Lederman, 1984, 1992; Petranek, 1994, 2000; Petranek, Corey, & Black, 1992; Steinwachs, 1992; Thiagarajan, 1992). Also, Stadsklev (2012) describes the EIA model for simulation debriefing in social education.

Design Features

Some of the simulation debriefing methods have unique design features that set these methods apart from others. One of the earliest methods proposed for debriefing remains the only method in which the concepts of validity, reliability, and utility are used as a framework to guide the debriefing discussion. In this method, Lederman (1984) proposed six validity discussion questions that aimed to link the simulation experience to the real world, five reliability questions that explored what happened during the experience, and four utility questions that explored the costs and benefits of the experience. Thiagarajan (1992) is the only author who presented a method of games for the proposed seven phases of debriefing. For example, instructors can use the Mood Check game to allow participants to address the first phase (i.e., How do you feel?) by performing an activity with a premade checklist of mood adjectives.

The Debriefing With Good Judgment (DGJ) method and a five-phase debriefing framework based on Tanner’s (2006) model of clinical judgment are uniquely designed to promote reflection and development of clinical judgment. The DGJ method includes a component that requires debriefing instruc-
tors to reflect on their own cognitive frames, which Rudolph et al. (2006) suggested is what individuals use to make sense of external reality. Rudolph et al. (2006) suggested that these frames determine our observable actions, and the debriefing of simulated learning allows instructors and participants to identify old frames and create new frames that will influence future practice. Similarly, the five-phase debriefing framework described by Lusk and Fater (2013) begins and ends with a reflection phase to aid the students in linking their actions in the simulated learning experience to the patient outcome and other clinical situations.

The Debriefing for Meaningful Learning® (DML) and the EIAG (Experience, Identify, Analyze, and Generalize) methods for simulation debriefing are unique in that they promote self-directed approaches to debriefing that foster meaningful learning in the participants (Dreifuerst, 2010; Stadsklev, 2012). The DML method also includes a student evaluation of performance in terms of clinical reasoning outcomes. The GREAT (Guidelines, Recommendations, Events, Analysis, and Transfer of knowledge to clinical practice) method is unique in that the first two steps involve the instructor gathering evidence, policies, and recommended guidelines to which the events of the simulation experience can be compared in the subsequent steps of the method (Owen & Follows, 2006). Similarly, but more specific to nursing, the Outcome Present-State Test (OPT) model facilitates students to compare a client’s present clinical state to the desired clinical outcome state, with a focus on identifying and examining nursing diagnoses, interventions, and clinical judgments made during the simulation experience (Kuiper et al., 2008).

Perhaps the most unique tool for simulation debriefing in education is the Medieval Metaphorical Adaptation (MMA). On the basis of Neuman’s (2011) systems model, and adapted for use in simulation debriefing, the MMA draws parallels between dragons attacking a castle and stressors attacking a client’s system (McClure & Gigliotti, 2012)—the castle has multiple lines of knights defending the magical gold at its center compared with the client’s system of defensive and stress responses to protect his or her wellness. The MMA is a holistic framework for debriefing that allows students to revisit the simulation scenario by naming the dragons, identifying the knights’ responses at each level of defense, examining the knights’ preparation for and aftermath of the attack, and completing a self-assessment of performance in the simulation.

Supplemental Resources

Twelve methods for simulation debriefing include supplemental resources to aid faculty and students in facilitating or participating in the particular methods’ debriefing process (Anderson, n.d.; Cheng et al., 2012; Dreifuerst, 2010; Flanagan, 2008; Johnson-Russell & Bailey, 2010; Kriz, 2010; Lederman, 1984; McClure & Gigliotti, 2012; Petranek, 2000; Pivec, 2011; Steinwachs, 1992; Thiagarajan, 1992). Each of the resources is different, as the resources are associated with the specific debriefing method. The resources are primarily in the form of scripts, worksheets, and examples of debriefing approaches associated with the specific methods. For instance, McClure and Gigliotti (2012) provided a visual aid, as well as a questionnaire worksheet, for the MMA that students and instructors can use to guide the simulation debriefing.

Additional resources for simulation debriefing were found that are not associated with a specific debriefing method. The Interprofessional Collaboration for Integrative Technologies in Education clinical debriefing tool, combines aspects from the DGJ, the seven-phase model by Thiagarajan (1992), and elements from the DASH into a two-page worksheet that can be used with various simulation scenarios (Wilson, 2012). Medical Education Technologies, Inc., offers a general debriefing guide that has been adapted for nursing education and provides a wide range of questions to use during debriefing (Johnson-Russell & Anderson, 2008). The Scottish Clinical Simulation Centre uses a debriefing guide that includes specific scenarios, and a debriefing tool related to the scenarios, to facilitate the teaching and learning of early identification of sepsis (Nimmo, Nelson, & Cairns, 2006). As demonstrated, multiple authors have developed tools for simulation debriefing by combining phases and approaches from a variety of methods for general use in simulation debriefing or for use with specific simulation scenarios. Access to such resources varies; some are readily available on the World Wide Web free of charge, whereas others require membership in an organization, affiliation with an academic institution, or purchase through a simulation company.

Means for Evaluation

The majority of the debriefing methods do not have an associated instrument or means for evaluation. Four instruments that are associated with a method for debriefing are the 25-item debriefing assessment instrument (Gururaja et al., 2008), the DML Supplemental Questions (DMLSQ; Dreifuerst, 2012), the OPT model rating tool (Kautz et al., 2009; Kuiper et al., 2008), and the DASH (Brett-Fleegler et al., 2012; Center for Medical Simulation, 2013). Two additional instruments for evaluating simulation debriefing that are not associated with a particular method are the Debriefing Experience Scale (DES; Reed, 2012) and Objective Structured Assessment of Debriefing (OSAD; Arora et al., 2012).

The six instruments found were developed based on debriefing expertise and literature evaluating the effectiveness of simulation debriefing used in education. The DASH, the DES, the OSAD, and the 25-item debriefing assessment instruments are intended for broad use to evaluate any method of debriefing in simulation research and teaching practice. The DMLSQ and the OPT model rating tool are exclusively for evaluating the respective DML and OPT methods. The amount of scaled items or rated categories of each instrument is different, ranging from six to 22 items or categories. Also, the instruments are designed for specific types of raters—individual observers (i.e., the DASH, the OSAD, and the 25-item debriefing assessment instrument), instructors (i.e., the DASH instructor version and the OPT model rating tool), and participants (i.e., the DASH student version, the DMLSQ, and the DES). Overall, psychometric testing is limited and data from only one study for each instrument have been published (Arora et al., 2012; Brett-Fleegler et al., 2012; Dreifuerst, 2012; Gururaja et al., 2008; Kuiper et al., 2008; Reed, 2012). One study reported reliability data from the student version of the DASH (Dreifuerst, 2012). No data have
been published about the instructor version of the DASH or the DMLSQ.

A major difference among instruments is the variation in the elements of debriefing that are being evaluated when using the instrument (Table B). Most of the instruments can be used to evaluate the student role and approaches used during debriefing. None of the instruments can be used to evaluate the timing of the debriefing, in terms of preference of when debriefing occurs (i.e., during or following the simulation) and the amount of time elapsed after simulation until the start of the debriefing. The DASH evaluates the timing of the debriefing as a behavior, namely whether or not the instructor informs the participants that the debriefing will occur after the simulation experience, and includes evaluation of all but one of the elements of debriefing found in the literature (i.e., the length of time for the debriefing). Similarly, the 25-item debriefing assessment instrument developed by Gururaja et al. (2008) lacks two elements—evaluation of the physical environment and the timing of the debriefing in relation to the simulation experience. More than half of the elements of debriefing can be evaluated by using the DES or the OSAD. The DMLSQ and the OPT model rating tool cannot be used to evaluate any element of debriefing, aside from the method itself.

Another means for evaluation is not an instrument; rather, it is a guide for generating questions to assess any debriefing method. Lederman (1992) proposed the following five areas for evaluating the process of debriefing: (a) learning objectives, (b) situational constraints, (c) debriefing strategies selected, (d) debriefing strategies implemented, and (e) evaluation of the debriefing process experienced. Lederman suggested asking multiple questions related to each of the five areas for evaluation. For example, to evaluate situational constraints, questions should examine time, energy, and resources used for the debriefing.

DISCUSSION

The current comprehensive, integrative review distinguished among methods and evaluations for simulation debriefing in the educational setting, clarified terminology, and described how the debriefing methods, phases, approaches, elements, and means for evaluation are interrelated. At a glance, many methods appear similar; most originate from the same theories and frameworks (i.e., constructivism, experiential learning, reflective practice, debriefing expertise, and crew resource management), contain similar phases (i.e., three-phase processes with in-depth discussion and analysis in the middle phase), and use similar approaches (i.e., oral approach with open-ended questions and peer and facilitator feedback). However, the methods are designed with a use in mind, and they vary considerably in their suggested use, design features, supplemental resources, and means for evaluation. For instance, the methods designed for use in simulation games tend to involve more student self-reflection than methods designed for use in health care, which focus more heavily on clinical reasoning and practice outcomes. Another example is that more structured methods tend to include specific approaches and supplemental resources (e.g., the OPT model), whereas the less structured methods (e.g., the GREAT method) may not. The evaluations for simulation debriefing differ in their association with a method and vary greatly in how many and which elements of debriefing are assessed. Also, the evaluations are not all instruments (Lederman, 1992).

The differences found among methods and evaluations for simulation debriefing have direct implications for practice. Nurse educators and researchers should strive for consistency between the theory, design, use, and evaluation of any debriefing method. A debriefing method can be one of those described in this article, or it may include part or none of the methods in the literature, but every method should be evaluated. Educators and researchers should consider using and testing existing methods and evaluations for simulation debriefing before developing new methods and evaluations, to build evidence to guide debriefing practices. Instruments should undergo psychometric testing, and those evaluations that are not amenable to psychometric testing should yield reportable feedback. Disseminating findings regarding any method or evaluation for simulation debriefing is crucial to building evidence-based practice guidelines for simulation debriefing. However, nurse educators and researchers would benefit greatly from using consistent terminology in future research, publications, and practice.

As the INACSL (2011) definitions suggest, the terms debriefing, feedback, and reflection are not interchangeable in relation to simulated learning experiences. The findings from the current review suggest that the terms methods, phases, approaches, and elements should also not be used interchangeably in relation to simulation debriefing. Rather, educators and researchers should use these terms (or each term’s synonyms as distinguished in the Findings section of this article) to describe how the different aspects of simulation debriefing are interrelated and used in practice. Importantly, the debriefing method is only one of the many elements that experts claim to influence the effectiveness of the simulation debriefing (Table B). Similarly, the phases, approaches, and means for evaluation are also each an element of debriefing. In practice, educators should prioritize the elements of debriefing to help determine the most appropriate method for simulation debriefing in particular situations. Some elements of debriefing (e.g., objectives of the debriefing, length of time for debriefing, faculty-to-student ratio, physical environment) may be predetermined by course requirements or available facilities, whereas other elements are flexible, based on individual debriefing instructor preferences (e.g., level of instructor facilitation, approaches to debriefing). Addressing the elements of debriefing in preparation for each simulation debriefing can aid educators in anticipating and overcoming situational debriefing issues.

LIMITATIONS

The practical suggestions provided in this article’s Discussion aim to be useful with any simulation debriefing. Yet, it is possible that the methods and evaluations described in this review may not be appropriate for some situations. The current review is limited by the inclusion and exclusion criteria. For instance, the debriefing methods used outside of the simulated educational setting were not included in the review, but they warrant further examination. One area to explore is how clinical
postconferences compare with simulation debriefing practice and outcomes. Also, one additional debriefing instrument (the Debriefing Assessment Battery) was found that did not meet the inclusion criteria for this review, but it was mentioned to offer nurse educators and researchers a complete list of available instruments for debriefing. The Debriefing Assessment Battery (Dismukes, McDonnell, & Jobe, 2000) is used with flight simulation debriefing to assess instructor pilot and crew participation in the debriefing.

Although the current review was comprehensive, it is impossible to guarantee exhaustive lists of the methods, approaches, and elements of debriefing. The supplemental resources reported here are also not all inclusive, as this was not the primary focus of the review. Similarly, the aim of the review was not to examine studies of debriefing. Thus, the seven reports of research included in this review are not the only studies on simulation debriefing. Despite the limitations, the current review offers nurse educators and researchers a thorough and practical examination of the methods and evaluations for simulation debriefing. Furthermore, the clarified terminology is key to moving forward in practice and advancing the state of science on simulation debriefing in nursing education.

REFERENCES


### Table A

**Approaches to Use in Simulation Debriefing**

<table>
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<tr>
<th>Approach</th>
<th>Citation</th>
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<td><strong>Learning Objectives</strong></td>
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<td>Recall events</td>
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<td>Discuss feelings</td>
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<td>Explore meanings</td>
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<td>Behavior review</td>
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<td>Guided reflection</td>
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<td>Discussion</td>
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<td>Written answers</td>
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<td>Guidelines for writing technique</td>
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<td>Structured</td>
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<td>Lecture</td>
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<td>Johnson-Russell &amp; Bailey (2010)</td>
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<td>Inclusion of observers of the simulation experience</td>
<td>Anderson (n.d.)</td>
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Communication*  
- Tone of voice  
- Verbal and nonverbal cues  
- Attitude (praise, acceptance, empathy, nonjudgmental)  
- Silence  
- Listening  
- Styles and strategies (open-ended questions, circular, repeating, rephrasing/rewording, metaphors, advocacy/inquiry, plus/delta, good cop/bad cop, Socratic questioning)  

*Communication approaches include skills and strategies that may also be in oral or written forms of debriefing.

Note. Approaches can be used alone or in combination with each other. Some approaches include bullet points, with examples of the approach proposed in the literature; the examples are not all-inclusive lists. Refer to primary sources for descriptions of approaches.
### Table B

**Elements of Simulation Debriefing**

<table>
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<th>Element</th>
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<tr>
<td>Length of time for debriefing</td>
<td>Anderson (n.d.); Decker (2007); Decker &amp; Anderson (n.d.); Dreifuerst &amp; Decker (2012); Gururaja et al. (2008); Johnson-Russell &amp; Bailey (2010); Kriz (2010); Overstreet (2009); Reed (2012); Steinwachs (1992)</td>
<td>DES, DMLSQ, Debriefing Assessment Instrument</td>
</tr>
<tr>
<td>Physical environment</td>
<td>Anderson (n.d.); Decker (2007); Decker &amp; Anderson (n.d.); Dreifuerst &amp; Decker (2012); Fanning &amp; Gaba (2007); Flanagan (2008); Johnson-Russell &amp; Bailey (2010); Kriz (2010); Overstreet (2009); Reed (2012); Steinwachs (1992)</td>
<td>DASH, DES, OSAD</td>
</tr>
<tr>
<td>Faculty experience</td>
<td>Anderson (n.d.); Dreifuerst &amp; Decker (2012); Fanning &amp; Gaba (2007); Overstreet (2009)</td>
<td>DASH, DES, Debriefing Assessment Instrument</td>
</tr>
<tr>
<td>Faculty role</td>
<td>Decker (2007); Dieckmann, Molin Friis, Lippert, &amp; Østergaard (2009); Dreifuerst &amp; Decker (2012); Fanning &amp; Gaba (2007); Gururaja et al. (2008); Johnson-Russell &amp; Bailey (2010)</td>
<td>DASH, DES, OSAD, Debriefing Assessment Instrument</td>
</tr>
<tr>
<td>Student role</td>
<td>Gururaja et al. (2008); Johnson-Russell &amp; Bailey (2010)</td>
<td>DASH, DES, DMLSQ, OSAD, Debriefing Assessment Instrument</td>
</tr>
<tr>
<td>Atmosphere</td>
<td>Anderson (n.d.); Decker (2007); Flanagan (2008); Gururaja et al. (2008); Rall, Manser, &amp; Howard (2000); Wickers (2010)</td>
<td>DASH, OSAD, Debriefing Assessment Instrument</td>
</tr>
<tr>
<td>Objectives of the debriefing</td>
<td>Dreifuerst (2009); Gururaja et al. (2008); Johnson-Russell &amp; Bailey (2010)</td>
<td>DASH, OSAD, Debriefing Assessment Instrument</td>
</tr>
</tbody>
</table>
### Methods for debriefing

Anderson (n.d.); Cheng et al. (2012); Dreifuerst (2010); Flanagan (2008); Gururaja et al. (2008); Johnson-Russell & Bailey (2010); Kriz (2010); Kuiper et al. (2008); Lederman (1984); Lederman (1992); Lusk & Fater (2013); McClure & Gigliotti (2012); Owen & Follows (2006); Petranek (1994, 2000); Petranek et al (1992); Pivec (2011); Rudolph et al (2006); Rudolph et al. (2008); Stadsklev (2012); Steinwachs (1992); Thiagarajan (1992); Wilkinson (n.d.); Zigmont et al. (2011)

### Phases or steps in debriefing process

**Prebriefing**

- Decker & Anderson (n.d.); Flanagan (2008); Rall et al. (2000)

### Approaches to debriefing

See Table A for citations

### Means for evaluation

- **Formal**
- **Informal** (verbal student feedback, personal observations)

- Decker & Anderson (n.d.); Dreifuerst & Decker (2012); Fanning & Gaba (2007)

### Challenges to debriefing

- Related to instructor (support/resources, lecturing too much, interrogating, criticizing, belittling)
- Related to participant (angry, critical of others, upset/crying, international/cultural, generational, fidelity/realism, too much or little talking)

Anderson (n.d.); Flanagan (2008)

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*Note. DES = Debriefing Experience Scale; DMLSQ = Debriefing for Meaningful Learning Supplemental Questions; DASH© = Debriefing Assessment for Simulation in Healthcare; OSAD = Objective Structured Assessment of Debriefing; OPT = Outcome Present-State Test.*

*a Refer to primary sources of the methods citations for the phases or steps associated with each method.

*b See Table A for a list of approaches to simulation debriefing.