



Assess and Improve Debriefing Skills Using the Revised Debriefing for Meaningful Learning Evaluation Scale

Cynthia Sherraden Bradley PhD, RN, CNE, CHSE, University of Minnesota | Brandon Kyle Johnson PhD, RN, CHSE, TTUHSC
Kristina Thomas Dreifuerst PhD, RN, CNE, ANEF, FAAN Marquette University | Aimee Woda PhD, RN, BC, Marquette University
Jamie Hansen PhD, RN, CNE, Carroll University | Ann Loomis PhD, RN, CNEcL, Purdue University

Purpose

The original Debriefing for Meaningful Learning Evaluation Scale (DMLES) was modified into a 20-item behavioral rating scale to be used for assessment by self or a peer. The aim of this study was to psychometrically test the revised 20-item scale.

Background

The DMLES was first developed to begin to investigate how debriefers use DML:

- **DMLES** (Bradley & Dreifuerst, 2016)
 - Cronbach's alpha = 0.88
 - IRR (0.86, total scale ICC [p<.01]
 - Scale-level CVI 0.92
- **DMLI** (Bradley, 2018)
 - Confirmatory factor analysis supported a six-class model

Growth in simulation pedagogy impacted the need for a more precise measure of DML behaviors to formatively assess debriefing skills:

- NCSBN National Simulation Study methodology (Alexander et al., 2015)
- INACSL Standards of Best Practice
- Regulation of the use of simulation & debriefing (Bradley et al., 2019)
- Increased use of simulation and debriefing across nursing education (Smiley, 2019)
- Curricular stakeholder changes Next Generation NCLEX (NCSBN, 2020)
- AACN vision statement that calls for an increase in alternate learning opportunities such as simulation (AACN, 2019).

Method

DMLES Item Revision Process

Six nurse educators with DML expertise revised the 31 DMLES items into 20 items that can be used for self-assessment and observational assessment. Considerations during the revision process included:

- Language of the DMLI items
- Current DML training materials
- Anecdotal knowledge of current DML use
- Feedback from DML users

Sample

The sample consisted of nurse educators (n = 19) who facilitated debriefing with prelicensure baccalaureate students in two Midwest universities.

Procedure

Participants were trained in a 4-hour DML training, then each facilitated a DML debriefing with prelicensure nursing students following a hyperglycemia simulation in a junior level medical-surgical course. Debriefings were recorded, then 3 recordings were viewed by the research team and rated with the revised DMLES. A process ensued of observation, item language revision, and behavioral anchor development to make the abstract behaviors described in each item observably measurable. This process ensued until there was agreement among the raters on each of the 20 items and associated anchors for final testing of the scale.

Results

Interrater reliability is a measure of consistency between two or more independent raters (DeVellis, 2016). Kendall's Coefficient of Concordance measures the agreement between multiple raters for ranked data, representing the ratio of variability of total ratings for ranked entities to the maximum variability possible ranging from no agreement (W = 0) to complete agreement (W = 1). The DMLES data demonstrated agreement between the raters for five videos.

	Kendall's Coefficient of Concordance (W)
Video A	W = 1.0, p < 0.001
Video B	W = 0.68, p < 0.001
Video C	W=0.67, p < 0.001
Video D	W = 0.51, p < 0.001
Video E	W = 0.874, p < 0.001

Conclusions

Reliability and validity are not fixed properties of an instrument, but are the interaction among the instrument, the setting and circumstance, and the individuals being assessed. The revised DMLES demonstrated evidence of reliability during this study, thus providing a means for assessing debriefing behaviors, which strengthens the body of research in behavioral measurement, supports debriefing training, and contributes a tested instrument for faculty development and program improvement.

References

Alexander, M., Durham, C. F., Hooper, J. I., Jeffries, P. R., Goldman, N., Kardong-Edgren, S., Kesten, K. S., Spector, N., Tagliareni, E., Radtke, B., & Tillman, C. (2015). NCSBN simulation guidelines for prelicensure nursing programs. *Journal of Nursing Regulation, 6*(3), 39-42.

Bradley, C. S. (2018). Confirmatory factor analysis of the debriefing for meaningful learning inventory. *Clinical Simulation in Nursing, 14*, 15-20

Bradley, C. S., & Dreifuerst, K. T. (2016). Pilot testing the Debriefing for Meaningful Learning Evaluation Scale. *Clinical Simulation in Nursing, 12*(7), 277-280.

DeVellis, R. F. (2016). *Scale development: Theory and applications* (Vol. 26). Sage publications.

Dreifuerst, K. T. (2012). Using debriefing for meaningful learning to foster development of clinical reasoning in simulation. *Journal of Nursing Education, 51*(6), 326-333.

Smiley, R. A. (2019). Survey of Simulation Use in Prelicensure Nursing Programs: Changes and Advancements, 2010–2017. *Journal of Nursing Regulation, 9*(4), 48-61.

Acknowledgements

This research was supported by the National League for Nursing Ruth J. Corcoran Research Award.