NLN Jeffries Simulation Theory: Brief Narrative Description

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Based on the thorough synthesis of the literature by Adamson (see page 282) and discussion among simulation researchers and leaders, the NLN Jeffries Simulation Framework (2005, 2007, 2012) is now referred to as the NLN Jeffries Simulation Theory with a few minor changes within the conceptual illustration. The concepts of this theory are briefly described below to provide more clarity and to explain the new NLN Jeffries Simulation Theory. (See the *Figure* for a diagram of the theory.)

CONTEXT

Contextual factors such as circumstances and setting impact every aspect of the simulation and are an important starting point in designing or evaluating simulation. The context may include the place (academic vs. practice; *in situ* vs. lab) and the overarching purpose of the simulation, for example, whether the simulation is for evaluation or instructional purposes.

BACKGROUND

Within this context, the background includes the goal(s) of the simulation and specific expectations or benchmarks that influence the design of the simulation. The theoretical perspective for the specific simulation experience and how the simulation fits within the larger curriculum are all important elements of the background and inform the simulation design and implementation. Finally, the background of a simulation includes resources such as time and equipment, as well as how these resources will be allocated.

DESIGN

Outside of and preceding the actual simulation experience are specific elements that make up the simulation design. Although some elements of the simulation design may be changed during implementation of the simulation experience, there are aspects of the design that need to be considered in preparation for the simulation experience.

The design includes the specific learning objectives that guide the development or selection of activities and scenario(s) with appropriate content and problem-solving complexity. Elements of physical and conceptual fidelity — including decisions about equipment, moulage (physical), and appropriate, predetermined facilitator responses to participants' interventions (conceptual) — are established as part of the simulation design. Participant and observer roles (including whether or not videography will be used), progression of activities, and briefing/debriefing strategies are all established as part of the simulation design.

SIMULATION EXPERIENCE

The simulation experience is characterized by an environment that is experiential, interactive, collaborative, and learner centered. This environment requires the establishment of trust; both the facilitator and participant share responsibility for maintaining this environment. They enhance the quality of the simulation experience through "buying-in" to the authenticity of the experience and suspending disbelief. This helps promote engagement and psychological fidelity within the simulation experience (Kiat, Mei, Nagammal, & Jonnie, 2007; Leighton & Sholl, 2009; van Soeren et al., 2011).

FACILITATOR AND EDUCATIONAL STRATEGIES

Within this simulation experience is a dynamic interaction between the facilitator and the participant. The literature about the characteristics these individuals bring to the simulation experience and how they affect the simulation experience is extensive. Facilitator attributes include (but are not limited to) skill, educational techniques, and preparation (Parker & Myrick, 2012; Parsh, 2010). The facilitator responds to emerging participant needs during the simulation experience by adjusting educational strategies such as altering the planned progression and timing of activities and providing appropriate feedback in the form of cues (during) and debriefing (toward the end) of the simulation experience.

PARTICIPANT

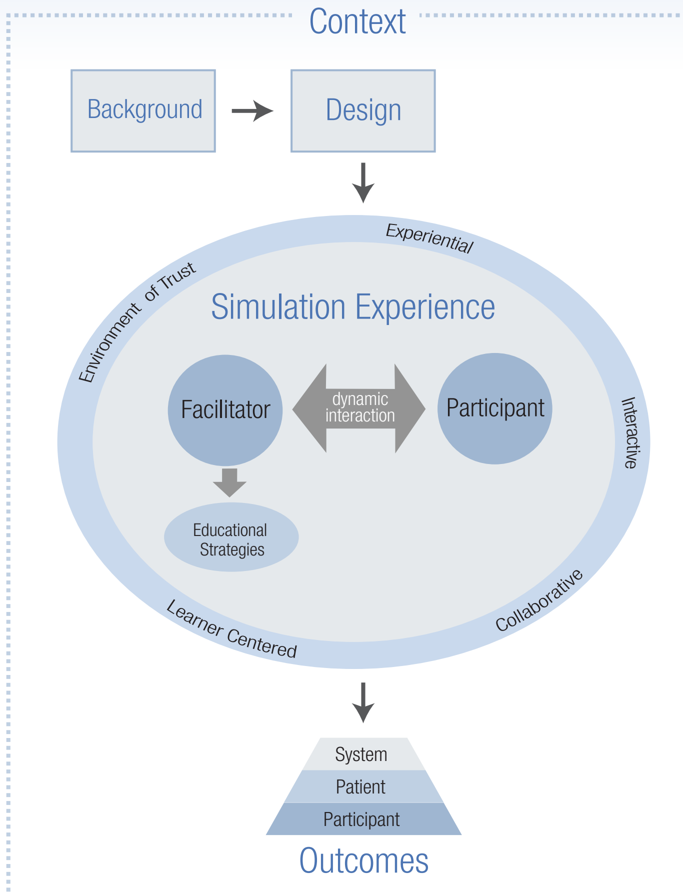
Participant attributes also affect the simulation learning experience. The literature describes attributes that are innate to the participant such as age (Fenske, Harris, Aebersold, & Hartman, 2013), gender (Diez et al., 2013), level of anxiety (Beischel, 2013; Leblanc et al., 2012), and self-confidence

(Jeffries & Rogers, 2012) as well as modifiable attributes such as preparedness for the simulation (Beischel). Many elements of the simulation design such as role assignment affect individual participants and may impact their learning experience (Kaplan, Abraham, & Gary, 2012).

OUTCOMES

Finally, outcomes of the simulation may be separated into three areas: participant, patient (or care recipient), and system outcomes. The literature largely focuses on participant outcomes including reaction (satisfaction, self-confidence), learning (changes in knowledge, skills, attitudes), and behavior (how learning transfers to the clinical environment). However, there is emerging literature about outcomes of simulation covering health outcomes of patients or care recipients whose caregivers were trained using simulation and organizational/system outcomes of simulation, including studies about cost-effectiveness and changes of practice. The Figure depicts outcomes in a triangular format based on the hierarchy of outcomes with participant, patient, and system outcomes as defined and extracted from the body of literature found on simulation outcomes.

Figure: NLN Jeffries Simulation Theory



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REFERENCES

Beischel, K. P. (2013). Variables affecting learning in a simulation experience: A mixed methods study. *Western Journal of Nursing Research, 35*(2), 226-247. doi:10.1177/0193945911408444

Diez, N., Rodriguez-Diez, M., Nagore, D., Fernandez, S., Ferrer, M., & Beunza, J. (2013). A randomized trial of cardiopulmonary resuscitation training for medical students: Voice advisory mannequin compared to guidance provided by an instructor. *Simulation in Healthcare, 8,* 234-241. doi:10.1097/SIH.0b013e31828e7196

Fenske, C. L., Harris, M. A., Aebersold, M. L., & Hartman, L. S. (2013). Perception versus reality: A comparative study of the clinical judgment skills of nurses during a simulated activity. *Journal of Continuing Education in Nursing, 44*(9), 399-405. doi:10.3928/00220124-20130701-67

Jeffries, P. R. (2005). A framework for designing, implementing, and evaluating simulations used as teaching strategies in nursing. *Nursing Education Perspectives, 26*(2), 96-103.

Jeffries, P. R. (Ed.). (2007). *Simulation in nursing education: From conceptualization to evaluation.* New York, NY: National League for Nursing.

Jeffries, P. R. (Ed.). (2012). *Simulation in nursing education: From conceptualization to evaluation* (2nd ed.). New York, NY: National League for Nursing.

Jeffries, P. R., & Rogers, K. J. (2012). Theoretical framework for simulation design. In P. R. Jeffries (Ed.), *Simulation in nursing education: From conceptualization to evaluation* (2nd ed., pp. 25-42). New York: National League for Nursing.

Kaplan, B. G., Abraham, C., & Gary, R. (2012). Effects of participation vs. observation of a simulation experience on testing outcomes: Implications for logistical planning for a school of nursing. *International Journal of Nursing Education Scholarship, 9*(1), 1-15. doi:10.1515/1548-923X.2398

Kiat, T. K., Mei, T. Y., Nagammal, S., & Jonnie, A. (2007). A review of learners' experience with simulation based training in nursing. *Singapore Nursing Journal, 34*(4), 37-43.

Leblanc, V. R., Regehr, C., Tavares, W., Scott, A. K., Macdonald, R., & King, K. (2012). The impact of stress on paramedic performance during simulated critical events. *Prehospital & Disaster Medicine, 27*(4), 369-374.

Leighton, K., & Scholl, K. (2009). Simulated codes: Understanding the response of undergraduate nursing students. *Clinical Simulation in Nursing, 5*(5), e187-e194.

Parsh, B. (2010). Characteristics of effective simulated clinical experience instructors: Interviews with undergraduate nursing students. *Journal of Nursing Education, 49*(10), 569-572. doi:10.3928/01484834-20100730-04

Parker, B. C., & Myrick, F. (2012). The pedagogical ebb and flow of human patient simulation: Empowering through a process of fading support. *Journal of Nursing Education, 51*(7), 365-372. doi:10.3928/01484834-20120509-01

van Soeren, M., Devlin-Cop, S., MacMillan, K., Baker, L., Egan-Lee, E., & Reeves, S. (2011). Simulated interprofessional education: An analysis of teaching and learning processes. *Journal of Interprofessional Care, 25*(6), 434-440. doi:10.3109/13561820.2011. 592229