

## New Technology for Effective Oral Healthcare Training

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The use of augmented and virtual reality (AR/VR) technology in higher education has been regarded as a promising development because its combination of immersive and interactive features enables experiential learning. The VR/AR training system enables learners to learn on their own, even in the midst of the COVID-19 pandemic. This talk will provide the effectiveness of using AR/VR training system on geriatric oral care performance among oral hygiene student and health care assistants (HCAs). For dental hygiene students, a randomized controlled trial was conducted. The participants were randomly assigned to experimental (EG; n=11) and control (CG; n=12) groups. The students in EG received a 2-hour intervention of VR training for elderly oral health care at 2-week (Time 1), 4-week (Time 2) and 6-week (Time 3) follow-ups. After intervention, the EG exhibited

a more significant improvement in oral care-related knowledge, attitude, and self-efficacy at Time 4 than the CG did. The students' intention to assist the elderly improved significantly at Time 3. For HCAs study, we combined an AR and VR training system with the aim of improving the geriatric oral care performance. Overall, 80 certificated HCAs were randomly assigned to a VR/AR group (n=40) or control group (n=40). HCAs in the VR/AR group received 2.5 hours of combining VR and AR simulation training on geriatric oral care. The CG did not receive any interventions. Compared with the control group, the level of oral care-related knowledge, attitude toward oral care, self-efficacy of oral care, and intention to assist in oral care behaviors in the VR/AR group significantly increased at the post-test. The combined use of AR/VR simulation system to train HCAs can effectively improve the oral care ability of the elderly.