Use of the Delphi Technique in Instrument Development to Assess Debriefing Facilitation

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An essential part of the simulation experience is the debriefing, where most of the learning occurs (Arafeh, Hansen & Nichols, 2010). A skilled debriefer guides learners in transferring their experience into clinical practice. There are tools to evaluate faculty effectiveness in classroom teaching however these concepts have not been applied to debriefing.

To meet this need the authors developed an instrument to assess the effectiveness of a debriefing following a patient clinical simulation. The PADI was based on current scientific literature in effective debriefing and peer review methodology. (Paulsen, 2002).

A two phase process was used to develop the PADI:
- Phase 1- instrument development and content validity was established using the Delphi technique.
- Phase 2-inter rater reliability was established.

**Phase 1: Delphi Technique**

- **Goal:** To establish consensus for content validity and utility of the PADI
- Delphi technique was selected because
  - it is acceptable in healthcare research and education (when there is a lack of empirical evidence (Powell, 2003; Vernon, 2009)
  - it is cost effective method to generate ideas and facilitate consensus among individuals who may be geographically distant (Polit & Beck, 2008).

Participants:
- A group of experts in debriefing and education were invited to participate in the panel. Experts reviewed and provided feedback on the debriefing assessment tool using a survey on Qualtrics, LLC©
- Initially 20 experts invited: 11 consented and 7 (64%) completed Round I; An additional 5 experts in academia were invited and 4 agreed. Of these 15 consented participants, 11 (73%) completed Round II and 9 (60%) completed Round III.

**PADI: Peer Assessment Debriefing Instrument**

- **Peer Assessment Debriefing Instrument (PADI) is a peer review tool with two main parts.**
  - **Pre-Assessment of the Simulation Experience:** self-assessment of debriefer’s own debriefing skills, completed by the debriefer and given to the peer-evaluator prior to the observation
    - provides general information about the simulation
    - allows the debriefer to identify areas in which he or she wishes to receive specific feedback
  - **Post-Debriefing Evaluation (Self and Peer Assessment):** assessment of the various aspects of conducting a debriefing: completed by both the peer evaluator during the simulation and the debriefer after the debriefing.
    - Under each of 8 areas, PADI has four to eight elements for scoring the debriefer. Using a 4-point scale, the debriefing experience is evaluated (1–4) based on the percentage completed by the debriefer for each area.
    - PADI serves as basis for discussion between peer-evaluator and debriefer

**Structure and Organization of the Debriefing**

- Sets up the debriefing environment before the simulation
- Adheres to the schedule for debriefing or adjusts the schedule as appropriate
- Allows time for dealing with the emotional aspects of the simulation
- Allows time for recap of simulation scenario
- Allows time for analysis
- Allows time for learners to connect knowledge to practice
- Allows time for learners to reflect in their actions and make independent interpretations of their performance
- Allows time for summary and conclusion
- Finishes any evaluative paperwork and forwards to appropriate parties

**Debriefer completed above elements at:**

- <25% level
- 25-49% level
- 50-74% level
- >75% level
- N/A

**Comments**

**Delphi Process**

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**Phase 2: Inter-rater Reliability**

- Upon completion of the Delphi Rounds, the PADI’s inter-rater reliability was evaluated using Interclass correlation coefficients (ICC).
- To evaluate inter-rater reliability, three debriefing video vignettes were developed to illustrate different performance levels of a debriefer’s debriefing proficiency. Using the PADI, the researchers viewed the videos and reached a consensus on rating the debriefer.
- Five experts were identified by simulation and debriefing experience > 5 years and identified within their respective settings as expert debriefing practitioners. Clinical expertise: emergency nursing, nursing education, radiation oncology, neonatology, and medical education.
- The five experts received a half-day education session to learn how to use the PADI. Experts reviewed the debriefing session videos and completed the PADI independently. To simulate a live debriefing session, the experts reviewed each video without discussion between videos. After all three videos were completed; the researchers reviewed each video and provided the ‘real score’ and its rationale. Finally, the experts provided initial feedback on the tool.
- The inter-rater reliability for the average measures was ICC = .973, and for the single measure ICC = .818.

**Results**

- Initial version of the PADI has excellent inter-rater reliability.
- PADI may be useful
  - to guide novice, experienced and expert debriefers in the debriefing process
  - to provide a peer-review of the debriefing process across healthcare disciplines.
- Faculty can use the PADI to
  - self assess areas of debriefing on which they would explicitly like to receive feedback
  - participate in self and peer assessment that includes observation by a peer evaluator; observation is followed by a conversation which allows the peer evaluator to serve as a consultant to the benefit of the debriefee’s professional development
  - triangulate their intended performance and outcomes
  - demonstrate ongoing quality improvement (regardless of experience level)

**References**

- Paulsen MB. Evaluating teaching performance. New Directions for Institutional Research 2002;114:15-18