

Glossary of Healthcare Simulation Terms

Accreditation: self-regulatory process by which governmental, non-governmental, voluntary associations or other statutory bodies grant formal recognition to educational programs or institutions that meet stated criteria of educational quality.

Active Error: errors that occur every day, at the front line (sharp end); effects are felt immediately.

Adjunctive Learning Modalities: can be readings, videos, on-screen simulations, role-plays, or seminar discussions.

Advanced Initiatives in Medical Simulation (AIMS): meeting of healthcare, industry, and government.

Advanced Life Support (ALS): a higher level of emergency medical care, usually provided by EMT-intermediates or paramedics. Typically ALS includes invasive techniques such as IV therapy, intubation, and/or drug administration.

Adverse Event: injury resulting from a medical intervention.

Advocacy/Inquiry: a method of debriefing used in "Debriefing with Good Judgment."

Airway Management: a nursing intervention from the Nursing Interventions Classification (NIC) defined as facilitation of patency of air passages.

Algorithm: a sequence of clinical response protocols that is used as the basis for programming the physiological responses in high-fidelity patient simulators.

ALS Skills Trainer: a realistic interactive training mannequin for simulating a wide range of advanced life-saving skills in medical emergencies.

Anesthesia Technician: anesthesia Department Orderly: a trained anesthesia assistant who does not generally give direct patient care.

Analytic Scale: items allow multiple-level rating of specific behaviors; for example, "Student followed up on patient non-verbal cues: frequently | sometimes | rarely | never".

Andragogy: the art and science of helping adults learn.

Anesthesia Crisis Resource Management (ACRM): course stresses CRM principles-behavioral techniques used to improve the management of acute, dynamic situation (teamwork, communication, resource management, etc).

ANTS Tool (Anesthesia Non-Technical Skills Tool): a measurement tool to assess teamwork during a real or simulated event

Application-Oriented Simulation Software: is designed for specialized domains, such as manufacturing, health care, or airlines.

'As if' Instructor: participant in a simulation instructor course who is pretending to be the instructor leading a simulation exercise

'As if' Student: participant in a simulation instructor course who is pretending to be a trainee in a simulation exercise

Assessment: learner is assigned a VP for formative or summative assessment of skills.

Author: the educator who conceives and principally creates a VP (Virtual Patient).

Avatar: the participant's graphic representation in a virtual reality simulation or game.

B

Basic Assumption: a modus operandi or culture in a simulation center that promotes a safe learning environment through respect for the learners' experience and knowledge and creating engaging, relevant simulation events.

Basic Life Support (BLS): key skills in basic life support are assessment of consciousness, identifying and removing airway obstruction, opening the airway using head tilt/chin lift or jaw thrust maneuvers, insertion of an oropharyngeal airway, and artificial ventilation using expired air techniques or a self-inflating resuscitator.

Best Evidence-Based Assessment (BEBA): an evaluation performed by properly selected measurement methods under methodological rigor with which the instruments are constructed and administered; assessment must be congruent with evaluation questions and designed to demonstrate acquired competencies.

Best Practices: is a technique, method, process, activity, incentive, or reward which conventional wisdom regards as more effective at delivering a particular outcome than any other technique, method, process, etc. when applied to a particular condition or circumstance. The idea is that with proper processes, checks, and testing, a desired outcome can be delivered with fewer problems and unforeseen complications. Best practices can also be defined as the most efficient (least amount of effort) and effective (best results) way of accomplishing a task, based on repeatable procedures that have proven themselves over time for large numbers of people.

Bloom's Taxonomy: a system or science for the classification of learning objectives; simulation education using experiential learning generally uses higher levels of this taxonomy

Branched Narrative: a virtual patient design that affords multiple narrative paths with more than one outcome.

Briefing: a team huddle- allows the team to identify roles, responsibilities and goals prior to a caring for a patient-particularly in an acute or critical setting.

C

Call Out: team member alerts the team when an ordered procedure is complete.

Cardiac Arrest: also known as cardiopulmonary arrest or circulatory arrest) is the cessation of normal circulation of the blood due to failure of the heart to contract effectively.

Cardio-Pulmonary Resuscitation (CPR): an emergency procedure in which the heart and lungs are made to work by manually compressing the chest overlying the heart and forcing air into the lungs. CPR is used to maintain circulation when the heart stops pumping, usually because of disease, drugs, or trauma.

Case Blueprint: the case blueprint provides an overview of all elements involved in a simulation (e.g. educational goals, learner descriptions, learner instructions, patient case, evaluation tool, setup needs).

Case Specificity: a phenomenon where performance on one clinical case is not a good predictor of performance on another case.

Certification: the process by which governmental, non-governmental or professional organizations or other statutory bodies grant recognition to an individual who has met certain predetermined specified qualifications. In most cases such recognition is on a voluntary basis.

Checklist: is an objective evaluation tool commonly used in an OSCE (Objective Structured Clinical Exam) by instructors and standardized patients to evaluate learners' performances. Usually checklists are dichotomous (rather than scaled), meaning that the learner is evaluated on whether they did or did not meet a performance criterion.

Clinical Simulation: a clinical simulation is an imitation of clinical practice.

Closed-Loop Communication: exchange of information between team members, in which team members verify orders, medications, and procedures.

Cognitive Simulators: are used for training didactic information or rehearsing clinical scenarios. These are often screen-based, and may teach the steps of a procedural task but do not actually require physical performance of the task.

Combitube Training Tube: tube that allows blind intubation to accomplish airway, without the need of a laryngoscope or visualization of the airway.

Community of Practice (CoP): is, according to cognitive anthropologists Jean Lave and Etienne Wenger, a group of people who share an interest, a craft, and/or a profession. The group can evolve naturally because of the members' common interest in a particular domain or area, or it can be created specifically with the goal of gaining knowledge related to their field. CoPs can exist online, such as within discussion boards and newsgroups, or in real life, such as in a lunchroom at work, in a field setting, on a factory floor, or elsewhere in the environment.

Concurrent Validity: results correlate with other measures of same ability.

Confederate: a confederate is an individual other than the patient who is scripted in a simulation to provide realism, additional challenges, or additional information for the learner (e.g. paramedic, receptionist, family member, lab technician). Can also be called SP, Actor, etc.

Confidentiality: is an ethical principle associated with several professions (e.g., medicine, law, religion, professional psychology, and journalism). In ethics, and (in some places) in law and alternative forms of legal dispute resolution such as mediation, some types of communication between a person and one of these professionals are "privileged" and may not be discussed or divulged to third parties. In those jurisdictions in which the law makes provision for such confidentiality, there are usually penalties for its violation.

Construct Validity: able to discriminate between levels of performance.

Content Validity: task contains the relevant subject material.

Continuing Medical Education (CME): a formal system of further education in a medical, nursing or paramedical field.

Control Booth: booth situated adjacent to the simulation room with a one-way viewing window to allow students to be observed, contains the computer that controls the AV system which allows capability for recording and audio/video reproduction of the simulation room and its events into a separate breakout room or onto a large screen in the main room.

Course Intake Form: a template used to create a sound educational simulation experience using a robust curriculum design process that acknowledges learning objectives, target audience, time frames, and other aspects of training to guide course design.

Crisis Resource Management (CRM): a curriculum that is 60% or more behavioral and 40% or less medical/technical. Crisis Resource Management has become a generic term for courses that address the principles of CRM using simulation. The term has come to define the cognitive and teamwork skills that facilitate management of medical events bearing a high risk to patient well-being.

Critical Path: the sequence of events (nodes) that define an ideal storyline where the learner makes all the right decisions from beginning to end.

Critical Thinking: clarifies goals, examines assumptions, discerns hidden values, evaluates evidence, accomplishes actions, and assesses conclusions.

CSE, CSA, CPX: a clinical skills or clinical practice examination (CSE, CSA, CPX) is a station or series of stations designed to assess the key clinical competencies of history-taking, physical examination, communication, and interpersonal and professionalism skills.

D

Debriefing Session: dedicated time to review the scenario that just occurred and extract important lessons.

Debriefing: a post performance evaluation of team performance and opportunity to identify strengths, weaknesses and systems issues.

Dedicated Simulation: simulation activities that take place in a dedicated simulation teaching center.

Discrete-Event Simulation (DES): simulation model having dynamic, stochastic, and discrete characteristics.

Distributed Learning: synonym for laptop or web-based simulation.

E

Efficacy: the ability to produce the necessary or desired result

Emergency Medicine Crisis Resource Management (EMCRM): course adapts the general structure of the ACRM course using scenarios specific to emergency medicine.

Empirical: pertaining to information that is derived from observation, experiment, or experience.

Evidence Based Practice (EBP): is an approach which tries to specify the way in which professionals or other decision-makers should make decisions by identifying such evidence that there may be for a practice, and rating it according to how scientifically sound it may be. Its goal is to eliminate unsound or excessively risky practices in favour of those that have better outcomes.

F

Face Validity: the simulated tasks resemble the real.

Facilitator: a person who might lead a healthcare simulation session and who focuses on encouraging student-led self-debriefing. A facilitator might or might not have a strong expertise in debriefing

Features/Feature Set: used to describe what a specific mannequin-based simulation device can or cannot do, as well the degree to which a given feature replicates the physical appearance or physiologic behavior of a human being.

Feedback: focuses more on instructor-driven transfer of information or critique.

FFM: a First 4 Minutes drill created as an efficient, short form of simulation for team training

Fidelity: refers to the simulation - how the simulator is used in context to represent a patient care situation - rather than to the simulator device itself.

For Training Purposes Only: a label affixed to medical equipment indicating that the unit is used for training purposes only.

Formative Feedback: information about performance is given to the learner immediately, allowing him/her to incorporate constructive criticism and improve performance.

Formative OSCE: a formative OSCE is an Objective Structured Clinical Exam used for teaching.

Frame of Reference Training: raters observe and individually score a live or recorded performance such as an SP encounter or chart note, and then together they discuss their ratings and reach a consensus on the observed behaviors corresponding to the checklist items and rating anchors.

Full Scale Simulation: a high-fidelity representation of the clinical care environment including realistic contextual cues, team members and mannequins.

Full-body patient simulator: has active and programmable physiology suited to invasive clinical interventions (e.g. vocal ability, vitals, IV access, blood gas exchange, cardiac convertibility).

G

GAS: a structure for debriefing for a simulation education event—Gather, Analyze, Summarize

General-Purpose Simulation Software: can be used for any application, with the provision for special constructs for one or more specific applications (such as manufacturing or process engineering).

H

Halo Effect: deference given to someone due to his/her position or reputation.

Haptic: conveying the sense of touch; also refers to all the physical sensors that provide a sense of touch at the skin level and force feedback information from muscles and joints.

HeartCode ACLS: AHA 2010 Guidelines web-based, self-paced instructional program that uses eSimulation technology to allow students to assess and treat patients in virtual healthcare settings. Successful completion of the full ACLS Course (using HeartCode ACLS Part 1) includes three parts: HeartCode ACLS Part 1, Part 2*, a hands-on skills practice session with an AHA ACLS Instructor or using a voice-assisted mannequin (VAM) system, Part 3*, a skills test with an AHA ACLS Instructor or using a VAM system. * a hands-on skills practice session with an AHA ACLS Instructor or using a voice-assisted mannequin (VAM) system.

HeartCode BLS Part 1: AHA 2010 Guidelines web-based, self-paced instructional program that uses eSimulation technology to allow students to assess and treat patients in virtual healthcare settings.

High Fidelity Patient Mannequin: (also called model-driven simulators) are those that use a mannequin body or part of a body to physically represent the patient, and have physiologic and pharmacologic models that direct real time autonomous reactions to interventions and therapies.

High Fidelity Patient Simulation Room: a learning environment with a setting that houses the High Fidelity mannequin and has piped in gases (nitrogen, carbon dioxide, and oxygen) and live wall suction.

High-Stakes Testing: the process of using test scores for the purpose of making decisions that have major consequences for the individual being tested.

Human Factors: the discipline or science of studying the interaction between humans and systems and technology. The term covers all biomedical and psychological considerations

Hybrid Simulations: are any simulation that combines standardized patients and simulators, including table top models, task trainers, and mannequins.

Hybrid Simulation: the use of two or more simulation modalities together in one training activity.

Hybrid Simulators: incorporates components of multiple simulator types. For example: a mechanical box trainer that also incorporates position and force sensors, allowing for computerized assessment of surgical performance and delivery of feedback to the learner.

I

Immediate Feedback: occurs during the event, usually due to a cause and effect event.

Improving the Management of Patient Emergency Situations (IMPES): multi-disciplinary, team training course that applies the CRM principles to managing emergency situations in the intensive care unit.

IMSH: the annual international meeting of the Society for Simulation in Healthcare historically occurring in January each year

INACSL: The International Nursing Association for Clinical Simulation & Learning promotes research and disseminates evidence based practice standards for clinical simulation methodologies and learning environments.

In-Situ Simulation: (In-Situ ~ Latin for "in place") simulation activities that take place in the actual clinical work environment.

Instructor, Lead: generally, a simulation educator with debriefing expertise

Instructor, Tag-Team: generally, a simulation educator who works with a lead instructor to assess student engagement, add discussion points, and enhance group involvement

Intermediate Fidelity Patient Mannequin: partial or full body mannequin as a physical presence on which to practice interventions. The simulators may interact with the user in limited ways, but the bulk of responses are created by the instructor.

In-Vivo: in real life.

IPE: inter-professional education, referring to educational events that include trainees from more than one discipline

L

Laryngeal Mask Airway (LMA): a mask used in anesthesia and emergency medicine.

Laryngoscope: is a medical instrument that is used to obtain a view of the vocal cords and the glottis, which is the space between the cords.

Latent Error: errors in the design, organization, training, maintenance that may lead to errors. Effects may lie dormant or unnoticed in system for a period of time.

Latent Threats: aspects of the organization that are not always easily identifiable but predispose to commission of errors.

Learner instructions: are the information provided to the learners prior to the encounter to prepare them specifically for it. These can include information about logistics (e.g. amount of time allotted for the encounter), the patient (e.g. vitals, chief complaint, relevant medical history), and their tasks (e.g. focused history, physical exam, counseling).

Learning Objective: written in behavioral terms (Bloom's Taxonomy), referring to what you want your trainees to be able to do after the simulation education event

Likert Scale: a tool used to determine opinions or attitudes; it contains a list of declarative statements, each followed by a scale on which the subject is to indicate degrees of intensity of a given feeling.

M

Mannequin: (the term "manikin" can also be used). Full or half body representation of a patient for practice.

Mannequin-Based Simulation: encompasses the modalities of simulation that use a physical mannequin (typically of a whole body) to replicate the patient in clinical encounters.

Manikin: another reference or spelling to full or half-body representation of a patient for practice

Measurement of Outcome (MOO): Measurement of competence by using a range of assessment instruments to provide objective measures of skills, knowledge and attitudes.

Mechanical Simulators: are the simplest and often constructed to teach discrete tasks i.e. Knot-tying boards, artificial tissue blocks for suturing practice, and box trainers for laparoscopy.

Meta-Instructor: participant in a simulation instructor course who is evaluating the 'as if' instructors leading a simulation exercise; these students are working to develop their simulation educator capabilities

Methodology: system of principles, practices, and procedures, applied to a specific branch of knowledge.

Microsimulation: synonym for laptop or web-based simulation.

Mixed-Method Simulation: using more than one type of simulation modality to achieve learning objectives in an educational event; e.g. flat-screen and manikin education together

Modality: A therapeutic method or agent, such as surgery, chemotherapy, or electrotherapy, that involves the physical treatment of a disorder.

Model-Driven Approach: creating complex mathematical models of the physiology of the human body in normal and abnormal clinical conditions as well as its response to drugs and other interventions.

Models: are mannequins constructed to respond realistically to actions, allowing examinees to reason through a clinical problem without risk to a real patient.

Moulage: the art of applying mock injuries for the purpose of training. Moulage may be as simple as applying pre-made rubber or latex "wounds" to a healthy "patient's" limbs, chest, head, etc., or as complex as using complicated makeup and theatre techniques to provide elements of realism (such as blood, vomitus, open fractures, etc.) to the training simulation.

N

Node: a step along a branched narrative story, typically represented by a single screen or web page; the learner progresses from one node to the next based on his/her decisions.

Non-technical Skills: behavioral Skills. Can be categorized as either a) skills of dynamic decision-making (e.g., anticipation and planning, use of cognitive aids, avoiding fixation errors) or b) skills of teamwork and team management (e.g., workload distribution, communication, and/or role clarity).

O

Objective Structured Assessment of Technical Skill (OSATS): combines a task-specific checklist with global ratings of performance, or the Global Operative Assessment of Laparoscopic Skill (GOALS).

Objective Structured Clinical Exam (OSCE): is a performance-based exam designed to assess learners' clinical skills in a simulated environment. Learners rotate through one or more stations, each simulating a specific clinical situation and challenge intended to elicit demonstration of specific behaviors and skills.

Objective: in medical education, it is what the learner will be able to know or do after taking part in educational activities. Objectives should result from assessment of the needs of the patient or population.

OSCE Blueprint: provides an overview of the link between educational goals and each station and serves as a valuable tool for OSCE (Objective Structured Clinical Exam) development as cases evolve.

P

Part-Task Trainer: a simulator designed to practice specific clinical skills. Sometimes also called "task trainer" or "partial task trainer."

Patient case: provides complete information for the standardized patient to use to portray the patient and includes information such as patient demographics, general affect and motivation, chief complaint, history of present illness, past medical history, and social history. Patient cases can also be written to indicate any information to be volunteered and any other specific prompts required of the patient. The details of the patient case may be referred to as the patient instructions.

Patient Educator: is a lay person trained to provide instruction on head-to-toe or invasive exam (breast and pelvic exam or male genital rectal exam) using their own bodies. Additionally, patient educators are trained to facilitate small group learning.

Patient Encounter (or Encounter): is a general term to describe the interaction between the learner and patient during the simulation. More generally, encounter is used to describe the learner interaction when the simulation scenario is based on something other than a patient.

Pinch: intuitive feeling that something may be wrong.

Post-encounter activities: are activities such as quizzes, SOAP notes or other write-ups, self-reflections, or station or event evaluations that learners complete in the time allotted after the encounter has been completed.

Postevent Feedback: replay that provides an objective and undeniable documentation of events that gives the participants opportunity to view the entire simulation session from a different perspective and encourages them to reflect on their actions and behaviors.

Predictive Validity: task performance predicts real-world performance.

Problem-based learning: small group learning with a facilitator where the students access and engage as a group with the VP (virtual patient) case.

Procedural simulators: are a category of simulators that are built to allow learners to practice a specific procedure (e.g. IV catheterization, intubation, laparoscopy).

Process Modeling: a technique for using computers or other technologies to imitate/simulate the operations of various kinds of real-world facilities or processes and their impacts on health care delivery.

Q

Quality Assurance: a system of procedures, checks, audits, and corrective actions to ensure that all research, testing, monitoring, sampling, analysis, and other technical and reporting activities are of the highest achievable quality. Quality assurance serves to benefit the quality of care.

Quality of Care: a level of performance or accomplishment that characterizes health care. Ultimately, measures of the quality of care always depend upon clinical outcomes or value judgments, but there are ingredients and determinants of quality that can be measured objectively, such as structure, process or procedures, and outcomes.

Quantified Tests: standardized patient examinations and computer case simulations and the use of relevant research data and information to validate the preferred assessment procedures.

R

Rating scales: provide the opportunity for observers to exercise expert judgment and rate the Global scale, items rate the performance as an integrated whole quality of an action.

Readback: an order is given; it is written down and read back. It is then acknowledged by giver as correct.

Reinforcement (learning principle): conveying desired behaviors by reinforcing positive behaviors during the debriefing.

Reliability: the extent to which a measure is consistent across repeated tests and includes test-retest Reliability correlation of tests applied more than once to same subjects, internal consistency correlation of subsets of scores measuring same construct, and inter-rater reliability degree of agreement between multiple raters of same test subjects.

Remote Feedback: uses all the distant interconnection technology to bring together participants, observers, and instructors for a shared experience, without each and every one of them actually bringing themselves to a common observation/debriefing room.

Research: scientific inquiry or an organized quest for new knowledge and better understanding, such as of the natural world or determinants of health and disease. Research can take several forms: empiric (observational), analytic, experimental, theoretical and applied.

Retention (learning principle): having the ability to interpret and apply the material, and the ability to assign the correct degree of importance to the material.

S

SBAR: acronym for "Situation", "Background", "Assessment", and "Recommendation". It allows a clinical team member to easily and quickly describe the clinical presentation of a patient and make a recommendation for future action. It is a component of effective communication between one healthcare provider and another.

Scenario: an initial set of conditions and time line of significant events used to replicate or recreate a clinical situation in order to achieve exercise objectives. Scenarios can be run 'on the fly' or can be programmed into the manikin/computer.

Scenario Template: a tool used to describe the simulation case set-up, 'patient' presentation, scenario flow, and case end points; some templates include learning objectives, target audience, needs assessment, and other considerations for creating a simulation case

Science: a branch of knowledge that produces theoretical explanations of natural phenomena based on experimentation and observation.

Screen-based Simulation: a program, exclusively computer-based, that allows learners to interview, examine, diagnose, and treat patients in realistic clinical scenarios.

Self-Assessment: the process of evaluating one's own deficiencies, achievements, behavior or professional performance and competencies. Self-assessment is an important part of self-directed and lifelong learning because it creates a need for improvement while it justifies confidence in one's competence.

Self-Debriefing: discussion after a simulation event that is student-centered and led; sometimes, a simulation educator or facilitator will guide the debriefing to keep it on track and address key points

Self-directed learning: freestanding case accessed by individual learners and completed with limited interaction with the case author, educators or experts.

Sequenced or blended learning: the learner engages with a VP in conjunction with supportive didactic instruction, small group discussion, or other simulation exercises.

Serious Safety Event (SSE): is a medical error or deviation from the standard of care resulting in serious harm.

Simulation Controversy: a manner of operating in a simulation program that could be personal choice or student-directed; e.g. letting the 'patient' die, amount of fidelity used, etc.

Simulation Facility is the physical space where the simulation takes place, excluding in-situ simulation activities.

Simulated Patient: a live person playing a patient, staff or family member in a healthcare simulation

Simulation Program is a curriculum, whether informal or formal, using simulation as the primary modality to teach learners.

Simulations and Models: tools for assessment of clinical performance in an environment closely resembling reality and imitating real clinical problems to rate the examinees' performance on clinical problems that are difficult or even impossible to evaluate effectively without harming a real patient. They permit examinees to make life-threatening errors and provide instant feedback so examinees can correct a mistaken action.

Simulator Training for Acute Resuscitation Skills (STARS): course designed to teach medical students on an ICU rotation how to manage dynamic situations and to identify treatment priorities in the critically ill patient.

Simulator: a setting, device, computer program, or system that recreates essential elements and cues; to encourage experiential learning related to particular educational objectives.

Situated Learning: was first proposed by Jean Lave and Etienne Wenger as a model of learning in a Community of practice. At its simplest, situated learning is learning that takes place in the same context in which it is applied.

Situational Awareness: is the mental representation and understanding of objects, events, people, system states, interactions, environmental conditions, and other situation-specific factors affecting human performance in complex and dynamic tasks. Stated in lay terms, SA is simply "knowing what is going on so you can figure out what to do."

Sort-Of-Scared (SOS): miniversion of the SCARED course, a 1-hour course for interns to review Advanced Cardiac Life Support and the management of cardiac arrests.

SSH: Society for Simulation in Healthcare, an international group of simulation educators and enthusiasts which has a robust website, journal, and annual meeting

Standard Course on Active Resuscitation, Evaluation, and Decision Making (SCARED): course developed for interns who showed an interest in additional simulator training in managing emergency situations and cardiac arrests.

Standard: refers to a model, example or rule for the measure of quantity, weight, extent, value, or quality, established by authority, custom or general consent. It is also defined as a criterion, gauge or yardstick by which judgments or decisions may be made. A meaningful standard should offer a realistic prospect of determining whether or not one actually meets it.

Standardized Patient: persons who are trained to portray a given patient presentation in a consistent and believable manner, allowing the realistic simulation of patient encounters.

Static Model: a full or half-body manikin or part-task trainer that does not "do" anything electronically or otherwise

Station: is the physical (or virtual) locale for simulating a specific clinical situation or challenge for teaching or assessing clinical skills. All of the elements of a specific simulation reside within the station.

Step Back: dramatic gesture to get immediate attention of team, allowing for reorganization or refocusing of goals and priorities.

Subject Matter Expert (SME): is a person who is an expert in a particular area. In software engineering environments, the term is used to describe professionals with expertise in the field of application but without technical project knowledge. Sometimes the acronym is voiced ("smee") and other times spelled ("S-M-E").

Summative Feedback: information is provided to the learner at the end of training and used to make a decision about his/her status or advancement.

Summative OSCE: a summative OSCE is an Objective Structured Clinical Exam used for assessment.

T

Table top models: are a category of simulators that are a three-dimensional replication of a part of the body (e.g. knee model, skull model, shoulder model).

Target Fixation: focus on a single task to the exclusion of other input.

Target Population/Target Audience: groups of participants or learners to whom the education application or discipline is directed to.

Task Trainer: a simulator designed to practice specific clinical skills. Sometimes also called "part task trainer" or "partial task trainer."

Team Building Training (TBT): offers an application that has the potential to fulfill both requirements and could enable training and simulation centers the opportunity to widen their appeal to all areas of healthcare.

Team Communication: the exchange of information between team members that is satisfactorily transmitted, received, and acted upon.

Team: a small number of people with complementary skills who are committed to a common purpose, performance of growth for which they are mutually accountable.

TeamSTEPPS: A robust AHRQ and DoD team training program used by some hospitals to promote effective team communication

Technical Skills: the actual performance of patient care treatments.

Telemedicine: the application of communications technologies for the provision of health care services (diagnosis, treatment, prevention of diseases and injuries) over spatial distance in a situation where remoteness and/or availability of professional expertise is a critical factor.

Threats: factors that increase the likelihood of an error.

Transference (learning principle): the ability to take the lessons learned from sessions and apply them to a new or novel problem. Once debriefing is complete and students return to their clinical settings, information learned will translate into successful clinical skills that can be used in a critical clinical setting, thereby improving their performance.

Triad: simulation technique using a triad of three people (students or course participants) in all roles. The three roles are typically patient, practitioner and observer.

Triangulation: a method of assessment that is required when validity cannot be achieved with the use of a single assessment tool. If multiple testing methods are used to evaluate a single competence, one can be more certain that the competency has been appropriately assessed.

V

Validity: extent to which an assessment tool measures accurately what it is designed to measure.

VE Measurements ~Human Performance Measures: objective performance measures related to the specific task (skill measures), time, accuracy/errors, mental workload, critical incidents, eye movements/head movements, performance lags, situation awareness, team performance measures, sensation of presence, subjective opinions, manual tracking performance, less resistance to training, enjoyment of training, spending more time training.

VE Measurements ~Physiological: visual and motor aftereffects, vestibular aftereffects Cybersickness (Cybersickness questionnaire, EMG), physiological monitoring (heart rate, sweating, blood pressure, EEG, EMG of stomach, etc.), length of time to adapt, length of time in the VE, length of time of aftereffects.

VE Measurements ~Social: amount of interactions among users, type of information shared, social enhancement effects on clinical outcomes, increased motivation.

VE Measurements ~Software and Hardware Measures: system lags, system crashes or failures, processing performance, packages sent across distributed systems.

VE Measurements ~Transfer of Training (ToT): two-group, self-control, subjective opinion, uncontrolled, low fidelity, exams for knowledge, etc.

Virtual Environment: describes a wide variety of computer-based applications, commonly associated with its immersive, highly visual, 3D characteristics. It is generally defined based on the type of technology being used, such as head-mounted displays, stereoscopic capability, input devices, and number of sensory systems stimulated.

Virtual Patient (VP): a computer program that simulates real-life clinical scenarios in which the learner acts as a healthcare provider obtaining a history and physical exam and making diagnostic and therapeutic decisions.

Virtual Reality Exposure Therapy (VRET): an innovative method of conducting exposure therapy. Users are immersed within a computer-generated simulation or VE and increasingly exposed to the feared stimuli within a contextually relevant setting.

Virtual reality simulations (VR): use computers sometimes combined with anatomical models to mimic realistic organ and surface images and the touch sensations a physician would expect examining a real patient. Written and computerized simulations have been used to assess clinical reasoning, diagnostic plans and treatment for a variety of clinical disciplines. They are expensive to create.

Virtual Reality: commonly called Virtual Environments (VE). Often used to describe a wide variety of computer-based applications and is frequently associated with its immersive, highly visual, 3D characteristics. A computer-simulated environment that gives a sense of being present in the virtual environment and within which a participant can interact in a seemingly real or physical way.

Virtual Simulation: a simulation involving real people operating simulated systems.

Viva (or Viva Voce): an oral examination.