Assessing Learning Outcomes in Virtual Learning Environments: Scoping Review

Rebecca J Sisk, PhD, RN, CNE
Professor • Chamberlain College of Nursing

Dee McGonigle, PhD, MSN, BSN, RN, CNE, FAAN, ANEF
Professor • Educational Research & Instructional Innovation
Chamberlain College of Nursing
Objectives: Participants will

1. Discuss virtual learning environment (VLE) learning activities described in the literature.

2. Categorize the learning activities identified for VLEs in the literature.

3. Select appropriate learning outcomes for teaching and learning in VLEs.
The Challenge

• Authentic assignments
• Amusement
• Learning
Scoping Review - Definitions

• A preliminary assessment of potential size and scope of available research literature (Grant and Booth, 2009).

• All accessible relevant literature and research on a topic being investigated, even evidence deemed to be low in the hierarchy of evidence (McKinstry, et al., 2014)
Steps in a Scoping Review

- Pose the research question
- Identify relevant studies
- Review the data using inclusion/exclusion criteria
- Chart the data
- Summarize the data

(McKinstry, et al., 2014)
Scoping Review Questions

1. What learning activities used in virtual learning environments (VLEs) are described in the literature?

2. How can these learning activities be categorized?

3. What learning outcomes for teaching and learning in VLEs have been described in the literature?
Search strategy

• Databases: CINAHL, Education Research Complete, ERIC, and MEDLINE

• Search terms
  – Learning Outcomes
  – Nursing
  – Virtual learning environment OR Second Life
Article Selection

- **IDENTIFICATION**
  - EBSCOHost (243)

- **ELIGIBILITY**
  - Eligible Articles (n=173)

- **INCLUDED**
  - Articles Included (n=58)

- (-) Not related to VLEs or Second Life (n=70)
- (-) Related to Second Life but not to assignments or assessment (n=115)
Educational Majors Included in the Sample

- Nursing (13)
- Medicine (7)
- Other health related fields (8)
- Education (11)
- Other fields (19)
Types of Articles Included in the Sample

- 18 case studies
- 19 descriptive mixed-methods studies
- 16 qualitative studies
- 5 quasi-experimental studies
Categories of Learning Activities

Teaching/Learning

Operating/Processing

Accessing Resources

Collaboration

Observing

Building

Communicating

Simulation and Problem-Based Learning
Categories of Learning Activities (Cont.)

- Simulations/Problem-based learning
- Communicating
- Observing
- Accessing Resources
Limitations of Student Satisfaction Surveys as Outcomes

• Common feature of all of the articles on Second Life activities or outcomes

• Relationship to learning

• Usefulness of student satisfaction surveys
Quantitative Learning Outcomes

• Scores on exams and quizzes

• Scores on grading rubrics for performance on skill demonstrations, scenarios or simulations, or taped exercises

• Attitude surveys – e.g., attitudes toward people in poverty
Quantitative Learning Outcomes (Continued)

• Scores on grading rubrics applied to work products
• Objective measures of student engagement
• Surveys related to self-efficacy (computer skills, Second Life skills, professional competencies)
Qualitative Learning Outcomes

• Debriefing analysis
  – Did the students demonstrate that they learned?
  – Was the teaching method effective? (A satisfaction question)

• Analysis of reflective journals

• Semi-interviews (often related to satisfaction)
Summary of the Literature

• Most students were satisfied with working in Second Life

• Negative feedback concerning technical challenges

• When tested, there is typically little difference in learning between Second Life and on-the-ground classes (however, the studies are weak for determining effectiveness)
Conclusions

- Multiple learning activities possible in VLEs
- Outcomes do not differ from outcomes in other environments
- Research base is weak; need higher level studies
References
