

Open Access

Abstract

Published 01/03/2023

Copyright

© Copyright 2023

Meyer et al. This is an open access abstract distributed under the terms of the Creative Commons Attribution License CC-BY 4.0., which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

Distributed under

Creative Commons CC-BY 4.0

Meta-Simulation as Innovation: Serious Game Worlds for Deep Learning

Raquel Meyer¹, Cathy Smith², David Chandross³, Shoshana Helfenbaum⁴, Emi Giddens⁴, Daniel Galessiere⁴, Elizabeth Kelson⁵, Christina Gallucci⁴

1. Ontario Centres for Learning, Research & Innovation in Long-Term Care, Baycrest, N/A, Toronto, CAN 2. Academic Education, Baycrest, Toronto, CAN 3. The Creative School, Toronto Metropolitan University, Toronto, CAN 4. Ontario Centres for Learning, Research & Innovation in Long-Term Care, Baycrest, Toronto, CAN 5. Aging & Gerontology, Toronto Metropolitan University, Toronto, CAN

Corresponding author: Raquel Meyer, rmeyer@baycrest.org

Categories: Medical Simulation, Geriatrics

Keywords: metasimulation

How to cite this abstract

Meyer R, Smith C, Chandross D, et al. (January 03, 2023) Meta-Simulation as Innovation: Serious Game Worlds for Deep Learning. Cureus 15(1): a829

Abstract

Background:

The Learning Inter-Professionally Healthcare Accelerator (LIPHA) is a solution designed to augment virtual inter-professional clinical learning and practice to: Enable asynchronous inter-professional education; foster deep learning of competencies; standardize exposure to common, urgent and outlier conditions; and, attract next generation healthcare providers.

Goal:

A serious meta-simulation game world was created to improve the depth and effectiveness of learning in a healthcare sub-specialty. LIPHA for Long-Term Care is the use case that will be demonstrated.

A meta-simulation - a unified set of simulations and learning activities delivered as a complete learning experience to achieve multiple competencies and learning outcomes - was created to encompass multiple competencies. Serious game mechanics were applied in a fictional game world with its own rule sets and boundaries.

Grounded in the fields of neuroscience, emotional design, and education, the main learning strategies included: simulation-, case-, and story-based learning. Anticipated outcomes included improved learning, knowledge structuring, mental focus, pleasure and empathetic response.

Description of the Innovation:

In LIPHA for Long-Term Care, an audio-visual narrative immerses learners in a game world set in "Ancient Carthage" and takes them on a journey as a "healer". Once oriented to the game, learners embark on a series of quests to unlock gated content that scaffolds them to higher levels of competence. Within each gated section, learners can explore skill-building simulacra and progress to full, linked simulations with long-term care residents that reflect real care needs. Additional resources and activities are integrated to support case-based learning.

A game economy, non-player characters, feedback and rewards systems and engagement loops round out the learning experience. The choose-your-own-adventure style narrative, which continues throughout the game, reflects the desired care values and philosophy. The narrative also supports the learners' development as healers and culminates in a denouement.

Summary of Usage and Evaluation:

Based on a mixed-methods process and outcome evaluation, learning outcomes for over 400 learners will be highlighted including confidence, learning effectiveness, satisfaction and knowledge transfer.