Using the Playbar

To progress through this course you will use the buttons located on the playbar. Use the ***Right Arrow*** button to progress content forward and the **Left Arrow** button to return to the previous slide. Clicking the **TOC** button will toggle the Table of Contents pane allowing you to jump to a section you have already viewed.

Getting Started with Simulations

Katie Ondo, M.A., CCC-SLP, CHSE

Katie Ondo M.A., CCC-SLP, CHSE

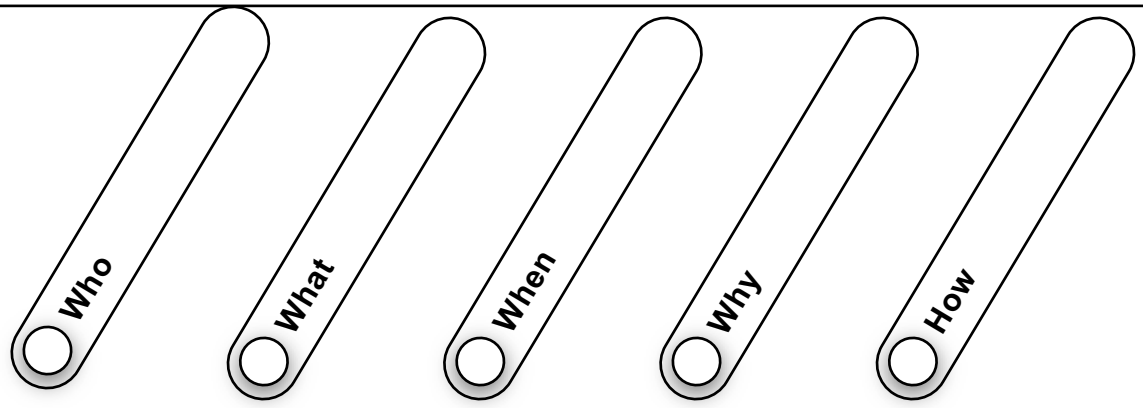
Financial / Non Financial Disclosure

- Certified Simulation Healthcare Educator (SSIH)
- Editor in Chief for Simucase
- Speech-Language Pathologist at Cincinnati Children's Hospital Medical Center, Inpatient

Learning Objectives:

- As a result of this continuing education activity, participants will be able to:
- Describe the history on the use of simulations for training and education
- Define the current use of simulations in CSD
- Explain the benefits of simulations
- Define the different types of simulation modalities

Simulation Overview



Who's Using Simulations?

- Naval Air Systems
- Medicine
- Nursing
- Emergency Medical Training
- Military Training
- Dentistry
- Police
- Allied Health Professions

What is a Simulation?

- A simulation is a reproduction of a real life experience.
- "A simulation is a technique--not a technology-- to replace or amplify real experiences with guided experiences that evoke or replicate substantial aspects of the real world in a fully interactive manner." (Gaba)

Simulation Terms & Definitions

Fidelity

High Fidelity

Scenario

Simulation Terms & Definitions

Facilitator

Learner

Confederate

Simulation Terms & Definitions

Pre-Brief

Feedback

Debrief

Simulation Terms & Definitions

Create matching activity for the terms reviewed thus far

Simulation Terms & Definitions

Standardized Patient

Manikin

Part Task Trainer

Computer-based

Closer look at Simulation Modalities

- Standardized Patients
- Manikins
- Computer Based
- Part Task Trainers

Standardized Patients

- Trained to provide constructive feedback from the patient's perspective
- SP terminology is often used interchangeably however there is a distinct difference:
  - A standardized patient portrays a patient encounter consistently
  - A simulated patient changes the responses given based on the scenario

Advantages

- SPs can be trained to provide constructive feedback to students
- SPs are trained to be consistent so you should know how a scenario will play out
- SPs can tolerate more students than a real patient can
- The consistency provides students with the same experience if the SP stays on script
- The potential harm to a real client is removed

Disadvantages

- SPs are actors and some disorders are difficult to simulate
  - May not be possible to simulate physical changes
  - Credibility of speech errors
- SPs are human and susceptible to human error
  - Forgetting the script
  - Improvising
- Recruiting, training and organization of SPs takes time and resources
- SPs are often paid for the time to train and participate in scenarios

Uses for Standardized Patients

- Collecting a case history and practicing interview skills
- Exposure to what a specific disorder looks like
- Management of ethical and moral dilemmas
- Delivering test results
- Crisis management skills
- Conflict resolution skills

Manikins

- Human simulators
- Programmed to exhibit a wide range of clinical symptoms
- Levels of realism
  - Talking
  - Breathing
  - Pulse and blood pressure
  - Lung sounds
  - Pupil response
  - Medication recognition

Manikin Terms & Definitions

Baby Sim

SimBaby

METIman

SimMan

Moulage

Advantages

- Encourages teamwork and discussion

Disadvantages

- Expensive
- May be difficult to gain access to a simulation center
- Authoring scenarios can be time consuming
- Require maintenance and simulation operator

Find a simulation center near you

- SSIH Simulation Center Directory
  http://www.ssih.org/Home/SIM-Center-Directory/Area/US

Scenario

Video

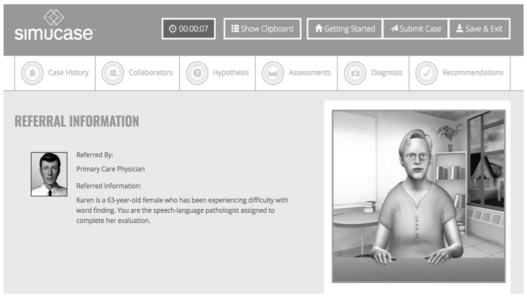
Example of hybrid approach

Video

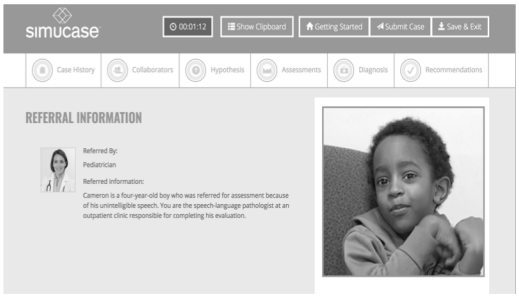
Computer-Based Simulations

- Created and completed on a computer

Avatar



Video of Virtual Patient



Advantages

- Simulations are repeatable and available 24/7
- Platforms offer simulation scenarios that are already created
- Feedback and scoring algorithms are built into the online system
- Supervision is typically asynchronous

Disadvantages

- Time intensive to create and program
- Can be challenging to create a connection

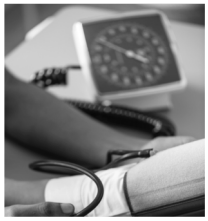
Scenarios

- Screenrecording of simucase

Video

Part Task Trainer

- Simulation designed for practice of specific skills

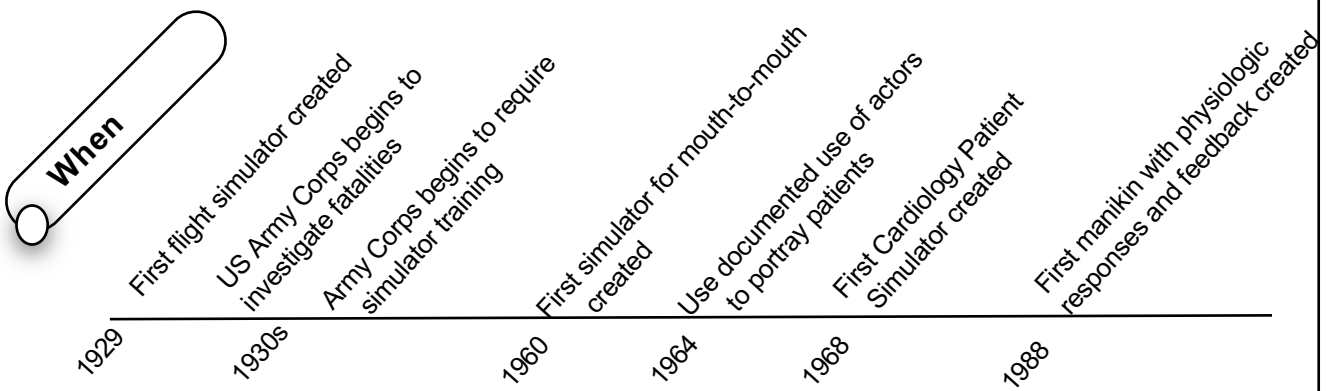
Advantages

- Practice for a specific task
- Beneficial for novice learners

Disadvantages

- Carryover of skill to full simulation scenario

When did simulations begin?



Historical Overview of Medical Simulation

- 2007 medical schools incorporated Virtual Reality and the use of Second Life
- Present day- Medical Board examinations include computer-based simulations and standardized patients

Overview of Simulations in CSD

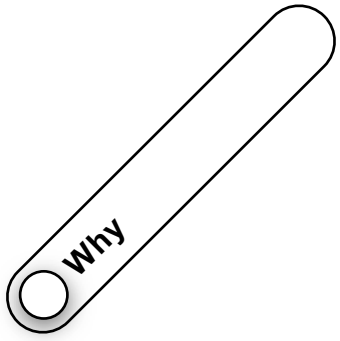
- Standardized patients simulating characteristics of Aphasia in 1995 (Edwards, Franke & McGuiness)
- Computer-Based Simulations 2010 (Williams & Schreiber)
- Manikins for FEES 2011 (Benadom & Potter); tracheostomy care 2012 (Ward et al.)

When are simulations used?

- Assessment and decision making skills
- Interviewing Skills
- Communication and Team Collaboration Skills
- Skills training
- Error Management and Error Prevention
- Testing of clinical skills
  - Objective Structured Clinical Evaluations (OSCEs)
  - Medical Licensing Examination
  - Competency Trainings

Why are simulations used?

- Repeated Practice
- Patient Safety
- Anxiety Reduction
- Standardization
- Patient Access
- Consistency and accuracy
- Focus on performance of the learner
- Encouragement of active learning



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creating connections. inspiring confidence.

The Practice Gap

Education

The Practice Gap

Clinical Functionality

Benefits of Simulations

- Opportunity to bridge the gap from classroom to clinic
- A safe learning environment – opportunity for repeated practice to learn from mistakes
- Guaranteed exposure to particular experiences
- Technical and non-technical skills training
- Opportunity for confidence building
- Opportunity for reflective practice

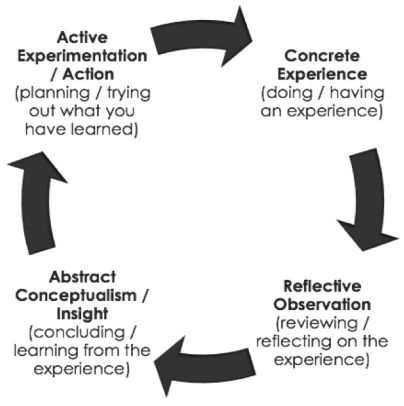
Theories supporting the use of simulations for learning

- Experiential Learning Theory
- Constructivism

Experiential Learning

- The process of acquiring skills and expertise by doing things
  - Able to learn from one's mistakes, consequences, & achievements
- Kolb's learning style theory is typically represented by 4 stages

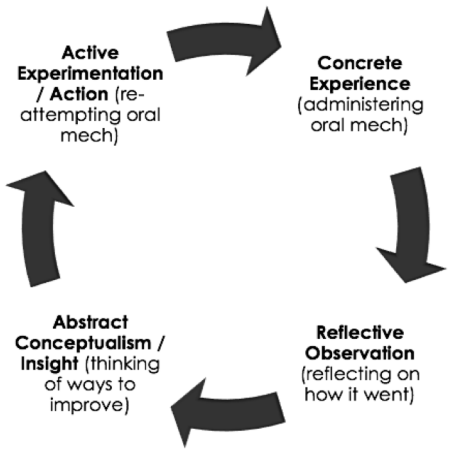
Experiential Learning Cycle



Activity

- Complete the 4 phases of the experiential learning cycle for completing an oral mech

Experiential Learning Cycle

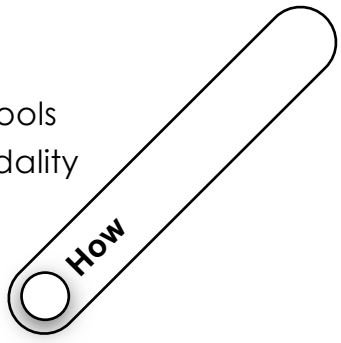


Constructivism

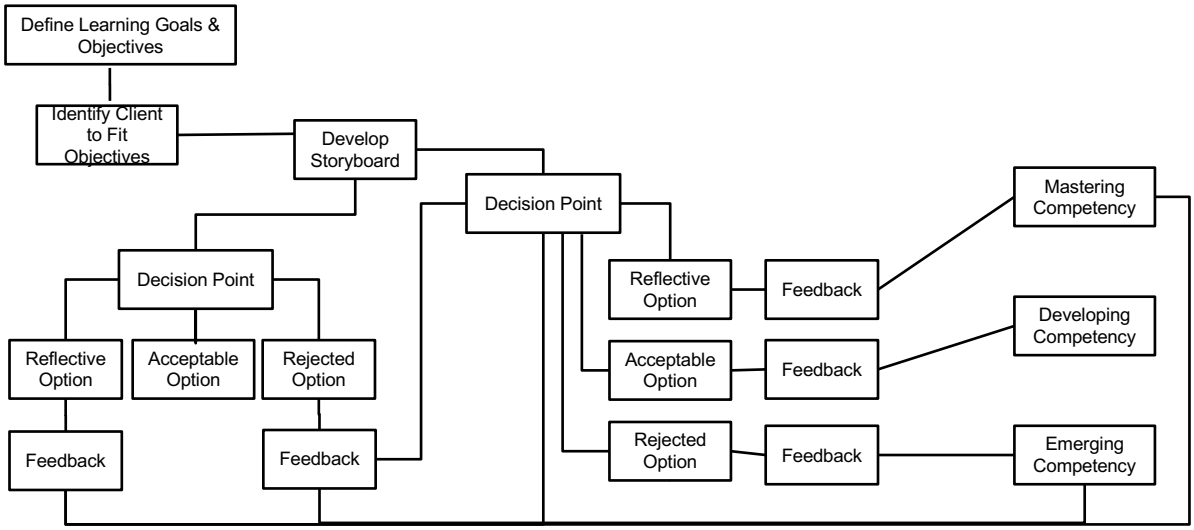
- People construct their own understanding and knowledge of the world through experiencing things and reflecting on those experiences
- Encourages learners to use active techniques to create more knowledge and then to reflect
  - Experiments
  - Real-world problem solving

How to use simulations

- Perform a needs assessment
- Define your learning goals and objectives
- Select your assessment method and evaluation tools
- Design your simulation event and select your modality
- Identify additional resources needed
- Organize your simulation team
- Prepare materials
- Conduct pilot activity



How to Design a Simulation



Ondo, 2018

How to create real connections through simulation

Video

Wrap Up

katie@simucase.com

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References & Resources

Technical Reports:

Interprofessional Education Collaborative Expert Panel Report http://www.aacn.nche.edu/education-resources/IPECReport.pdf

Interprofessional Education Resource from ASHA http://www.asha.org/uploadedFiles/IPE-IPP-Reader-eBook.pdf

National Council of State Boards of Nursing Simulation Report https://www.ncsbn.org/685.htm

Simulation Technologies in Higher Education: Uses, Trends, and Implementation https://net.educause.edu/ir/library/pdf/ERB1003.pdf

Resources

Simulation & Gaming: An Interdisciplinary Journal http://sg.sagepub.com/
CyberPsychology & Behaviors - http://www.liebertpub.com/products/product.aspx?pid=10
Simulation in Healthcare - http://journals.lww.com/simulationinhealthcare/Pages/default.aspx
Clinical Simulation in Nursing - http://www.nursingsimulation.org/
Society for Simulation in Healthcare - http://www.ssih.org/
Simulation Innovation Resource Center - http://sirc.nln.org/mod/glossary/view.php?id=282
Standards for Best Practice in Simulation – International Nursing Association for Clinical Simulation and Nursing http://www.inacsl.org/i4a/pages/index.cfm?pageid=3497