Simulation Program
Operating Policy and Procedure Manual

Definitions

Note: Definitions highlighted in yellow are from:

**Briefing:** An activity immediately preceding the start of a simulation activity where the participants receive essential information about the simulation scenario such as background information, vital signs, instructions, or guidelines. For example: before beginning a session, faculty conduct a briefing about the scenario to review the information being provided to the participants.

The information and guidelines given to faculty or simulated patients participating in a scenario to allow them to fully prepare for interactions with the participants. Briefing materials could include a handover, physician referral letter, or an ambulance call transcript. For example, at the start of the simulation scenario, participants receive a notification from ambulance personnel regarding a patient being transported to their facility with a gunshot wound (Alinier, 2011; Husebø et al, 2012).

**Centers:** Use of the terms “centers” in the simulation policies refers to the simulation centers on the Lubbock, Odessa and Abilene TTUHSC campuses.

**Clinical Educational Experience:** Practice in settings where students provide care to patients under the direct guidance of an instructor or preceptor. Settings include inpatient, ambulatory care and the community.

**Cueing:** To provide information during the simulation that helps the participant progress through the activity to achieve stated objectives (modified from NLN-SIRC, 2013).

(Noun) Information provided to help the learner reach the learning objectives (conceptual cues), or to help the learner interpret or clarify the simulated reality (reality cues); Conceptual cues help the learner reach instructional objectives through programmable equipment, the environment, or through responses from the simulated patient or role player; Reality cues to help the learner interpret or clarify simulated reality through information delivered during the simulation (modified from Paige & Morin, 2013).
Debrief: (Noun) A formal, collaborative, reflective process within the simulation learning activity.

An activity that follows a simulation experience and led by a facilitator.

(Verb) To conduct a session after a simulation event where educators/instructors/facilitators and learners re-examine the simulation experience for the purpose of moving toward assimilation and accommodation of learning to future situations (Johnson-Russell & Bailey, 2010; NLN-SIRC, 2013); debriefing should foster the development of clinical judgment and critical thinking skills (Johnson-Russell & Bailey, 2010).

To encourage participants’ reflective thinking and provide feedback about their performance while various aspects of the completed simulation are discussed.

To explore with participants their emotions and to question, reflect, and provide feedback to one another (i.e., guided reflection).

Deliberate Practice: A theory of general psychology that states the differences between expert performers and normal adults reflect a life-long period of deliberate effort to improve performance in a specific domain. (Ericsson, K. A).

A systematically designed activity that has been created specifically to improve an individual’s performance in a given domain (Ericsson, K. A., R. Th. Krampe, R.Th. and Tesch-Römer, C, 1993).

Evidence-based practice: Practice supported by the most current, relevant and valid research or best practices. Healthcare decisions are made in collaboration with the patient, family, and/or significant others.

Feedback: An activity where information is relayed back to a learner; feedback should be constructive, address specific aspects of the learner’s performance, and be focused on the learning objectives (SSH).

Information transferred between participants, facilitator, simulator, or peer with the intention of improving the understanding of concepts or aspects of performance (INACSL, 2013); feedback can be delivered by an instructor, a machine, a computer, a patient (or a simulated person), or by other learners as long as it is part of the learning process.

Fidelity: The degree to which the simulation replicates the real event and/or workplace; this includes physical, psychological, and environmental elements.

The ability of the simulation to reproduce the reactions, interactions, and responses of the real world counterpart. It is not constrained to a certain type of simulation modality, and higher levels of fidelity are not required for a simulation to be successful.
The level of realism associated with a particular simulation activity; fidelity can involve a variety of dimensions, including (a) physical factors such as environment, equipment, and related tools; (b) psychological factors such as emotions, beliefs, and self-awareness of participants; (c) social factors such as participant and instructor motivation and goals; (d) culture of the group; and (e) degree of openness and trust, as well as participants’ modes of thinking (INACSL, 2013).

**Formative Assessment:** An assessment that monitors and provides feedback on the participant’s previous learning. Formative assessments are generally “low stakes” allowing the participant to analyze feedback and make improvements prior to a summative assessment.

**Formative Learning:** Learning is the process of acquiring new or modifying and reinforcing previously acquired knowledge, skills and attitudes.

**Haptic:** In healthcare simulation, refers to devices that providing tactile feedback to the user. Haptics can be used to simulate touching, palpating an organ, or body part, and the cutting, tearing or traction on a tissue.

Devices that capture and record a trainee’s ‘touch’ in terms of location and depth of pressure at specific anatomical sites (McGaghie et al, 2010; Jackson et al).

**High Fidelity Simulator:** A term often used to refer to the broad range of full-body manikins that have the ability to mimic, at a very high level, human body functions.

Also known as a high complexity simulator. Other types of simulators can also be considered high-fidelity, and that fidelity (realism) has other characteristics beyond a particular type of simulator.

**High Fidelity Simulation:** In healthcare simulation, high-fidelity refers to simulation experiences that are extremely realistic and provide a high level of interactivity and realism for the learner (INACSL, 2013); can apply to any mode or method of simulation; for example: human, manikin, task trainer, or virtual reality.

**Independent Practice:** Practice outside of scheduled curriculum experiences that do not include monitoring or feedback.

**In Situ:** Taking place in the actual patient care setting/environment in an effort to achieve a high level of fidelity and realism; this training is particularly suitable for difficult work environments, due to space constraints or noise. For example, an ambulance, a small aircraft, a dentist’s chair, a catheterization lab (Kyle & Murray, 2008). This training is valuable to assess, troubleshoot, or develop new system processes.

**Interdisciplinary Learning:** Noun: The academic disciplines, such as psychology, or to subspecialties within professions. For example, within the profession of medicine, anesthesia or cardiology (Barr, Koppel, Reeves, Hammick and Freeth, 2005).
Adj: Working jointly, but address issues from their individual discipline’s perspective (Gray and Connolly, 2008).

Integrating the perspective of professionals from two or more professions by organizing the education around a specific discipline, where each discipline examines the basis of their knowledge” (Bray & Howkins, 2008).

**Interprofessional Collaborative Practice:** “When multiple health workers from different professional backgrounds provide comprehensive services by working with patients, their families, carers [sic], and communities to deliver the highest quality of care across settings” (WHO, 2010, p. 13.) “Care is team-based, efficient, and coordinated; curricula focus on developing trustful, collaborative relationships.”(IOM, 2013, p. 58)

**Interprofessional Education**: An educational environment where students from two or more professions learn about, from, and with each other to enable effective collaboration and improve health outcomes (Interprofessional Education and Collaborative Expert Panel, WHO 2011).

An initiative to secure learning, and promote gains through interprofessional collaboration in professional practice (Freeth et al.).

**Low-Fidelity**: Not needing to be controlled or programmed externally for the learner to participate (Palaganas, Maxworthy, Epps, & Mancini, 2015); examples include case studies, role playing, or task trainers used to support students or professionals in learning a clinical situation or practice (Adapted from NLN-SIRC, 2013).

**Mastering Learning**: An instructional philosophy originally proposed by Benjamin Bloom that stated a student must first practice and study to meet the predetermined level criteria (>90%) through the formative assessment of a prerequisite domain prior to advancing in subject matter. If the learner does not achieve the level of mastery, information from the test is used to diagnose areas of deficiency necessary for additional prescriptive support. The student is later tested again. This cycle of feedback and corrective procedures is repeated until mastery is achieved, at which point the student will move on to the next level (Guskey, 2010).

An instructional philosophy that highlights individualized feedback and adequate time, allowing the learner to progress through the subject in a customized manner, generally in smaller units to master the subject matter. This concept states that nearly all learners can achieve subject or skill mastery utilizing this method (Palaganas, Maxworthy, Epps, & Mancini, 2015).

**Mid-Fidelity**: Simulation-based experiences that are technologically sophisticated such as computer-based self-directed learning systems or the use of manikins that have some basic physiologic responses. The participant relies on a two-dimensional focused experience to problem solve, perform a skill, and make decisions.

**Moulage**: The makeup and molds applied to humans or manikins used to portray lesions, skin findings, bleeding, and traumatized areas (Levine et al).
The application of makeup and molds to a human or simulator’s limbs, chest, head, etc. to provide elements of realism (such as blood, vomitus, open fractures, etc.) to the training simulation.

Techniques used to simulate injury, disease, aging, and other physical characteristics specific to a scenario; moulage supports the sensory perceptions of participants and supports the fidelity of the simulation scenario through the use of makeup, attachable artifacts (e.g. penetrating objects), and smells (INACSL, 2013).

**Practice Experience:** Experiences (individual or group) other than simulation and actual patient care that focus on developing professional characteristics such as ethical situations.

**Prebrief:** An information or orientation session held prior to the start of a simulation activity in which instructions or preparatory information is given to the participants. The purpose of the prebriefing is to set the stage for a scenario, and assist participants in achieving scenario objectives.

The time used by educators, researchers, facilitators, or staff to plan their roles prior to the simulation; suggested activities in a prebriefing include an orientation to the equipment, environment, manikin, roles, time allotment, objectives, and patient situation. For example: Before starting the simulation session, there is a prebriefing where the equipment and its capabilities are reviewed and they are reminded of the equipment available to them in the room (INACSL, 2013).

The collaboration and planning of co-facilitators/co-debriefers prior to the simulation activity.

**Reflective Thinking:** The engagement of self-monitoring that occurs during or after a simulation experience; this self-monitoring is performed by participants during or after a simulation experience.

A process to assist learners in identifying their knowledge gaps and demonstrating the areas in which they may need further improvement; it requires active involvement in the simulation and facilitator guidance to aid in this process (Rodgers, 2002; Decker et al., 2013 Kuiper and Pesut, 2004).

The conscious consideration of the meanings and implications of the events of the simulation; this process allows participants to make meaning out of the experience, to identify questions generated by the experience, and ultimately, to assimilate the knowledge, skills, and attitudes uncovered through the experience with pre-existing knowledge.

A process to assist learners in identifying their knowledge gaps and demonstrating the areas in which they may need further improvement; this reflection requires conscious self-evaluation to deal with unique patient situations (INACSL, 2013).
Running on the Fly: The method of operation for running a simulation whereby the operator changes the parameters of the scene, the SP, or the simulator as the scenario unfolds; the changes are dependent on the observations and knowledge of the instructor or the operator, which is based on the actions of the participant. • Running a simulation with minimal planning and preparation; a more impromptu type of simulation experience.

Scenario: In healthcare simulation, a description of a simulation that includes the goals, objectives, debriefing points, narrative description of the clinical simulation, staff requirements, simulation room set up, simulators, props, simulator operation, and instructions for SPs (Alinier, 2011).

The scripts, stories, or algorithms created for instructing the participants, including the simulators (human or robotic), on how to interact with the students.

The description of an exercise (including initial conditions), of events for a simulation that includes details for everyone taking part.

An initial set of conditions and timeline of significant events imposed on trainees or systems to achieve exercise objectives (M&S Glossary).

Skill: The ability to safely perform technical and/or non-technical tasks while upholding speed, efficiency, and accuracy. Skills are more than the ability to perform or cite; they include the ability to perform while communicating proficiently, therapeutically, and consistently within appropriate time limits.

Skills Experience/Skills Lab: Activities designed to promote or assist the development, efficiency, and accuracy of technical and non-technical skills. These activities are designed to uphold professional comportment with respect for the development of intra/inter professional knowledge, skills, attitudes, and behaviors.

Simulation: A technique that creates a situation or environment to allow persons to experience a representation of a real event for the purpose of practice, learning, evaluation, testing, or to gain understanding of systems or human actions.

An educational technique that replaces or amplifies real experiences with guided experiences that evoke or replicate substantial aspects of the real world in a fully interactive manner (Gaba Future Vision Qual Saf Health Care 2004).

A pedagogy using one or more typologies to promote, improve, or validate a participant’s progression from novice to expert (INACSL, 2013).

The application of a simulator to training and/or assessment (SSH).

A method for implementing a model over time.
**Simulation-enhanced Interprofessional Education (Sim-IPE):** The education of health care professionals with different but complementary knowledge and skills in a simulation environment that promotes a collaborative team approach. Simulation-enhanced interprofessional education (Sim-IPE) occurs when participants and facilitators from two or more professions are engaged in a simulated health care experience to achieve shared or linked objectives and outcomes (Decker, S. et al., 2015); it is designed for the individuals involved to…“learn about, from and with each other to enable effective collaboration and improve health outcomes” (WHO, 2010, p.13).

A collaborative educational approach that brings together health care professionals of varying specialties in a simulation environment engaging learners in an interprofessional teamwork model (Decker et al.).

A simulation environment of equal and mutual respect and recognition of each team member’s knowledge and skills.

**Summative Assessment:** An assessment designed to evaluate the participant at the end of a planned instructional unit. The assessment compares the participant’s knowledge, skills and attitudes against national standards and/or best practices.

**Typology:** The classification of different educational methods or equipment; for example, 3-dimensional models, computer software, standardized patients, partial-task trainers, or high-fidelity patient simulators (INACSL, 2013).

**Definitions for Current Simulation Typology:**

<table>
<thead>
<tr>
<th>Simulation Typology</th>
<th>Definition</th>
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<tbody>
<tr>
<td>Advanced Patient Simulators (High-Fidelity Simulator)</td>
<td>A computerized full body manikin programmed to provide realistic physiologic responses to a practitioner’s actions.</td>
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<td>Haptic Systems</td>
<td>A computer generated environment combining real-world and virtual reality which allows participants to touch and feel the simulated objects.</td>
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<tr>
<td>Hybrid</td>
<td>Mixed method using two or more types of simulation typology; for example, standardized patients and partial trainer.</td>
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<td>Partial Task Simulators (Partial-Task Trainer)</td>
<td>A model or manikin with limited interaction used to obtain competency in simple or complex procedures.</td>
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<td>Peer-to-Peer</td>
<td>Peer collaboration used to master specific skills.</td>
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<td>Screen-based Simulation</td>
<td>Computer programs used to teach, provide feedback, and evaluate clinical knowledge and critical thinking.</td>
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<td>Standardized Patients (SPs)</td>
<td>Individuals taught to portray a patient, family member or healthcare provider to provide a realistic and consistent case scenario.</td>
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<td><strong>Virtual Reality Simulation</strong></td>
<td>A computer generated environment, which is totally artificial, allowing sensory stimuli that promotes authenticity.</td>
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<td><strong>3D Virtual Word</strong></td>
<td>An interactive simulated environment accessed by multiple individuals through an online interface in the form of avatars.</td>
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<tr>
<td><strong>Augmented Reality</strong></td>
<td>Augmented reality overlays digital information on top of an existing environment in real time. This allows for the realistic onset or progression of the presenting condition.</td>
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