

Chapter 7

Make It Real: Presence and Immersion in Simulation Design

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ABSTRACT

Several schools and colleges under Air University have found utility in using a mixed-reality approach to developing leadership acumen in this unique risk-free environment. This chapter will describe the power of collaboration between Air University and Auburn University at Montgomery while demonstrating the impact of this mixed-reality approach on developing military leaders. These mixed-reality exercises (MRXs) leverage an environment that establishes a practical laboratory for developing leaders to interact with avatars using a combination of virtual immersion and human intelligence (live simulation engagement). This innovative approach to “real play” allows real-time learning to take place in real time through virtual immersion.

INTRODUCTION

Air University (AU), Maxwell AFB, Alabama is known as the Intellectual and Leadership Center of the Air Force, graduating more than 50,000 resident and 120,000 non-resident officers, enlisted and civilian personnel each year (Air University Website, 2018). Air University provides professional military education, faculty development, and professional development for all ranks of Airmen and most of their courses have some *leadership* connection as well. Further, Air University continues to promote creativity

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Figure 1. Virtual corporate setting



and innovation whenever possible inspired by the earliest roots of establishing airpower programs under the guidance of the Wright Brothers in 1910. The Air University mission focuses on producing leaders of character and critical thinkers, which strategically and jointly deliver airpower to support national security. AU's professional military education (PME) programs strive to educate Airmen to incorporate air, space, and cyberspace power to achieve their objectives. Additionally, specialized professional continuing educational programs provide scientific, technological, managerial, and other professional expertise to meet the needs of the Air Force.

Moreover, AU is the U.S. Air Force's center for professional military education (PME) and professional developmental education (PDE). Air University provides a full spectrum of Air Force education, from pre-commissioning to the highest levels of PME, including degree granting and professional continuing education for officers, enlisted and civilian personnel throughout their careers (Air University Website, 2018). Air Command and Staff College (ACSC) is one of several educational institutions within Air University. Air Command and Staff College is the intermediate Air Force professional military school. Annually, ACSC prepares about 600 resident and over 9,000 nonresident students from all US military services, federal agencies, and over 70 partner nations to lead in the operational environment - emphasizing the employment of airpower in joint operations (Air University Website, 2018). The core curriculum for ACSC focuses on several major learning areas to include; War Theory, Airpower, International Security, Joint Warfighting, and Leadership. It is this last learning area where the authors found themselves questioning the pedagogical approach to the curriculum. Recently, they have leveraged a new partnership with Auburn University at Montgomery (AUM), Alabama, a local university to expand on virtual learning applications in leadership. Cutting-edge technology utilized by AUM and the ACSC at Maxwell AFB have led to some very powerful classroom exercises.

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