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Featured Article

The Promoting Excellence and Reflective Learning in Simulation (PEARLS) Approach to Health Care Debriefing: A Faculty Development Guide

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Abstract: The Promoting Excellence and Reflective Learning in Simulation (PEARLS) blended approach to debriefing encourages educators to purposefully merge various debriefing strategies to tailor discussion to learner needs and learning context. While debriefing is a key component to simulation-based education, few resources exist to promote implementation of specific debriefing approaches. In response to growing demands from simulation programs and facilitators wishing to teach the PEARLS approach to debriefing, we offer a collection of resources to serve as a faculty development guide for implementation of PEARLS. In this article, we discuss common pitfalls and associated solutions when using PEARLS to facilitate debriefings and offer a PEARLS debriefing checklist that can serve as a tool for providing peer feedback on debriefing performance.

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The growth of simulation as a key health care education modality has prompted the development of a number of different debriefing methods to meet various learning needs, along with research describing variations in debriefing design and delivery (Arafeh, Hansen, & Nichols, 2010; Cantrell, 2008; Cheng et al., 2014, 2013, 2016; Cheng, Palaganas, et al., 2015; Cheng, Rodgers, van der Jagt, Eppich, & O'Donnell, 2012; Decker et al., 2013;

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Dreifuerst, 2012; Eppich & Cheng, 2015b; Fanning & Gaba, 2007; Kolbe et al., 2013; Levett-Jones & Lapkin, 2014; Raemer et al., 2011; Rudolph, Simon, Rivard, Dufresne, & Raemer, 2007; Salas et al., 2008; Sawyer & Deering, 2013; Zigmont, Kappus, & Sudikoff, 2011). As a core element of the experiential learning process, debriefing provides learners opportunities to reflect on simulated clinical events and to identify and analyze (a) areas of strength and/or areas for improvement, (b) solutions to problems, and (c) applications to future clinical practice (Decker et al., 2013; Dismukes, Gaba, & Howard, 2006; Eppich & Cheng, 2015b; Rudolph, Simon, Dufresne, & Raemer, 2006; Rudolph, Simon, Raemer, & Eppich, 2008; Rudolph et al., 2007). While substantial work describes how effective debriefing facilitates learning (Cheng et al., 2014; Dreifuerst, 2009; Fanning & Gaba, 2007; Kolbe, Grande, & Spahn, 2015; Levett-Jones & Lapkin, 2014), a relative paucity of literature guides simulation educator faculty development in debriefing methodologies (Cheng, Grant, et al., 2015; Eppich & Cheng, 2015a, 2015b; Kessler, Cheng, & Mullan, 2015). Faculty development opportunities for debriefing include workshops at conferences, simulation educator courses, or more recently, advanced formal training in education (e.g., masters in simulation, masters in health professions education; Cheng, Grant, et al., 2015). While these are viable options for some, many programs do not have the resources to support facilitator training through methods involving costly travel or course fees. As a consequence, only a fraction of educators within some simulation programs have received formal training in debriefing, resulting in variable methods and/or quality of debriefing within individual programs.

Key Points

- Blending different debriefing strategies allows educators to tailor the discussion to learner needs and learning context.
- To teach PEARLS, facilitators must be aware of the common pitfalls, consequences, and associated solutions.
- The PEARLS debriefing checklist can be used to guide feedback on debriefing performance.

Standards of best practice for debriefing have been described by the International Nursing Association for Clinical Simulation, which highlight the importance of a structured framework for debriefing (Decker et al., 2013). Within a structured framework, various different strategies for debriefing exist and can be classified into three broad categories: (a) promoting learner self-assessment (Ahmed et al., 2013; Eppich & Cheng, 2015a, 2015b; Fanning & Gaba, 2007), (b) facilitating focused discussion to promote reflective learning (Cheng et al., 2012; Decker et al., 2013; Dreifuerst, 2012; Eppich & Cheng, 2015b; Kolbe et al., 2013; Rudolph et al., 2006, 2008, 2007), and (c) providing information in the form of directive feedback and/or focused teaching (Archer, 2010; Decker et al., 2013; Eppich & Cheng, 2015b; Eppich, Hunt, Duval-Arnould, Siddall, & Cheng, 2015; Hatala, Cook, Zendejas, Hamstra, & Brydges, 2014). Specific debriefing strategies within each of these three categories have relative benefits and shortcomings. In the Promoting Excellence And Reflective Learning in Simulation (PEARLS) blended debriefing approach, educators purposefully combine strategies for debriefing depending on learner type and expertise, learning objective(s), amount of time available, educator expertise, and other considerations that influence the effectiveness of specific debriefing strategies (Eppich & Cheng, 2015b). Although the PEARLS blended approach of debriefing has been described in the literature and taught at various workshops and courses around the world, individual simulation programs wishing to implement this method may lack resources or expertise to offer local simulation educator training in PEARLS.

In this article, we will refer to ''educator'' as those individuals who are learning how to apply PEARLS (i.e., the learner in a simulation educator course), and we use the term ''PEARLS facilitator'' for those individuals developing faculty within their program to apply the PEARLS approach (i.e., the facilitators in a simulation educator course). Our goal was to provide a comprehensive resource for simulation programs wishing to offer simulation educator training using the PEARLS blended debriefing approach. This article compliments the original PEARLS publication that describes the rationale and development of the PEARLS debriefing framework and accompanying debriefing script that serves as a practical cognitive aid (Eppich & Cheng, 2015b).

This faculty development guide has two parts. First, we provide a detailed phase-by-phase description of high-yield targets for faculty development, namely common pitfalls for each phase of the debriefing, potential impacts of less effective behaviors, and strategies to mitigate them. This article is a resource for facilitators teaching the PEARLS method in simulation educator courses. Second, we describe a checklist that facilitators can use as a faculty development tool to guide formative assessment of debriefing performance. Together, these resources represent a toolkit for simulation programs to teach and implement the PEARLS blended method of debriefing.

Applying the PEARLS Approach to Debriefing—Common Pitfalls and Solutions

Based on our collective experience teaching the PEARLS blended approach of debriefing in our own simulation programs and at dozens of conference workshops, we have identified common pitfalls within each phase of debriefing that have predictable and potentially undesirable

consequences. When beginning to teach PEARLS, facilitators may be challenged to identify these pitfalls and their consequences, thus limiting their ability to offer potential solutions. By describing these items in detail, we hope to heighten awareness of these issues and provide PEARLS facilitators with the information they need to identify and discuss these behaviors as they arise during debriefing practice sessions. Given the highly dynamic and sometimes unpredictable nature of debriefing, we recognize that it is not feasible to describe every pitfall encountered during a PEARLS debriefing. We also acknowledge the complexity of debriefing as it relates to debriefing in clinical environments (Kessler et al., 2015; Mullan, Kessler, & Cheng, 2014; Mullan, Wuestner, Kerr, Christopher, & Patel, 2013), codebriefing (Cheng, Palaganas, et al., 2015), with use of video (Grant, Dawkins, Molhook, Keltner, & Vance, 2014; Krogh, Bearman, & Nestel, 2015; Reed, Andrews, & Ravert, 2013; Savoldelli et al., 2006; Sawyer et al., 2012), and how these variables may potentially add other considerations when using PEARLS. For the purpose of this article, we will discuss how to prepare simulation educators to use the PEARLS debriefing approach for post-event debriefings in a single debriefer model (i.e., no codebriefer) without the use of video as a debriefing adjunct.

Reactions Phase

At the outset, the reactions phase sets the tone and context for the rest of the debriefing. Often, we have observed educators glossing over the learners' initial reactions and immediately moving onto their own agenda for the session. By allocating insufficient time for learners to share initial reactions to the simulated event, educators risk having unresolved negative emotions among learners (Fraser et al., 2012) or perhaps leaving learners feeling disengaged in the debriefing process (Fraser et al., 2014). Even when learners share true emotions (e.g., anger, frustration, anxiety) during the reactions phase, educators often completely miss (or ignore) them. Educators should aim to recognize and acknowledge learners' emotions when they surface and work toward understanding the underlying reasons triggering the emotional response (Eppich & Cheng, 2015b; Rudolph et al., 2007, 2013).

Some educators may, at times, feel obliged to dive into analysis of specific performance gaps before other learners have had an opportunity to share their initial reactions. This behavior may inadvertently truncate the reactions phase, as discussion generally then leads to further analysis of other related topics.

Finally, we often observe novice educators struggling to listen effectively while learners share their thoughts, resulting in missed opportunities to identify topics that are most important to learners. Solutions to these pitfalls require the educator to provide meaningful opportunity for all learners to share their emotions, validate and/or acknowledge issues as they arise and commit to exploring them during the debriefing, and provide a mini-summary of the issues shared by learners at the end of the reactions phase before proceeding to the next phase (Cheng et al., 2016). Table 1 outlines each of the pitfalls, consequences, and potential solutions for the reactions phase.

Description Phase

The description phase ensures that all learners and educators have a shared understanding of main elements of the scenario (Eppich & Cheng, 2015b). Skipping the description phase altogether may lead to situations where learners have different working diagnoses for a scenario (i.e., a shock case where some learners thought the issue was septic shock, while others thought it was cardiogenic shock), thus resulting in confusion for learners and educators alike during the analysis phase. Alternatively, some educators may engage only one learner in describing the working diagnosis of the case without confirming a shared understanding among all team members. Solutions to these issues include conducting a description phase in which learners confirm (or deny) a shared understanding of the case before proceeding to in-depth analysis of specific aspects of performance. Table 2 outlines the pitfalls, consequences, and solutions during the description phase.

Analysis Phase

While promoting *learner self-assessment* may seem relatively straightforward, we have observed several common pitfalls that result in missed learning opportunities during debriefing (Ahmed et al., 2013; Eppich & Cheng, 2015b; Sawyer & Deering, 2013). Many times, educators engage learners in self-assessment that quickly turns into an extensive listing of performance gaps, with no discussion of positive behaviors. Alternatively, educators who engage learners in self-assessment may successfully identify areas for improvement or areas where learners excelled but may devote inadequate time to closing performance gaps or supplementing learning (for both positive and undesirable behaviors) with their own pearls of wisdom. Sometimes, educators may intend to conduct a learner self-assessment but find themselves sidetracked into discussions about specific learning objectives that arise during the debriefing. When this occurs, educators should make a concerted effort to revisit the learner self-assessment exercise once discussion of a specific objective ends. Other possible solutions include selectively closing performance gaps with directive feedback and teaching when time is short, using focused facilitation strategies for specific issues identified during the self-assessment process that require further exploration/discussion when time is sufficient, and fully completing the self-assessment exercise (both positive behaviors and areas for improvement) with learners before diving into more detailed discussion for each specific issue (Table 3).

Table 1 Reactions Phase—Pitfalls, Consequences, and Solutions

Reactions Phase		
Pitfall	Likely Consequence(s)	Solutions
Educator does not allow each participant to share their emotions	One (or several) participants have emotions which may negatively impact debriefing at a later stage The participant who does not share his/her emotions may not be as engaged in the debriefing	Provide opportunity for participants to share their emotions Use open-ended questions directed to the group Use of silence and pauses allows opportunity for others to speak
Educator does not provide opportunity for all learners to share initial reactions (most vocal/extroverted personalities speak up while others silent)	Incomplete identification of key issues Quieter participants may withdraw from participation if not included	Use open-ended questions directed to the group Use of silence and pauses allows opportunity for others to speak Redirect questions to quieter group members
Educator moves directly into analysis phase when participant starts reactions phase by identifying performance gaps	Some learners may not have had opportunity to share their initial emotions/reactions The reactions phase is cut short, and discussion moves to analysis The educator misses out on identifying key items on the learner agenda	Educator should hold onto his/her own personal agenda loosely, placing priority on identifying the learner agenda during the reactions phase (and in other phases too) Encourage all learners to share initial thoughts before committing to discussing specific performance gaps
Educator fails to actively listen, thus missing out on key themes shared by learners	Educator fails to properly identify the learner agenda Learners feel disengaged, undervalued, and may be less likely to contribute to discussion	Create a "mental catalog" of the key identified issues that form the learner agenda Acknowledge issues as they arise and commit to exploring them further in the analysis portion of debriefing
Educator takes a prolonged period of time to complete reactions phase	Remainder of discussion time shortened	Focus and redirect learners on sharing initial reactions only Preplan the amount of time dedicated to the reactions phase

While many different methods of *focused facilitation* have been described, we focus our discussion in this section on advocacy—inquiry, the conversational strategy that is part of debriefing with good judgment (Rudolph et al., 2006, 2008, 2007). Facilitating reflective discussion using the advocacy—inquiry technique requires educators to state

Table 2 Description Phase—Pitfalls, Consequences, and Solutions

Descriptive Phase		
Pitfall	Likely Consequence(s)	Solutions
Educator skips descriptive phase	Participants are not on the same page for part/all the debriefing Some participants are confused and do not understand the context for specific parts of discussion	Conduct a descriptive phase when it is obvious that (or if you are unsure if) participants do not have a shared mental model for the case
Educator does not seek to confirm shared understanding of the case among learners	Learners may have a different understanding of what the case was about, resulting in potential confusion and/or tangential discussion during analysis phase	After one learner shares their impression of the case, ask for confirmation from other learners to ensure that they had a shared understanding
The educator shares his/her working diagnosis for the case without seeking the learners' perspective	Learners may have a different understanding of what the case was about, resulting in potential confusion during analysis phase	After one learner shares their impression of the case, ask for confirmation from other learners to ensure that they had a shared understanding

Table 3 Learner Self-Assessment (Analysis Phase)—Pitfalls, Consequences, and Solutions

Analysis Phase: Learner Self-Assessment (e.g., Plus-Delta)		
Pitfall	Likely Consequence(s)	Solutions
No discussion of positive behaviors	Opportunities to reinforce and discuss positive behaviors are missed	Educator purposefully engages learners in a discussion of positive behaviors
Educator allows participants to share what they did well and what they need to change but does not supplement learning with key teaching points	Opportunities to reinforce and augment positive and address negative behaviors are missed Participants' learning objectives are not met	Educator augments learning by reinforcing positive behaviors and providing additional teaching points for performance gaps that require improvement
Educator attempts to engage learners in self-assessment but is sidetracked into discussion of one specific learning objective	A full learner self-assessment, including both positive behaviors and opportunities for improvement, is not conducted	Generate a full list of positive behaviors and/or opportunities for learning before engaging in focused facilitation and discussion of specific performance gaps If discussion of one specific learning objective occurs in the midst of a learner self-assessment, then the educator should re-engage the learners in further self-assessment after the discussion of the specific objective is over
Educator engages learners in identifying performance gaps but does not take the opportunity to further explore these issues with focused facilitation	Discussion remains very superficial with few important take-home messages Learners do not appreciate the rationale for certain performance gaps	Educator selectively uses methods of focused facilitation depending on time available, type of performance gap, and whether the underlying rationale for the behavior is evident or clear

specific objective observations, share their point of view, and invite open inquiry to elicit learners' perspectives and rationale for action. The underlying rationale for action, or frame, is often determined by the learner's prior experiences, knowledge, assumptions, or perception of the event (Rudolph et al., 2006, 2007). Educators may struggle selecting the most appropriate context for using focused facilitation and as a result, engage in circular discussion with little contribution toward learning. Selectively applying focused facilitation when learners' rationale for specific behaviors is not clearly evident prevents this problem from arising (Eppich & Cheng, 2015b). Utilizing a vague or inaccurate observation as the basis for questioning can leave learners confused, potentially triggering defensiveness, or inadvertently invite responses that are misaligned with the intended focus of discussion (Brett-Fleegler et al., 2012). Often, educators do not include their point of view when formulating advocacy—inquiry statements, resulting in a ''read my mind'' type of question that leaves the learner trying to guess the educators' true motivation for asking the question (Rudolph et al., 2006, 2008, 2007).

When educators do not explore all learners' relevant frames for a given performance gap, they risk inadequately addressing each learner's specific learning need. In addition, educators may misunderstand the essence of the frame, which may lead to further discussion that is either irrelevant or unimportant. Finally, educators may struggle to close all relevant performance gaps, particularly when multiple frames are uncovered related to one specific observed performance gap (Brett-Fleegler et al., 2012). One approach to address these issues from arising is to review and follow the advocacy—inquiry template of the PEARLS debriefing script (Eppich & Cheng, 2015b) and to practice while receiving expert and/or peer feedback (Cheng, Grant, et al., 2015). Table 4 provides a detailed description of the solutions for each of the pitfalls described previously.

When *providing information via directive feedback or teaching*, simulation educators may stumble when they do not provide specific feedback focused on how the task might/should be done and when they do not couple their specific feedback with a rationale for change (Lefroy, Watling, Teunissen, & Brand, 2015). Learners who are *told what to do* without an explanation for *why they should do it that way* may be less receptive to feedback since they do not understand its importance or relevance; it may even trigger defensiveness. Another key pitfall is to offer directive feedback for performance gaps that may be better suited to exploration of the learners' rationale using focused facilitation and reflective learning (Eppich & Cheng, 2015b). Similarly, educators may dominate the debriefing by providing didactic teaching at the expense of active learner participation, with little to no positive reinforcement of key points done well (Lefroy et al., 2015). Specific feedback on performance ''should focus on the task, and not the individual'' (Archer, 2010) to highlight aspects

Table 4 Focused Facilitation with Advocacy—Inquiry (Analysis Phase)—Pitfalls, Consequences, and Solutions

Analysis Phase: Focused Facilitation		
Pitfall	Likely Consequence(s)	Solutions
The educator selects a performance gap or topic that is not well suited for focused facilitation	Learners are confused and/or disengaged with line of questioning The discussion becomes "circular" in nature, with the educator trying to uncover a frame that is obviously apparent (e.g., knowledge gap)	Selectively apply focused facilitation to those performance gaps where underlying frame/rationale is not immediately apparent or obvious
Educator does not use a specific, concrete observation as the basis for inquiry	Learners may disagree with observation (or the educator's interpretation of the observation), putting them on the defensive Learners may be disengaged from the discussion and/or line of questioning	Use a very specific, accurate, and concrete observation as the basis for inquiry Use phrases previously expressed by learners during the simulation or debriefing (i.e., "I heard you say earlier …") as the basis for inquiry
Educator does not share his/her point of view	Learners fail to appreciate the context of the question Learners' response does not address the facilitators' underlying concern or topic	The educator shares his point of view for each particular observed performance gap
Educator does not take the time to uncover the relevant frames of all the learners for a specific performance gap	Relevant frames are missed, resulting in lost learning opportunities Learners fail to appreciate all the variables that influence one specific behavior and/or outcome	The educator purposefully solicits input from all learners to uncover their frames for each discussed performance gap
Educator does not clarify his/her understanding of learner frames	Learner frames may be misunderstood or misinterpreted, resulting in discussion that does not address learner needs	Educator should summarize and/or clarify his/her understanding of learner frames before closing performance gaps
Educator successfully identifies one (or more) frames but does not appropriately close all relevant performance gaps	Learner needs are not addressed during debriefing Relevant frames are hanging without further discussion, resulting in missed learning opportunities	All relevant frames should be addressed through discussion or teaching Educator may close performance gaps by engaging learners in identifying solutions or by providing solutions via feedback or teaching
Educator does not generalize learning to other contexts	Learning is limited to the specific context that was discussed during the debriefing Learners are unable to appreciate how take-home messages can be applied in other similar contexts	Educators should attempt to (when appropriate) generalize key learning points to other contexts

that learners can change. We encourage educators to be thoughtful about the performance gaps best suited to directive feedback (i.e., when the rationale for behavior is clearly evident), to provide both positive and constructive feedback, and to include a ''because'' statement as part of their feedback conversation that highlights the reasons for change. (i.e., ''You should check both central and peripheral capillary refill in patients with suspected shock *because* exposure to cold temperature can cause peripheral capillary refill to be delayed''). Table 5 outlines the pitfalls, consequences, and solutions when providing feedback during the analysis phase.

Summary Phase

Few novice educators save enough time for a proper summary phase, where learners are provided opportunity to share what they have learned. Ideally, the educator should aim to conduct a learner-centered summary phase, where each learner is asked to provide one or two key take-home messages (Cheng et al., 2016). Without a learner-centered summary phase, educators are unable to verify if learners have received and assimilated key learning objectives. Thus, educators should recognize the importance of the summary phase and allocate their time accordingly during the debriefing to allow for summary to occur (Table 6).

Facilitating Feedback on Debriefing Performance

To provide effective feedback on debriefing performance, PEARLS facilitators must be familiar with the debriefing process and be able to consistently detect flaws in

Table 5 Directive Feedback and Teaching (Analysis Phase)—Pitfalls, Consequences, and Solutions

Analysis Phase: Directive Feedback		
Pitfall	Likely Consequence(s)	Solutions
Educator selects a performance gap or issue that is not appropriate for directive feedback	Learning issues are not adequately addressed Learners may become disengaged in discussion	Educator appropriately selects the use of directive feedback for knowledge deficits or technical issues
Educator does not provide specific feedback on how the task might/should be done	Learning issues are not adequately addressed Learners may become disengaged in discussion	Feedback provided should be specific to the task and context
Educator does not share reasoning when providing directive feedback	Learners are less responsive to feedback Learners feel defensive	Educator shares reasoning when offering solutions by adding a "because" statement to each feedback statement
Educator focuses on the individual, rather than the task, when providing feedback	Learner feels defensive and as a result, may not receive and assimilate feedback Learner may become disengaged in further discussion	Educator should focus on the task, rather than the individual, by using generalizing statements or discussing the task in the context of team performance

questioning, paired with suggestions for improvement. To assist PEARLS facilitators in providing peer feedback, we have developed a PEARLS debriefing checklist designed to identify gaps in the process of a blended method debriefing and serve as a guide for formative assessment (Table 7). The authors of this article developed the checklist using an iterative process, including (a) reviewing debriefing literature, (b) collating our collective experience with the PEARLS approach to debriefing, (c) matching items on the PEARLS script to those on the PEARLS checklist, (d) pilot testing the checklist, and (e) finalizing the checklist through approval by the authorship group. In contrast to other debriefing assessment tools such as the Debriefing Assessment for Simulation in Healthcare (Brett-Fleegler et al., 2012) and the Objective Structured Assessment of Debriefing (Arora et al., 2012), the PEARLS debriefing checklist is not a debriefing quality assessment instrument. Rather, our intent is for PEARLS facilitators to use the checklist as they observe educators conduct a debriefing and which can then be referenced when peer feedback is being given.

The PEARLS Debriefing Checklist

The checklist follows each phase of the PEARLS blended approach to debriefing, with the Reactions, Description, Analysis, and Summary phase forming different sections of the checklist. With each section, PEARLS facilitators are encouraged to *write exactly how the lead-in question was phrased* on a separate piece of paper. This will allow for an objective reference point when discussing the process of debriefing with the educators. For each phase, there

Table 6 Summary Phase—Pitfalls, Consequences, and Solutions

Summary Phase		
Pitfall	Likely Consequence(s)	Solutions
Educator does not save enough time for a learner-centered summary	The participants does not share what they have learned The facilitator is unable to verify that participants have received and assimilated key learning objectives	Educator should allocate sufficient time for a learner-centered summary
Educator allows further discussion and analysis of performance gaps to occur during summary phase	Summary of key learning points does not occur or is truncated	Educator should preview the summary phase to prevent further analysis from occurring
Educator conducts a summary phase but does not add his/her own take home messages	Key take-home messages may not be conveyed	Once learners have had the opportunity to share their own key learning points, the educator should share his/her own key take-home messages

Table 7 Promoting Excellence and Reflective Learning in Simulation (PEARLS) Debriefing Checklist

Task	Completed?			
Reactions phase				
Asks open-ended question to solicit initial reactions/emotions	Y	P	N	N/A
Provides sufficient opportunity for all learners to share initial reactions/emotions	Y	P	N	N/A
Acknowledges issues for discussion as they arise and commits to exploring them in the analysis phase	Y	P	N	N/A
Summarizes key themes shared by learners during the reactions phase before proceeding to the next phase	Y	P	N	N/A
Addresses emotional needs of learners	Y	P	N	N/A
Description phase				
Asks question to determine working diagnosis/key issues for the case	Y	P	N	N/A
Asks question to determine if all learners had a shared common understanding of the case	Y	P	N	N/A
Analysis phase				
Focused facilitation (advocacy—inquiry)				
Selects appropriate performance gap for focused facilitation	Y	P	N	N/A
Uses specific and accurate observation of an action, interaction, or previous comment from a learner as the basis for inquiry	Y	P	N	N/A
Pairs personal point of view with observation	Y	P	N	N/A
Asks open-ended question to solicit learner frames	Y	P	N	N/A
Provides opportunity for all learners to share their frame(s)	Y	P	N	N/A
Clarifies understanding of learner frame(s) by paraphrasing	Y	P	N	N/A
Closes performance gap for each frame	Y	P	N	N/A
Generalizes to learning to other contexts	Y	P	N	N/A
Learner self-assessment (plus-delta)				
Engages learners in a self-assessment of positive behaviors	Y	P	N	N/A
Engages learners in a self-assessment of areas for improvement	Y	P	N	N/A
Explores specific issues using focused facilitation	Y	P	N	N/A
Reinforces positive behaviors and supplements learning	Y	P	N	N/A
Closes all performance gaps (areas for improvement)	Y	P	N	N/A
Directive feedback and teaching				
Selects appropriate performance gap for feedback	Y	P	N	N/A
Uses specific observation as basis for feedback	Y	P	N	N/A
Provides suggestion for change or improvement	Y	P	N	N/A
Provides rationale for suggested change/improvement	Y	P	N	N/A
Feedback focuses on the task, not the individual	Y	P	N	N/A
Summary phase				
Protects sufficient time to conduct a summary phase	Y	P	N	N/A
Asks learners for a summary of key take-home messages	Y	P	N	N/A
Educator summarizes key take-home messages if time is short	Y	P	N	N/A

For each task above, please circle: Y if task was completed successfully; P if the task was partially completed/sometimes completed; N if task was not completed; and N/A if task was not applicable for the debriefing.

are then a series of tasks, each of which is either completed (Y), partially (or sometimes) completed (P), not completed (N), or not applicable (N/A). PEARLS facilitators should attempt to assess completeness of each task.

The analysis phase of the checklist is broken down into three subsections, representing focused facilitation, learner self-assessment, and directive feedback and teaching. These subsections of the checklist may be used to assess the entire debriefing performance as a whole, or they may be used to assess part of the debriefing or a specific line of questioning. For the latter, PEARLS facilitators will need to print out multiple copies of the focused facilitation and directive feedback and teaching subsections, as each series of tasks is meant to assess a line of questioning addressing only one performance gap. For example, the five tasks assigned to directive feedback and teaching should be completed *each time* directive feedback is given for a different performance gap.

Summary and Future Directions

In the article, we provide resources for PEARLS facilitators wishing to implement the PEARLS blended approach to debriefing within their simulation programs. The tables serve as a reference for PEARLS facilitators to identify common pitfalls in the debriefing process and their

associated solutions, while the PEARLS debriefing checklist can be used to facilitate peer feedback. We recommend using these resources as educational adjuncts during simulation educator debriefing courses and/or on a regular basis to provide peer feedback that can promote continuing development of debriefing skills. Future research should explore the educational benefit of the PEARLS debriefing checklist when used in various different contexts.

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