

## **Nursing Education Research Conference 2020**

### **The DMLES: An Instrument to Assess Competence in Debriefing for Meaningful Learning** **Cynthia Sherraden Bradley, PhD, RN, CNE, CHSE<sup>1</sup>**

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#### **Purpose:**

Formal training in a theory-based debriefing method followed by competence assessment has been recommended by nursing regulatory bodies because of the significance of debriefing in simulation (Alexander et al., 2015; INACSL Standards Committee, 2016; NLN Board of Governors, 2015). However, descriptions of necessary training and how to assess debriefing competence are lacking. Valid and reliable instruments that assess debriefing behaviors are essential for these criteria to be established.

Debriefing for Meaningful Learning (DML) is a debriefing method that helps students apply nursing knowledge and skills (Researcher, 2018), promotes the development of clinical reasoning (Forneris et al., 2015), and deepens learning by cultivating reflective thinking (Researcher, 2015). Although DML has been adopted for use nationally and internationally, it cannot be assumed that a debriefer would use the method competently despite receiving training (Jeffries et al., 2015) and there is no benchmark for competence (Researcher, 2019).

The Debriefing for Meaningful Learning Evaluation Scale (DMLES) was developed as a 31-item behavioral observational rating scale that assesses the application of DML (Researcher & Researcher, 2016). The DMLES demonstrated internal consistency (Cronbach's alpha = 0.88), interrater reliability (0.86, total scale ICC [ $p < .01$ ], and content validity (scale-level CVI 0.92). It was modified first into the 57-item Debriefing for Meaningful Learning Inventory (DMLI), a self-report measure of a debriefer's understanding and application of DML. A latent class confirmatory factor analysis demonstrated that the DMLI was an initial valid measure of DML (Researcher, 2018). However, the instrument was challenging to use because the descriptors were not consistently interpreted and the criteria were too ambiguous for novice debriefers, therefore measuring debriefing behaviors remained challenging (Researcher, 2019).

The DMLES was modified a second time into a 20-item behavioral rating scale that can be used for both self-assessment (DMLES-Debriefer) and objective assessment (DMLES-Rater) to further understand how well debriefers apply DML. This session reports the research testing of the new iteration of DMLES. The aims of the study were to 1) psychometrically test the revised DMLES for both subjective and objective use, and to 2) evaluate whether there is a difference between how debriefers assess their debriefing and how experts in DML assess their debriefing.

#### **Methods:**

Thirty debriefers from five Midwest prelicensure nursing programs received a structured four-hour DML training. Within one month they recorded themselves debriefing prelicensure nursing

students following simulation. Prior to and after viewing the recorded debriefing they scored themselves using the DMLES-Debriefing. DML experts also viewed and assessed their recording with the DMLES-Rater, and the two DMLES scores were compared.

**Results:**

Descriptive statistics were used to summarize DMLES data, and to examine sample normality and homogeneity between sites. Each DMLES item was analyzed using the intraclass correlation coefficient (ICC) and Cronbach's alpha to determine item reliability and interrater reliability to answer the first aim, and the second aim was answered with independent, one-sample and paired sample t-tests.

**Conclusion:**

Psychometric properties of the revised DMLES instruments and significant findings from the debriefing assessments will be presented, along with implications for instrument use, competence establishment, regulation and teaching practice.

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**Title:**

The DMLES: An Instrument to Assess Competence in Debriefing for Meaningful Learning

**Keywords:**

Debriefing, Instrument and Measurement

**Abstract Summary:**

Formal training in theory-based debriefing followed by competence assessment has been recommended by regulatory bodies, yet there is no description of attainment benchmarks. The purpose of this study was to test an instrument which can be used to self-assess and observationally assess behaviors consistent with Debriefing for Meaningful Learning.

**References:**

- Alexander, M., Durham, C. F., Hooper, J. I., Jeffries, P. R., Goldman, N., Kardong-Edgren, S., ... Tillman, C. (2015). NCSBN simulation guidelines for prelicensure nursing programs. *Journal of Nursing Regulation*, 6(3), 39-42. doi: [http://dx.doi.org/10.1016/S2155-8256\(15\)30783-3](http://dx.doi.org/10.1016/S2155-8256(15)30783-3)
- Bradley, C. S., & Dreifuerst, K. T. (2016). Pilot testing the debriefing for meaningful learning evaluation scale. *Clinical Simulation in Nursing*, 12(7), 277-280. doi: 10.1016/j.ecns.2016.01.008
- Bradley, C. S. (2018). Confirmatory factor analysis of the debriefing for meaningful learning inventory. *Clinical Simulation in Nursing*, 14, 15-20. <https://doi.org/10.1016/j.ecns.2017.09.004>.
- Bradley, C. S. (2019). Impact of training on use of debriefing for meaningful learning. *Clinical Simulation in Nursing*, 32(C), 13-19. <https://doi.org/10.1016/j.ecns.2019.04.003>.
- Dreifuerst, K. T. (2015). Getting started with debriefing for meaningful learning. *Clinical Simulation in Nursing*, 11(5), 268-275. doi: 10.1016/j.ecns.2015.01.005
- Forneris, S. G., Neal, D. O., Tiffany, J., Kuehn, M. B., Meyer, H., Blazovich, L.M., . . . Smerillo, M. (2015). Enhancing clinical reasoning through simulation debriefing: A multisite study. *Nursing Education Perspectives*, 36(5), 304-310. doi:10.5480/15-1672
- Hayden, J. K., Smiley, R. A., Alexander, M., Kardong-Edgren, S., & Jeffries, P. R. (2014). The NCSBN national simulation study: A longitudinal, randomized, controlled study replacing

clinical hours with simulation in prelicensure nursing education. *Journal of Nursing Regulation*, 5(2), S1-41.

- INACSL Standards Committee. (2016). INACSL Standards of Best Practice: SimulationSM, Debriefing. *Clinical Simulation in Nursing*, 12, S21-S25. doi: 10.1016/j.ecns.2016.09.008
- Jeffries, P. R., Dreifuerst, K. T., Kardong-Edgren, S., & Hayden, J. (2015). Faculty development when initiating simulation programs: Lessons learned from the National Simulation Study. *Journal of Nursing Regulation*, 5(4), 17-23.
- National League for Nursing Board of Governors. (2015). Debriefing across the curriculum: A living document from the National League for Nursing in collaboration with the International Nursing Association for Clinical Simulation and Learning.

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