

Virtual Reality Training for Dental Hygiene Students to Improve Oral Care for Patients with Mild Cognitive Impairment/Dementia



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Introduction

- **Rising Need:** Mild Cognitive Impairment (MCI) is increasing globally due to an aging population (Petersen & Negash, 2008).
- **Care Gap:** Progressive cognitive decline requires specialized training for healthcare practitioners to maintain patient quality of life (Sherif et al., 2026).
- **Innovation:** There is an urgent need for intersectional educational intervention that combines technology with MCI/Dementia.

Research Objectives

- **Safe Training:** Develop VR simulation for dental hygiene students to practice patient interactions in a supportive, low-anxiety environment.
- **Skill Building:** Increase student knowledge, confidence & preparedness in providing specialized care for patients with MCI/Dementia.
- **Person-Centered Care:** Prepare future healthcare providers to deliver more empathetic, tailored treatments.
- **Curriculum Integration:** Bridge the gap between dental hygiene education and emerging technologies.

Methodology : Mixed-Methods, Longitudinal Study (2026–2028)

PARTICIPANTS



Total Participants: 78 (Over 2 Years)
Year 1: 27 students + 10 LTC staff
Year 2: 31 students + 10 LTC staff
Dental Hygiene Students (58)
LTC Staff (20)

RECRUITMENT



For Students:
Recruited via iLearn (in-classes)
For LTC Staff: Recruited via
Email (Directors of Care)

INCENTIVES



For Students: \$5 per survey
For LTC Staff: Up to 10 gift cards/site-year

Figure 1 shows total participants over two years, the number recruited each year, recruitment sources, and recruitment incentives.

Anticipated Outcomes

- **VR Simulation:** Realistic, engaging, improves learning and communication.
- **Students:** Improved knowledge, confidence, and preparedness.
- **Staff Feedback:** Students demonstrate more person-centered care and better preparedness.
- **Impact:** Supports VR in dental hygiene education and the development of future training tools.

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References

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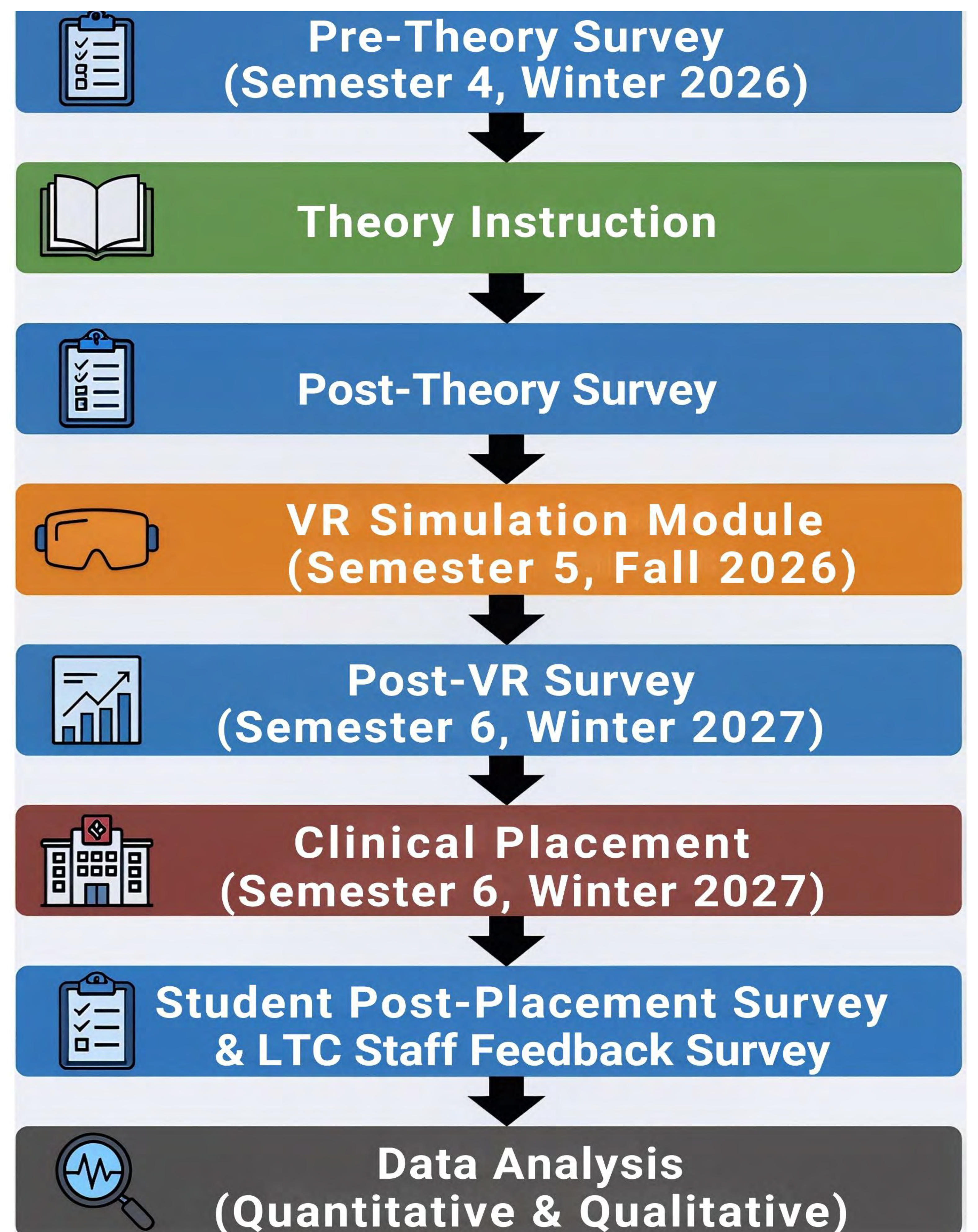


Figure 2 illustrates the study timeline, showing how dental hygiene students will be followed across semesters (2026–2027). The same design will be applied to subsequent cohorts (2027–2028).