Standards of Best Practice: Simulation
Standard I: Terminology

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Statement
Consistent terminology provides guidance and clear communication and reflects shared values in simulation experiences, research, and publications. Knowledge and ideas are clearly communicated with consistent terminology to advance the science of simulation.

Rationale
Standardized terminology enhances understanding and communication among planners, participants, and others involved in simulation-based experiences. Terminology is
descriptive and consistent in a variety of settings, written
documents, and publications.

**Outcome**

Standardized terminology promotes consistency and under-
standing in education, practice, research, and publication. Standardized terminology also promotes consistency of experiences regardless of the simulation environment.

**Criteria**

To promote consistent understanding by explicating the terms used in the Standards of Best Practice: Simulation.

**Terms**

**Affective**

Refers to a domain of learning that involves attitudes, beliefs, values, feelings, and emotions. Classification of this domain of learning is hierarchal where learning occurs along a continuum of stages related to internal personal and professional growth. In the Quality and Safety Education for Nurses (QSEN) model, this domain of learning is referred to as “attitudes” (QSEN Institute, 2013; Scheckel, 2012).

**Andragogy**

Expands on pedagogy and refers to active, learner-focused education for people of all ages. It is based on learning principles that involve problem solving that is relevant to the learner’s everyday experiences.

**Assessment**

Refers to processes that provide information about or feedback about individual participants, groups, or programs. Specifically, assessment refers to observations of progress related to knowledge, skills, and attitudes. Findings of assessment are used to improve future outcomes (Scheckel, 2012).

**Clinical**

Pertaining to or founded on actual or simulated assessment and care of individuals, families, or groups in health care settings, as distinguished from theoretical. Learning in actual or simulated clinical environment(s) permits opportunities for application of knowledge, skills, and attitudes.

**Clinical Judgment**

The art of making a series of decisions to determine whether to take action based on various types of knowledge. The individual recognizes changes and salient aspects in a clinical situation, interprets their meaning, responds appropriately, and reflects on the effectiveness of the intervention. Clinical judgment is influenced by the individual’s previous experiences, problem-solving, critical-thinking, and clinical-reasoning abilities (del Bueno, 1994; Dillard, Siders, Carlton, Lasater, & Siktberg, 2009; Jackson, Ignatavicius, & Case, 2004; Lasater, 2007; Tanner, 2006). See Figure 1.

**Clinical Reasoning**

The ability to gather and comprehend data while recalling knowledge, skills (technical and nontechnical), and attitudes about a situation as it unfolds. After analysis, information is put together into a meaningful whole when applying the information to new situations (Alfaro-LeFever, 1995; Benner, Sutphen, Leonard, & Day, 2010; Tanner, 2006). See Figure 1.

**Clinical Scenario**

The plan of an expected and potential course of events for a simulated clinical experience. The clinical scenario provides the context for the simulation and can vary in length and complexity, depending on the objectives. The clinical scenario design includes:

- Participant preparation.
- Prebriefing (Briefing): review of objectives, instructions prior to implementation of scenario, questions, or other resources used in the scenario.
- Patient information describing the situation to be managed.
- Participant objectives.

![Figure 1: Nursing skill development and clinical judgment model](http://example.com/image.png)  
©. This model, developed by the International Nursing Association for Clinical Simulation and Learning, reflects the complexity of skill development necessary to progress from more basic skills to the higher-level clinical judgment and reasoning ability used in decision making for safe, effective nursing practice. All levels of development are interrelated, therefore, they interact and affect one another.
Environmental conditions, including manikin, setting, or standardized patient preparation.

Related equipment, props, and tools or resources for assessing and managing the simulated experience to increase the realism.

Roles, expectations, or limitations of each role to be played by participants.

A progression outline including a beginning and an ending.

Debriefing.


Coaching

A method of directing or instructing a person or group of people in order to achieve a goal or goals, develop a specific skill or skills, or develop a competency or competencies.

Cognitive

Refers to a domain of learning that includes knowledge, comprehension, application, analysis, synthesis, and evaluation. The goal of learning in this domain is to help participants progress to higher levels of learning so they are able to make judgments about the subject at hand. In the QSEN project, this domain of learning was referred to as “knowledge” (QSEN Institute, 2013; Scheckel, 2012).

Competence

Standardized requirement for an individual to properly perform a specific role. It encompasses a combination of discrete and measurable knowledge, skills, and attitudes that are essential for patient safety and quality patient care.

Concept Mapping

A teaching strategy or method of visualizing relationships among various concepts. It includes a branching, hierarchical diagram of concepts showing how they are connected using arrows and labels to identify interrelationships. In simulation-based learning experiences, concept mapping can be used in preparation to help participants organize patient data, see relationships, and understand the clinical presentation of the patient or during debriefing (Rowles, 2012).

Confederate

A term sometimes used to describe an embedded participant (see also Embedded Participant).

Confidence

Belief in oneself and one’s abilities.

Constructivism

Philosophical theory of learning that views knowledge as something that individuals construct for themselves through their interaction with their environment. In constructivism, learning is a process of discovery whereby the learner seeks to understand issues, which guide the discovery process that is personally relevant. Learning is contextual and occurs when situated in a realistic setting. Simulation is based on constructivist theories (Lekalakala-Mokgele & du Rand, 2005).

Critical Thinking

A disciplined process that requires validation of data, including any assumptions that may influence thoughts and actions, and then careful reflection on the entire process while evaluating the effectiveness of what has been determined as the necessary action(s) to take. This process entails purposeful, goal-directed thinking and is based on scientific principles and methods (evidence) rather than assumptions or conjecture (Alfaro-LeFever, 1995; Benner, 2004; Jackson et al., 2004). See Figure 1.

Cueing

Information provided that helps the participant progress through the clinical scenario to achieve stated objectives (NLN-SIRC, 2013).

Debriefing

An activity that follows a simulation experience and is led by a facilitator. Participants’ reflective thinking is encouraged, and feedback is provided regarding the participants’ performance while various aspects of the completed simulation are discussed. Participants are encouraged to explore emotions and question, reflect, and provide feedback to one another. The purpose of debriefing is to move toward assimilation and accommodation to transfer learning to future situations (Johnson-Russell & Bailey, 2010; NLN-SIRC, 2013).

Decision-Making Abilities

An outcome of mental processes (cognitive process) leading to the selection of a course of action from among several alternatives.

Domains of Learning

“...three separate, yet interdependent components of learning outcomes achievable by human learners. These domains-cognitive, affective, and psychomotor-represent various categories and levels of learning complexity and are commonly referred to as educational taxonomies” (Menix, 1996, p. 200), See Table 1.
Embedded Participant (also known as Scenario Guide, Scenario Role Player, or Confederate)

A role assigned in a simulation encounter to help guide the scenario. The guidance may be influential as positive, negative, or neutral or as a distracter, depending on the objective(s), the level of the participants, and the scenario. Although the embedded participant’s role is part of the situation, the underlying purpose of the role may not be revealed to the participants in the scenario or simulation.

Environmental Fidelity

Refers to the degree to which the simulated environment (manikin, room, tools, equipment, moulage, and sensory props) approximates reality (Dieckmann, Gaba, & Rall, 2007).

Evaluation

A broad term for appraising data or placing a value on data gathered through one or more measurements. It involves rendering a judgment including strengths and weaknesses. Evaluation measures quality and productivity against a standard of performance (Bourke & Ihrke, 2012).

Facilitation

A method and strategy that occurs throughout (before, during, and after) simulation-based learning experiences in which a person helps to bring about an outcome(s) by providing unobtrusive guidance (Lekalakala-Mokgele & du Rand, 2005).

Facilitator

An individual who provides guidance, support, and structure during simulation-based learning experiences.

Feedback

Information given or dialogue between participants, facilitator, simulator, or peer with the intention of improving the understanding of concepts or aspects of performance (Van de Ridder, Stokking, McGaghie, & ten Cate, 2008).

Formative Assessment

Assessment wherein the facilitator’s focus is on the participant’s progress toward goal attainment; a process for an individual or group engaged in a simulation activity for the purpose of providing constructive feedback for that individual or group to improve (Bourke & Ihrke, 2012; NLN-SIRC, 2013).

Formative Feedback

Information communicated to participants with the intent of modifying thinking or behavior to improve learning and future performance. It is provided in response to participation in a simulation-based learning activity. The feedback should be supportive, timely and specific (Shute, 2008).

Fidelity (also known as Realism/Authenticity)

Believability, or the degree to which a simulated experience approaches reality; as fidelity increases, realism increases. The level of fidelity is determined by the environment, the tools and resources used, and many factors associated with the participants. 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 (Dieckmann et al., 2007; NLN-SIRC, 2013).

Guided Reflection

Process used by the facilitator during debriefing that reinforces the critical aspects of the experience and encourages insightful learning, allowing the participant to assimilate theory, practice, and research in order to influence future actions (NLN-SIRC, 2013).

High Fidelity

“Experiences using full scale computerized patient simulators, virtual reality or standardized patients that are extremely realistic and provide a high level of interactivity and realism for the learner” (NLN-SIRC, 2013).
High-Stakes Evaluation

An evaluation process associated with a simulation activity that has a major academic, educational, or employment consequence (such as a grading decision, including pass or fail implications; a decision regarding competency, merit pay, promotion, or certification). High stakes refers to the outcome or consequences of the process.

Holistic Care

Care that involves viewing and treating a patient as a whole person. Holistic care involves support of the physical, mental, spiritual, emotional, social, and environmental needs of the person (Mariano, 2005).

Interprofessional

Two or more professionals collaborating as a team with a shared purpose, goal, and mutual respect to deliver safe, quality health care (Freeth, Hammick, Reeves, Koppel, & Barr, 2005; World Health Organization (WHO), 2010).

Interprofessional Education

“When 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, 2011, p. 2).

Knowledge

The awareness, understanding, and expertise an individual acquires through experience or education, See Table 1.

KSA

Acronym for the knowledge, skills, and attitudes necessary to continuously improve the quality and safety of the health care systems within which they work (Cronenwett et al., 2007).

Low Fidelity

“Experiences such as case studies, role-playing, using partial task trainers or static mannequins to immerse students or professionals in a clinical situation or practice of a specific skill” (NLN-SIRC, 2013).

Measurement

The process of quantifying a participant’s abilities related to knowledge, skills, or attitudes in the achievement of objectives.

Moderate or Midlevel Fidelity

“Experiences that are more technologically sophisticated such as computer-based self-directed learning systems simulations in which the participant relies on a two-dimensional focused experience to problem solve, perform a skill and make decisions or the use of mannequins more realistic than static low fidelity ones having breath sounds, heart sounds and/or pulses” (NLN-SIRC, 2013).

Moulage

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 (Mercia, 2011; Smith-Stoner, 2011).

Objective

Statement(s) of specific measurable results that participant(s) is expected to achieve during a simulation-based learning experience.

Outcome

Measurable results of the participants’ progress toward meeting a set of objectives. Expected outcomes are the change in knowledge, skills, or attitudes as a result of the simulation experience.

Participant

One who engages in a simulation-based learning activity for the purpose of gaining or demonstrating mastery of knowledge, skills, and attitudes of professional practice.

Pedagogy

The art or science of instructional methods. The study of teaching methods, including goals of education and the ways those goals can be achieved.

Prebriefing (Briefing)

An information or orientation session held prior to the start of a simulation-based learning experience in which instructions or preparatory information is given to the participants. The purpose of the prebriefing or briefing is to set the stage for a scenario and assist participants in achieving scenario objectives. Suggested activities in a prebriefing or briefing include an orientation to the equipment, environment, mannequin, roles, time allotment, objectives, and patient situation.

Problem Solving

Refers to the process of selectively attending to information in the patient care setting, using existing knowledge and collecting pertinent data to formulate a solution. This
complex process requires different cognitive processes, including methods of reasoning and strategizing, in order to manage a situation (Uys, Van Rhyn, Gwele, McInerney, & Tanga, 2004).

**Professional Integrity**

A trait exhibited by one’s ability to consistently and willingly practice within the guidelines of the code of ethics of a chosen profession.

**Program or Process Evaluation**

A systematic collection of information about the activities, characteristics, and outcomes of simulation-based learning activities to make judgments about the program, improve or further program effectiveness, increase understanding, and inform decisions about future programming (Horne & Sandmann, 2012).

**Prompt**

A cue given to a participant in a scenario.

**Psychological Fidelity**

The extent to which the simulated environment evokes the underlying psychological processes that are necessary in the real-world setting. The degree of perceived realism, including psychological factors such as emotions, beliefs, and self-awareness of participants in simulation scenarios (Dieckmann et al., 2007; Kozlowski & DeShon, 2004).

**Psychological Safety**

A feeling (explicit or implicit) where in a simulation-based learning activity, participants can speak up, share thoughts, perceptions, and opinions without risk of retribution or embarrassment (Edmondson, 1999; Holcombe, Ishimaru, Fowler, & Higgins, 2012).

**Psychomotor**

Refers to a domain of learning that involves skills related to professional practice including fine motor, manual, and gross motor skills. The skills involve the particular physical tasks required of that profession. In the QSEN project, this domain of learning is referred to as “skills” (Hodson-Carlton, 2012; QSEN Institute, 2013).

**Psychomotor Skill**

The ability to carry out physical movements efficiently and effectively, with speed and accuracy. Psychomotor skill is more than the ability to perform; it includes the ability to perform proficiently, smoothly, and consistently under varying conditions and within appropriate time limits (Hodson-Carlton, 2012). See Figure 1.

**QSEN**

The Quality and Safety Education for Nurses (QSEN) project began in 2005 and was funded by the Robert Wood Johnson Foundation (RWJF). The overall goal of QSEN has been to address the challenge of preparing future nurses with the knowledge, skills, and attitudes (KSA) necessary to continuously improve the quality and safety of the health care systems in which they work (QSEN, 2013), See Table 1.

**Questioning**

The strategic process of seeking information or knowledge, thoughts, feelings, and judgments before, during, and after a scenario.

**Reflective Thinking**

The engagement of self-monitoring that occurs during or after a simulation experience. Considered an essential component of experiential learning, it promotes the discovery of new knowledge with the intent of applying this knowledge to future situations. Reflective thinking is necessary for metacognitive skill acquisition and clinical judgment and has the potential to decrease the gap between theory and practice. Reflection requires the creativity and conscious self-evaluation to deal with unique patient situations (Decker, 2007, 2012; Dewey, 1933; Kolb, 1984; Kuiper & Pesut, 2004; Ruth-Sahd, 2003; Schon, 1983, 1987).

**Reliability**

The consistency of a measurement, or the degree to which an instrument measures in the same way each time it is used under the same conditions with the same participants. It is the repeatability of a measurement. A measurement is considered reliable if a person’s scores on the same test given twice are similar. Reliability can be determined by a test–retest method or by testing for internal consistency.

**Remediation**

The act or process of correcting a performance gap.

**Role**

A responsibility or character assumed in a simulation-based learning activity.
Safe Learning Environment

The emotional climate that facilitators create by the interaction between facilitators and participants. In this positive emotional climate, participants feel at ease taking risks, making mistakes, or extending themselves beyond their comfort zone. Facilitators should be thoroughly aware of the psychological aspects of learning, aware of the effects of unintentional bias, aware of cultural differences, and attentive to their own state of mind in order to effectively create a safe environment for learning.

Safe Patient Care

Quality care provided by health care practitioners with a focus on the prevention of harm to patients.

Scenario

See Clinical Scenario.

Simulated-Based Learning Experience

An array of structured activities that represent actual or potential situations in education and practice and allow participants to develop or enhance knowledge, skills, and attitudes or analyze and respond to realistic situations in a simulated environment or through an unfolding case study (Pilcher, Goodall, Jensen, Huwe, Jewell, Reynolds, & Karlson, 2012).

Simulation

A pedagogy using one or more typologies to promote, improve, or validate a participant’s progression from novice to expert (Benner, 1984; Decker, 2007).

Simulation Learning Environment

A physical location where a simulation-based learning experience takes place and where a safe atmosphere is created by the facilitator to foster sharing and discussion of participant experiences without negative consequences. The simulation learning environment should facilitate trust and foster learning and support the development of professional and interprofessional competency.

Simulation Testing Environment

An atmosphere that is created by the facilitator to allow for evaluation to occur. The simulation testing environment should provide a valid, reliable, equivalent experience for all participants to test knowledge, skills, and attitudes.

Skill Acquisition (Skill Attainment)

After instruction, the ability to integrate the knowledge, skills (technical and nontechnical), and attitudes necessary to provide safe patient care. The individual progresses through five stages of proficiency: novice, advanced beginner, competent, proficient, and expert (Benner, 1984; Benner, Tanner & Chesla, 1996).

Skill Development

The progress along a continuum of growth in knowledge, skills, and attitudes as a result of educational or other experiences.

Standardized Patient (or Simulated Patient)

A person trained to consistently portray a patient or other individual in a scripted scenario for the purposes of instruction, practice, or evaluation (Robinson-Smith, Bradley, & Meakim, 2009).

Summative Evaluation

Evaluation at the end of a time period, in which participants are provided with feedback about their achievement of outcome criteria; a process for determining the competence of a participant engaged in an activity. The assessment of achievement of outcome criteria may be associated with an assigned grade, demonstration of competency, merit pay, promotion, or certification (Kirkpatrick & DeWitt, 2012; NLN-SIRC, 2013).

Summative Feedback

Information provided by a facilitator regarding aspects of performance that are associated with the assignment of a grade, demonstration of competency, merit pay, promotion, or certification. It usually involves setting of expectations and standards; systematically gathering, analyzing, and interpreting evidence; and using resulting information to document, explain, or improve performance (Bourke & Ihrke, 2012).

Teacher

One who uses a system of directed and deliberate actions and activities for the purpose of inducing learning (Candela, 2012).

Typology

Classification of types. In simulation, it refers to the classification of different educational methods or equipment used to provide a simulated experience. For example, simulation methodologies may include written simulation
cases, three-dimensional models, computer software, standardized patients, partial task trainers, or high-fidelity patient simulators.

Validity

The degree to which a test or evaluation tool accurately measures the intended concept of interest.

Original INACSL Standard I Reference


References


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Standard 1: Terminology Supporting Materials


