


## Chapter 8

# Learning to Teach in Mixed–Reality Simulated Virtual Environments at a Hispanic Serving Institution (HSI)

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### ABSTRACT

*As a result of the COVID-19 pandemic, faculty at a Hispanic serving institution shifted from face-to-face to totally online teaching. The authors describe two assignments for teacher candidates that required them to design and deliver lessons that focused on practicing two high-leverage practices utilizing Mursion, a mixed-reality simulation (MRS) software and platform. MRS sessions were delivered through Zoom video conferencing and were delivered asynchronously. Benefits, challenges, and limitations of using MRS in conjunction with Zoom in online courses were identified and discussed. Detailed logistics for planning, preparing, and executing MRS effectively were provided. The authors describe implications for remote learning as it related to teaching at an HSI located in one of the poorest areas of the U.S., with one of the most vulnerable populations.*

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## INTRODUCTION

In mid-March of 2020, the President of The University of Texas Rio Grande Valley (UTRGV), a Hispanic Serving Institution (HSI) where the authors of this chapter work, made an announcement that has had a lasting impact to this day. Due to the spread of COVID-19, with consideration of guidelines from the governor, the university president extended Spring Break for an additional week. He also announced that the university, a government entity, would remain open; essential workers would continue to report to their place of work, and the university was going to transition to a telecommuting workforce, shifting some faculty and staff from current on-campus workplaces to temporarily working from home. Then came the big announcement that caught many faculty members off guard—all courses were to be offered online beginning Monday, March 23, 2020, through the end of the spring semester. He ended this announcement stressing these changes were for the health and safety of the campus community and that “our work does not change; where and how we do it, does change” (UTRGV, 2020b).

Prior to the pandemic, UTRGV offered all faculty members, staff members, and students Blackboard Learn (BBL), an online learning management system (LMS), as well as technical and instructional support from the Center for Online Learning and Teaching Technology (COLTT). Faculty, staff, and students had their own Zoom Pro video conferencing accounts and access to Mursion, a mixed-reality simulation platform (MRS) through the university’s MRS lab. The number of online and hybrid courses increased dramatically as a result of the president’s mandate. Quality Matters (QM, 2020) training was provided for professional development for online teaching, through COLTT. A comparison of the number of on-line courses offered in the fall of 2019 to the fall of 2020 showed exponential growth. UTRGV offered 684 total online courses in the fall of 2019. This increased to 4,076 courses just one year later. Hybrid course offerings also increased from 201 in the fall of 2019 to 660 in the fall of 2020 (UTRGV, 2020a).

When the pandemic broke, department chairs encouraged faculty members to take the extra week of spring break to learn how to post their materials to BBL and to participate in QM training for online learning. Many professors experienced a sense of urgency and pressure to learn how to teach effectively online. There was also an increase in interest in learning how to use MRS, from faculty members who had not considered this technology prior to the pandemic. As a result, the MRS lab was, and continues to be, in high demand.

## Context

UTRGV is a Hispanic Serving Institution (HSI) located in the Rio Grande Valley (RGV), a region that includes four counties geographically located along the Texas-Mexico border in deep South Texas. Most of the population in the RGV is comprised of people of Mexican descent including new immigrants and long-standing families whose ancestors who settled in this region when it was still a territory of Spain. The people from the RGV share common values such as a deep commitment to family and education, a strong work ethic, and pride in their cultural and linguistic heritage, and most are bilingual (Alvarez McHatton et al., 2020).

According to the U.S. Census Bureau, in 2019, this four-county region had a population of 1,377,861—91.85% of whom identify as Hispanic/Latino. Historically, it has been identified as one of the poorest areas in the nation, and, sadly, it remains so today. The median income per household, at \$36,170, is almost half the national average of \$62,843 (U.S. Census Bureau, 2020). In this region, 68% of children live in high poverty neighborhoods as compared to the state average of 18% (U.S. Census

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