Incorporation of Community Health Virtual Simulation into a Capstone Population Focused Project: A Pilot Study

K. Camargo R.N., PhD  (camargok@uhv.edu)

**Background**

**Virtual Simulation** - computer, online, either 2D (computerized case studies, CD-ROMs, Videos, games or study programs) or 3D (virtual communities)

**Historical Use:**
- Pilots 3-D Virtual Worlds during World War II
- 1995 Web-based simulation begins
- 1996 public (Gaming-Dungeons and Dragons)

**Associate Degree RNs:**
- Seek to transition into professional nurse role (BSN)
- Bring nursing experience
- Are tech savvy

**Types of Virtual World Simulations**
- 2013 Integrative Review
- Healthcare 3 D Virtual Worlds
- ClinSpace™
- Second Life ©

**United States Military**
- CBRNE-
- PULSE

**Virtual Communities**
- Linden Lab’s SL; Stilwell; Mirror Lake; The neighborhood; BB Virtual Tour; BB Virtual learning Environment; Killardon; Centralia; Sentinel City

**Research:**
- Scarce or scant with regards use of a virtual world simulation environment

**Purpose**

A Pilot Study

Sought to determine whether the use of a Community Health Virtual Simulation assisted online RN-BSN nursing students (enrolled in a newly created Online RN to BSN program) integrate established nursing clinical skills into the professional nurse role; apply concepts, values and new professional nursing knowledge; synthesize critical thinking; use leadership skills of collaboration & communication in the development of a team-identified ‘Community Population Focused’ project.

**Research Question guiding the Pilot Study:**

What relationships, if any exist between the use of a Community Health Virtual Simulation teaching strategy in a Capstone Population Focused Project and the course learning outcomes, and the concepts applied (communication, collaboration and leadership, as well as student interest, understanding and engagement)?

**Virtual World Simulation as a Teaching Strategy**

There is a need to provide and use teaching strategies which enhance and augment student nurses’ learning.

**Experiential learning and active engagement teaching strategies allow students to:**
- apply newly acquired nursing knowledge,
- increase and enhance their critical thinking/reasoning, skills
- integrate and use leadership skills
- integrate and use inter-professional collaboration, communication and teamwork.

**As a teaching and learning strategy ‘Virtual World Simulation(s)’**
- Provides a creative alternative to traditional methodologies
- Realistic and experiential in approach
- Closes the gap between theory and practice
- Enhances student experience(s); increases confidence & engagement; increases knowledge and understanding
- Supports affective learning
- Supports and enhances leadership skills, active Team work as well as communication and collaboration

**Steps to Embed a Community Health Virtual Simulation**

**Review & Select**

Community Health Virtual Simulation (CHVS) platform.

Review previous Courses & Course work (Transitions (Professional Nursing); Evidence-based practice; Ethics; Health Assessment; Healthcare Organizations (Informatics; Leadership; Community Population Focused Course)

Facilitate & enhance student learning/understanding by:
- Developing/Creating/Embedding:
  - Virtual world and Blackboard LMSs
  - Forms/Tools - scaffolding information to be attained
  - Capstone Course Assignments
    - Team Community Assessment, Team member Discussion Boards, Individual Reflections
    - Scaffolding Discussion Board
    - Rubrics & detailed & outline specific requirements

**Evaluation**

**Consent** (Informed Consent Letter/Institutional IRB)

Community Health Virtual Simulation (CHVS) Pilot Study Questionnaire
- Anonymous Survey mailed along with return envelope
- 8 basic demographic questions
- 6 Likert questions ranging from Strongly Disagree to Strongly Agree
- 3 qualitative questions

Course Faculty Evaluation/Grading of the Community Health Virtual Simulation (CHVS) Capstone Project Assignment(s)
- Team Community Health Assessment
- Team Capstone Project Plan report (Final Paper)
- Team Capstone Poster
- Reflection paper
- Scaffolding Discussion Board
- Team/Individual Blackboard postings
- Team Texting/Communications

**Findings/Implications**

CHVS Questionnaires

*Low Response Rate* - 3 out of 10 (30%) Questionnaires returned; 2 female & 1 male; age: 29-36; Responses: 30% (3) S. Agree to Agree

Students perceived the CHVS:
- Is an effective teaching strategy
- Facilitated communication, collaboration, leadership, interest & engagement
- Facilitated development of the Capstone project (DB also)
- Assisted with the understanding & utilization of the key concepts: communication, collaboration & leadership
- Aided in the synthesis of the Capstone Project

Student Questionnaire Comments:
Assessment tool a strength, CHVS best tool (students spread throughout state, gained skills, permitted easy of visualization of communities)

**Individual Reflection papers Addressed:**
- Students perceptions & use of a CHVS
- Insights & Lessons Learned; ADN-BSN Prepared RN
- Achievement of Online RN to BSN Nursing Program goals
- Perceived Changes in the Professional Role & Baccalaureate Nurse preparation after participation in CHVS (Specific Examples)
- Lifelong learning & Future Growth

*Capstone occurred during Hurricane Harvey*

Future research: Larger sample size, online questionnaire platform

**References**

Provided upon request