

NEEDS STATEMENT: There is a severe shortage of EMTs, demonstrating a need for **efficient** and **more effective** training methods.

STUDY OBJECTIVE: Evaluate the efficiency and effectiveness of **VR hybrid training** for CPR/AED protocols compared to traditional training (TR).



Performance Findings

Practical test scores after 2 weeks: TR: 82.35% **VR50: 94.88%**
Theoretical test scores after 2 weeks: TR: 78.75% **VR50: 92.5%**

VR training significantly improves the retention of both practical skills and theoretical knowledge



Team Learning Advantages

Significant Improvements in **VR50** Group: Open discussions about mistakes. Continuous improvement focus. Stronger support from instructors and peers.

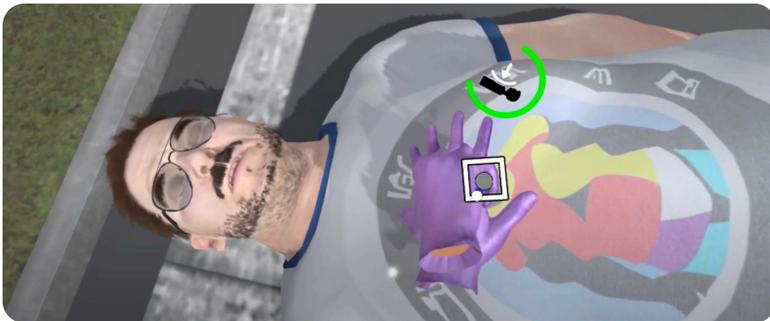
VR encourages collaboration and mistake-driven learning.



User Experience

VR50 Rated Higher in Attractiveness, Dependability, Stimulation.

Immersive and engaging VR environments enhance training experiences.



STUDY DESIGN:

- 1 **TR Group** (Traditional training methods only)
- 2 **VR50 Group** (50% traditional, 50% virtual reality training).
- 3 **Protocol:** a randomized trial with novice participants, assessing their skills immediately after training and in a 2-week follow-up session to measure long-term retention.



Cognitive Development

Measured via Bloom's Taxonomy: significant improvement in **"Creating"** tasks. Higher scores in **"Evaluating"** and **"Analyzing"**.

VR facilitates higher-order cognitive learning.



Mental Workload

Key Finding: **VR50** group experienced reduced temporal workload stress.

Participants felt less time pressure, improving focus and performance.



IMPACTS OF VR TRAINING

- ✓ Enhanced retention and cognitive development
- ✓ Realistic simulations improve practical application
- ✓ Supportive, collaborative learning environment
- ✓ Reduces trainer workload with automated feedback
- ✓ Increased learner satisfaction and engagement