Does a Written Tool to Guide Structured Debriefing Improve Discourse? Implications for Interprofessional Team Simulation

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PURPOSE: Timely debriefing following a simulated event supports learners in critically reflecting on their performance and areas for improvement. Content of debriefing has been shown to affect learner skill acquisition and retention. The use of good judgment statements from debriefing facilitators is considered superior to judgmental or nonjudgmental statements. Ideally, the majority of the conversation will consist of learner self-reflection and focused facilitation rather than directive performance feedback. We hypothesized that the introduction of a written tool to help facilitate high-quality debriefing techniques could improve the ratio of judgmental, nonjudgmental, and good judgment statements from facilitators, as well as shift the percentage of talk in the debrief away from directive performance feedback and toward self-assessment and focused facilitation.

METHODS: The University of Wisconsin Joint Trauma Simulation Program is an interdisciplinary project to improve quality of trauma care through simulation. Simulations use teams of five trauma trainees: two surgery residents, an emergency medicine resident, and two nurses. Three faculty members conducted the scenarios and debriefings. Debriefings were video recorded.

Videos were transcribed and dialogue analyzed according to the teaching/learning strategy used in each turn of talk. Discourse was coded into three categories: (1) learner self-assessment; (2) focused facilitation; and (3) directive performance feedback. Each facilitation statement was coded as either (1) judgmental; (2) nonjudgmental, or (3) good judgment.

The TEAM Debrief Tool is a written guide designed to help facilitators adhere to best practices, with example structure and phrasing, similar to the Promoting Excellence and Reflective Learning in Simulation tool. Pre-and post-implementation analysis was completed to assess for efficacy of the tool.

RESULTS: Seven videos before the implementation of the tool and seven videos after implementation were analyzed. The percentage of learner self-assessment increased significantly with tool use (7.23% vs 24.99%, p = 0.00004), and directive performance feedback decreased significantly (56.13% vs 32.75%, p = 0.0042). There was no significant change in the percentage of talk using focused facilitation. After implementation of the tool, there was a significant decrease in use of the nonjudgmental debriefing style (60.63% vs 37.31%, p = 0.00017), and a significant increase in the use of good judgment debriefing (38.77% vs 59.82%, p = 0.00038). There was also a slight increase in judgmental debriefing (0.60% vs 2.87%, p = 0.0027).

CONCLUSIONS: The discourse in our interprofessional trauma simulation debriefings unaided by a written debriefing tool skewed heavily toward direct performance feedback, with a preponderance of nonjudgmental statements. After introduction of the tool, dialogue shifted significantly toward learner self-assessment, and there was a large increase in utilization of debriefing with good judgment.
This shift toward higher quality debriefing styles demonstrates the utility of such a tool in the debriefing of interprofessional simulations. (J Surg Ed 75:e240–e245. © 2018 Association of Program Directors in Surgery. Published by Elsevier Inc. All rights reserved.)

**KEY WORDS:** simulation, debriefing, discourse, interprofessional

**COMPETENCIES:** Interpersonal and Communication Skills, Practice-Based Learning and Improvement, Systems-Based Practice

**INTRODUCTION**

In simulation-based clinical education, the post-simulation debriefing session has long been identified as a critical learning opportunity.1 Timely debriefing following a simulated event supports learners in critically reflecting on their performance and areas for improvement.2,3 Content of debriefing has been shown to affect learner skill acquisition and retention4 and helps translate experiences into learning through self-reflection.4

The discourse of debriefing has been extensively discussed, and different techniques and strategies to improve learner outcomes have been described.5–8 Generally, the more effective techniques require greater skill and experience on the part of the debriefer. While simulation education has become a common teaching tool, many facilitators lack the training or experience to effectively lead debriefing sessions.9,10 Facilitators who lack proper training can negatively impact the debriefing process, further impeding the learning process.1,5

The Promoting Excellence and Reflective Learning in Simulation (PEARLS) framework uses a written tool to aid the facilitator in the incorporation of educational strategies into the debriefing discourse.6 However, the effectiveness of a scripted debriefing tool, such as the PEARLS written tool, in shaping facilitator-learner discourse has not been previously objectively assessed.

We hypothesized that the introduction of a written tool to help facilitate high-quality debriefing techniques could improve the quality of discourse in simulation debriefings by altering the content of statements from facilitators. We also hypothesized that it would shift the conversation in the debrief away from directive performance feedback and toward self-assessment and focused facilitation.

**METHODS**

The University of Wisconsin Joint Trauma Simulation Program is an interdisciplinary project to improve quality of trauma care through simulation. Simulations use teams of five trauma trainees: two surgery residents, an emergency medicine resident, and two emergency medicine nurses. Eight standardized trauma scenarios have been developed. Some residents and nurses participate in more than one session, but the scenarios used are changed so that no team member performs the same scenario twice. Each team participates in two scenarios during the hour-long session, with formal debriefing occurring after the first scenario. Following the second scenario, a subsequent short debriefing is facilitated in order to reflect on any changes in performance. The TEAM Tool was not used during these brief final debriefings, and they were not included in our analysis. Our learning objectives focus primarily on improving communication in an interprofessional team. Three faculty members facilitate the scenarios and conduct the debriefings—one Surgery Attending, one Emergency Medicine Attending, and a senior Emergency Medicine Nurse. All faculty have varying levels of experience in debriefing simulations, ranging from total novice to expert. None of our participants experienced the use of the tool more than once. Debriefings were video and audio recorded.

The TEAM Debrief Tool (Fig. 1) is a written guide designed to help facilitators adhere to best practices, with example structure and phrasing, similar to the PEARLS tool.6 Creation of the TEAM Debrief Tool included expert review of 13 videotaped debriefing sessions. Expert analysis was completed with the following constructs: current debriefing best practices, the simulation sessions’ overall goal and objectives, and the level of expertise of the faculty leading the sessions.12-16 The tool was adapted from the PEARLS scripted debrief tool, but deliberately incorporating more direction for facilitators, and scripted questions to better address the specific objectives of our sessions. The tool was trialed over a two-month period and feedback was solicited within the areas of ease of use, content covered, and the helpfulness of the tool. From this information the tool was revised to increase the ease of use for facilitators with minimal training and to be more explicit on the objectives specific to training scenarios. With the revised tool, the interprofessional teams of facilitators were oriented to the tool before its implementation so that they would be familiar with its purpose and use. Seven videos before the implementation of the tool and seven videos after implementation were analyzed.

Content of debriefing can be analyzed in several ways. One method characterizes debriefing discourse by dividing facilitator statements into three broad categories: (1) judgmental, (2) nonjudgmental, and (3) good judgment (Table).5 Good judgment debriefing, known as Advocacy—Inquiry, allows the facilitator to share their own
perspectives while also exploring learner perspectives through the use of objective observations. The use of good judgment statements from debriefing facilitators is considered superior to judgmental or nonjudgmental statements, as they improve learner self-reflection and encourage discussion.5

Another method of assessing the content of debriefing is to categorize facilitator statements as using a learning strategy of either directive feedback, learner self-assessment, or facilitated discussion.6 Directive feedback includes prescriptive statements from facilitators without seeking learner input. Learner self-assessment occurs when learners reflect upon their own performance, which is a critical step in effective adult learning.8 Facilitated discussion describes the engagement of the facilitator with the learners to explore causes and solutions to problematic performance.

Videos of debriefing were transcribed, and dialogue analyzed according to the teaching/learning strategy used in each turn of talk. Turns of talk were coded into three categories: (1) learner self-assessment; (2) focused facilitation; and (3) directive performance feedback. Each facilitation statement was coded as either (1) judgmental; (2) nonjudgmental, or (3) good judgment.

Two research assistants coded the transcripts of the debriefings. Excellent interrater reliability was achieved, with a Cohen’s Kappa of \( \kappa = 0.87 \) for learning strategy codes, and \( \kappa = 0.97 \) for method of debriefing codes. Disagreements were resolved through discussion.

<table>
<thead>
<tr>
<th>Debriefing method</th>
<th>Features</th>
<th>Example</th>
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<tbody>
<tr>
<td>Judgmental</td>
<td>Aggressive and correctional; does not seek learner input</td>
<td>“You took too long to intubate.”</td>
</tr>
<tr>
<td>Nonjudgmental</td>
<td>Noncommittal; does not provide facilitator input</td>
<td>“Was there anything you would have done differently about the intubation?”</td>
</tr>
<tr>
<td>Good judgment</td>
<td>Facilitator shares perspective while soliciting learner perspective</td>
<td>“I noticed that the patient was apneic for a full minute before intubation. I am concerned that a delay can lead to hypoxia and other complications. Can you walk me through your thought process during that time?”</td>
</tr>
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RESULTS

The percentage of learner self-assessment increased significantly after implementation of the tool (7.23% before vs 24.99% after, $p = 0.00004$), and directive performance feedback decreased significantly (56.13% vs 32.75%, $p = 0.0042$). There was no significant change in the percentage of talk using focused facilitation (Fig. 2). After implementation of the tool, there was a significant decrease in use of the nonjudgmental debriefing style (60.63% vs 37.31%, $p = 0.00017$), and a significant increase in the use of good judgment debriefing (38.77% vs 59.82%, $p = 0.00038$). There was also a slight increase in judgmental debriefing (0.60% vs 2.87%, $p = 0.0027$) (Fig. 3).

DISCUSSION

The discourse in our interprofessional trauma simulation debriefings unaided by a written debriefing tool skewed heavily toward direct performance feedback, with a preponderance of nonjudgmental statements. Because the goal of our simulation sessions was to improve communication, direct performance feedback was less desirable as it tends to focus on technical skills.6 Similarly, nonjudgmental statements by facilitators are recognized as being confusing for learners and fail to present the objectives and frameworks of the facilitators.5 It is clear from pre-implementation data that there was room for improvement in the discourse facilitated during the debriefing sessions, whether this phenomena was caused by a lack of debriefing expertise or failure to adhere to debriefing best practices.

After introduction of the tool, dialogue shifted significantly toward learner self-assessment (Fig. 2). Self-assessment is a preferred method of engaging adult learners and a key component of debriefing.1 Current literature points to direct performance feedback as useful in guiding performance-based objectives, leading to future performance changes in learners.6 However, it is not an appropriate debriefing model in simulations with teamwork focused objectives.5,6 Before implementation of the tool, the conversation was dominated by direct performance feedback of discussion (over 56%). The shift away from this toward learner self-assessment should result in better engagement of learners and improved overall discourse. Interestingly, there was no change in the amount of focused facilitation occurring in the sessions. This could be the result of the design of the TEAM tool, which focuses on soliciting self-assessment from the learners (Fig. 1) and does not necessarily prompt the facilitator to use focused facilitation statements.

There was also a large increase in utilization of debriefing with good judgment. This shift toward higher quality debriefing styles demonstrates the utility of such a tool in the debriefing of interprofessional simulations. However, there was also a small but significant increase in the amount of judgmental statements, which are considered to be the least useful style of debriefing.17 It has been suggested that the difficulty of using the more complicated debriefing with good judgment can lead to errors by facilitators, 18 so it is possible that attempts to utilize good judgment statements led to facilitators making judgmental statements that they may not have made without the use of the tool. Still, the overall percentage of judgmental statements remained quite low (less than 3%). The detrimental impact of this increase in judgmental statements when compared with the potential benefit of the much larger decrease in nonjudgmental statements is likely small.

A similarly modified PEARLS tool has been previously shown to improve learner performance in subsequent simulations.19 However, no prior studies have objectively assessed the effect that such a written tool has on shaping the discourse and facilitator-learner interactions.
conversation during debriefing. Despite a mix of different levels of expertise among our facilitators, there was significant improvement in the quality of the statements made by facilitators with the introduction of such a tool. There was also a significant increase in learner self-reflection and focused facilitation. While our tool was tailored specifically to our learning objectives, it would be straightforward for other educators to create similar debriefing tools to meet their own goals.

This study does have several limitations. Our sample sizes were small. Only seven debriefing sessions were included in each of the pre- and post-implementation groups. Still, despite the small sizes, we saw significant changes in discourse. It is possible that the small sample sizes underestimated the effect of the tool. There was also no way to blind either the facilitators to which sessions used the debriefing tool and which did not. This could have led to bias in several ways. The facilitators may have made more concerted efforts to utilize higher quality debriefing discourse due to the Hawthorne effect. It is also possible that the facilitators may have simply improved and refined their ability to facilitate debriefings due to having more experience at the time the tool was implemented. The variance in facilitators’ debriefing skill level along with sessions being led by an interprofessional team of faculty made it hard to draw inferences on whether one individual facilitator improved their debriefing skills or whether the group collectively improved with tool implementation. Because coders had access to video of debrief sessions and the tool was identified in the debriefs, coders were also unblinded. This may have led to bias in coding statements. The excellent inter-rater reliability we observed makes this less likely. Coders may have also had an unconscious bias to prove the hypothesis, but the high degree of significance noted makes this less likely. None of our participants experienced the use of the tool multiple times. It is possible that future exposure to facilitation with the tool could lead to either improvement or degradation of discourse with repeated use. Future studies’ aims could address these limitations by increasing the number of participants and sessions, blinding raters, comparing future sessions, and assessing the skill level of learners using the tool in comparison with learners participating in sessions with experienced debriefers.

**CONCLUSION**

While this is a small study, it does demonstrate the potential of utilizing structured debriefing tools in facilitating discourse in simulation education. Written tools have been in use for several years, but to our knowledge, this is the first objective assessment of the efficacy of such a tool on affecting discourse and content of conversation during debriefing sessions. The impressive effect that this tool had on shaping discourse should lead to simulation educators considering implementing a similar tool in their own debriefing practice.

**REFERENCES**


11. Nehring WM, Wexler T, Hughes F, Greenwell A. Faculty development for the use of high-fidelity...


**SUPPLEMENTARY INFORMATION**

Supplementary data associated with this article can be found in the online version, at doi:10.1016/j.jsurg.2018.07.001.