

# Assessing Learning Outcomes in Virtual Learning Environments: Scoping Review



**CHAMBERLAIN**  
*College of Nursing*

**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?

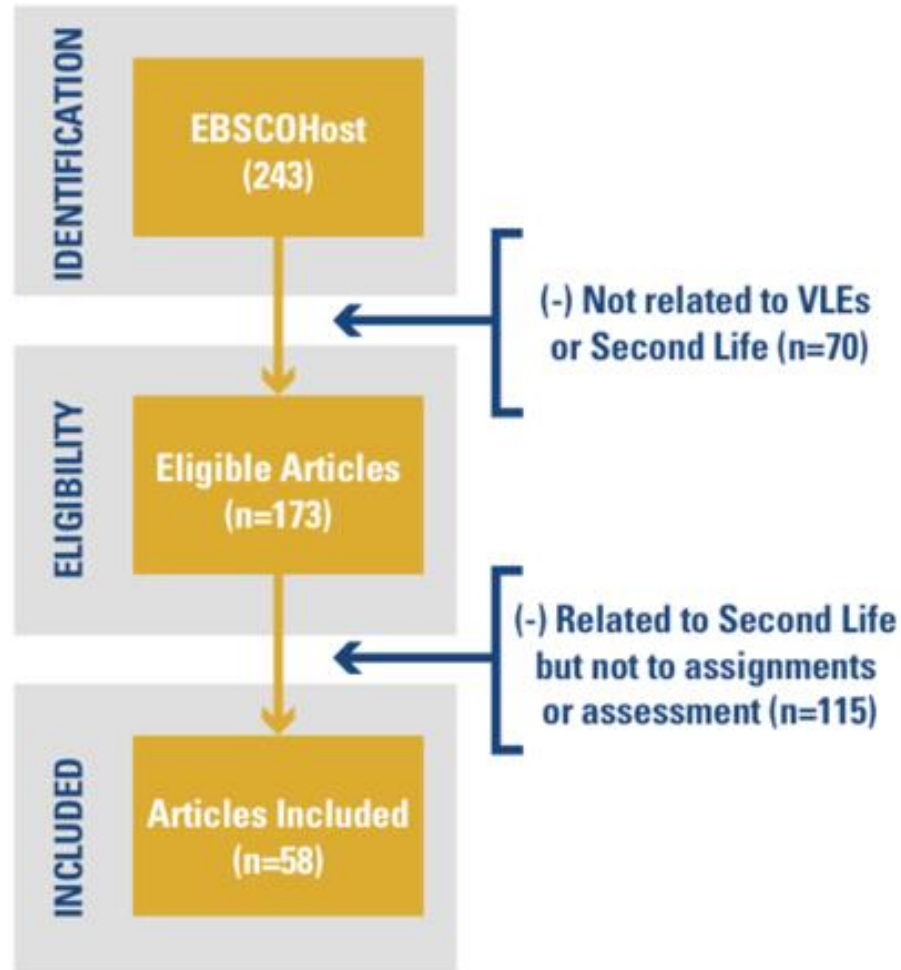


# Search strategy

- Databases: CINAHL, Education Research Complete, ERIC, and MEDLINE
- Search terms
  - Learning Outcomes
  - Nursing
  - Virtual learning environment OR Second Life



# Article Selection





# Educational Majors Included in the Sample

- Nursing (13)
- Medicine (7)
- Other health related fields (8)
- Education (11)
- Other fields (19)

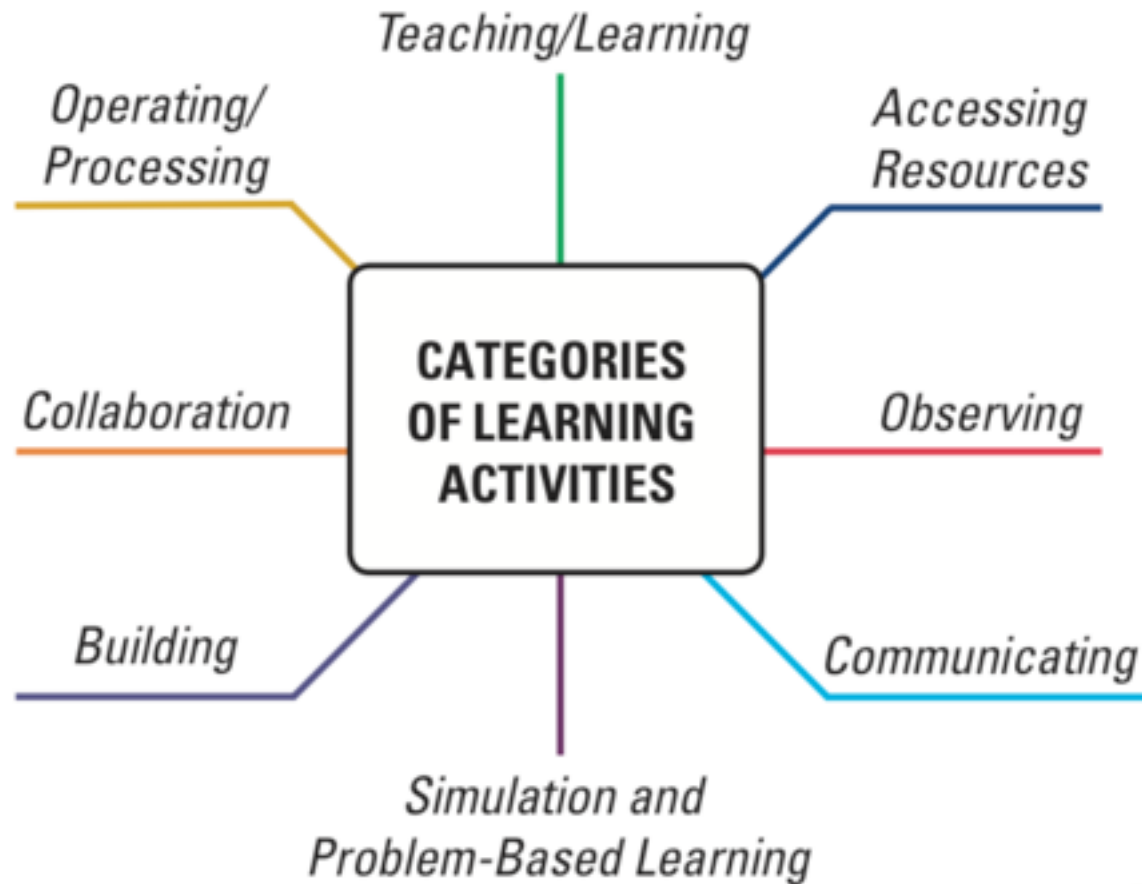


# Types of Articles Included in the Sample

- 18 case studies
- 19 descriptive mixed-methods studies
- 16 qualitative studies
- 5 quasi-experimental studies



# Categories of Learning Activities



# 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

1. Grant, M. J. & Booth, A. (2009). A typology of reviews: An analysis of 14 review types and associated methodologies. *Health Information and Libraries Journal*, 26, 91–108. doi: 10.1111/j.1471-1842.2009.00848.x.
2. McKinstry, C., Brown, T., & Gustafsson, L. (2014). Scoping reviews in occupational therapy: The what, why, and how to. *Australian Occupational Therapy Journal*, 61, 58-66. doi: 10.1111/1440-1630.12080.

