

Simulation Education Evidence-Based Best Practices

Session 4
Evaluation of Student Learning
July 28, 2021

Presenters

Jane B. Paige PhD, RN CCNE, CHSE – Milwaukee School of Engineering
Leslie Graham RN MN PhD(c) CNCC, CHSE, CCSNE-Ontario Tech U-Durham College

Disclosures

Relevant to the content of this educational activity, the speakers and moderator have no conflict(s) with commercial interest companies to disclose.

Overview of Program – Seven Sessions

Session Topic with associated WORKBOOK	Date
Session 1: Introduction to Simulation	4/28/2021
Session 2: Creating a Supportive Environment and Psychological Safety to Learner and Facilitator	5/26/2021
Session 3: Debriefing Growth and Assessment	6/23/2021
Session 4: Evaluation of Student Learning	7/28/2021
Session 5: Scenario Design and Development	8/25/2021
Session 6: Curricular Integration and Alignment to Learning Outcomes	9/22/2021
Session 7: Interprofessional Simulations	10/27/2021

Session #4: Evaluation of Student Learning

1. Apply best practices when selecting methods appropriate for formative, summative, and high-stakes evaluations.
2. Compare and contrast instruments to ensure accurate and consistent evaluation of learners' achievement of outcomes.
3. Discuss challenges associated with evaluation of high-stakes simulation-based learning experiences.
4. Exemplify use of New World Kirkpatrick Model (2016) levels of training to evaluate translational science (T1 to T3) outcomes.

Healthcare Simulation Standards of Best Practice™ Participant Evaluation (2016)

Criteria

1. Determine the method of participant evaluation before the simulation-based experience.
2. Simulation-based experiences may be selected for formative evaluation.
3. Simulation-based experiences may be selected for summative evaluation.
4. Simulation-based experiences may be selected for high-stakes evaluation



Using Simulation for Assessment

- Broad range of formal and informal assessments during the learning process (formative) (Palaganas et al., 2015)
- Assessment of learning at the end of a unit or program of study/course (summative) (Palaganas et al., 2015)
- Evaluation of a skill or competency that has major implications such as academic progression, or educational/employment consequences (high-stakes) (Lioce et al., 2020)

Tools for Evaluation



Checklists



Rating Scales



Selecting the Instrument



Construct of interest



Psychometric soundness



Adhere to the measurement tool instructions



Reassess reliability and validity if tool is modified



Use of multiple tools



Language and comprehension skills

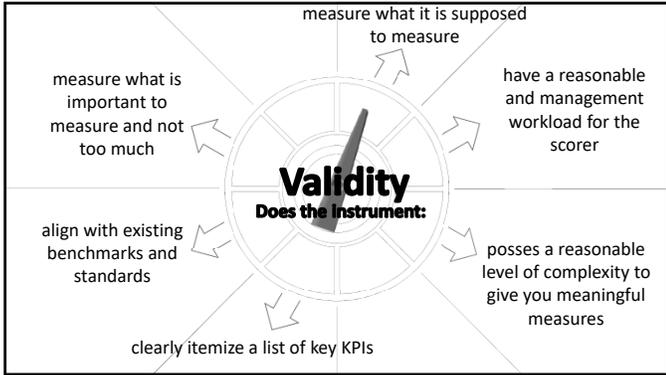
Instruments

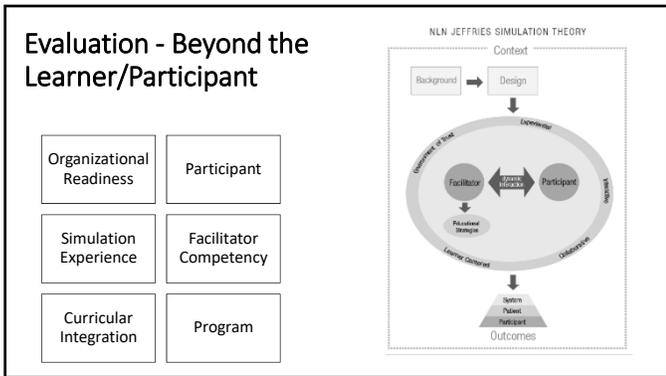
Reliability

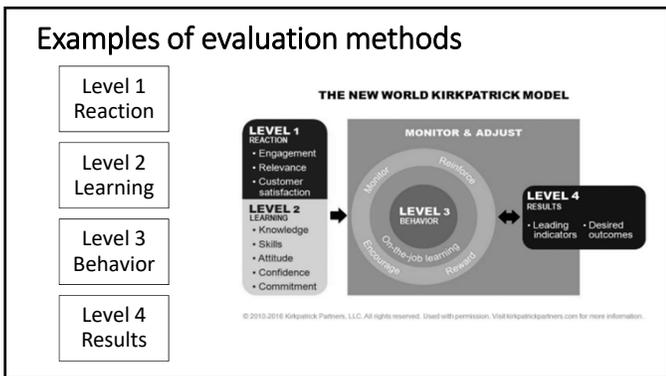
- Is the degree to which a measure produces consistent results
- Multiple sources of variance:
 - Participant
 - Accessor
 - SP /simulator

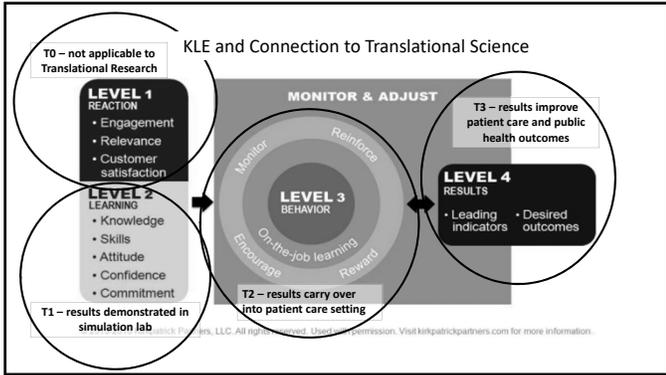
Validity

- The degree to which our interpretation of scores derived from the measure are defensible

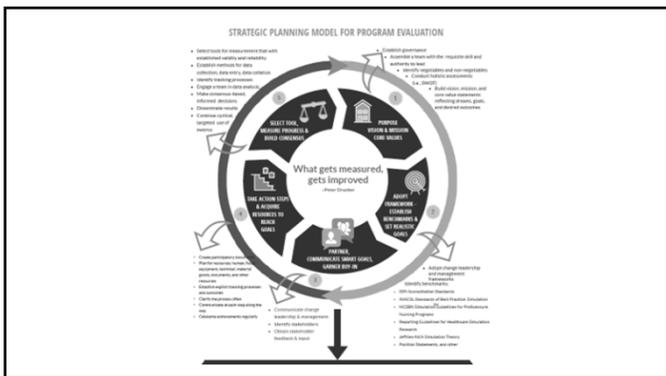








Example of a survey item, a question, or data point	Identify whether a level 4 [results], level 3 [behavior], level 2 [learning], or level 1 [reaction]
I found the instructor's debriefing style supportive	
List 4 of the major things you learned in the simulation	
The topic of the simulation is relevant to my future career	
The cueing by the facilitator helped me in my learning	
Learners completing the program of study achieve a 100% pass rate for professional certification	
I have been able to apply what I have learned in a clinical situation	
Alumni have advanced in career position at 2-year mark	
I feel confidence in applying what I learned in a clinical situation	
Clinical instructor evaluates learner's ability to intubate a patient in practice	
I found the simulation materials easy to follow	
Pre-post simulation exam	



Resources and References

- Evaluating Healthcare Simulation
- Healthcare Simulation Standards of Best Practice
[https://www.nursingsimulation.org/issue/S1876-1399\(16\)X0014-X](https://www.nursingsimulation.org/issue/S1876-1399(16)X0014-X)
- Publications – comparisons of evaluation tools – See Workbook
