

UC Merced STEM Education Research Seminar Series

Systematic and meta-analysis reviews of virtual reality (VR) studies illustrate that the majority of studies are short-term interventions involving 60-90 minute class periods. These short interventions raise concerns about learning and affective outcomes within VR studies. Students are potentially having to learn how to use the VR technology while also attempting to learn the content. Further, there is a potential novelty effect in using a new technology for the first time and such excitement may diminish with longer-term usage. This pilot study explores the use of VR over four class periods in an introductory chemistry course for non-chemistry majors (n=20). The first of these class periods was an opportunity to use the VR headset without any chemistry concepts covered while the other three classes focused on chemistry-related VR. Guided by embodied cognition and affordances theory, this study sought to understand student learning of chemistry content and students' perspectives of extended VR use within class activities. Students completed an 18-item pre/post conceptual test, written reflections after each VR activity (four in total), and completed a post-questionnaire. Findings illustrate pre/post learning gains for the targeted concepts and that the majority of students expressed a desire for the continued use of VR activities. This presentation will consider the logistics in establishing regular VR use within instruction and discuss the implications of the findings for future science instruction.



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Friday, April 19th
1:00 - 1:30 pm Lunch
1:30 - 2:30 pm Seminar
Conference Room 105

Zoom Link: <https://tinyurl.com/83d7tjet>



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