

## Chapter 33

# Mixed–Reality Immersive Environment as an Instructional Tool for Building Educational Leadership Capacity: Is This the Future?

**Valerie Anne Storey**  
*University of Central Florida, USA*

**Neffisatu J. C. Dambo**  
*University of Central Florida, USA*

### ABSTRACT

*Technological innovations are changing the way education is delivered. With instructional media evolving at an exponential pace, instructional designers and educators have a variety of options when deciding what tools are best for delivering their instruction. Simulation and virtual environments are a growth area in aviation, defense, crisis management, medicine, and customer service, but the utilization of this technology in the field of educational leadership or in principal preparation programs is very much in an embryonic stage. In this chapter, the authors first provide a summary of the evolution of scenario simulation in the field of educational leadership, and develop ‘learning principles’ for evaluating the effectiveness of the simulation in delivering discrete learning outcomes. They then provide a specific example of an innovative educational leadership program that is utilizing a specific virtual environment; introduce TLE TeachLivE™ (TeachLivE) as a method to help prepare future leaders for practice. Finally, they discuss professional avenues to consider while cultivating the advancement of TeachLivE™ as a supplemental method for learning.*

### INTRODUCTION

The increasingly complex and turbulent nature of the 21<sup>st</sup> century, notably the rise of the global economy and the sophistication of technology has redefined what it takes for leaders to succeed.

Indeed, the global challenges now occurring demand approaches to leadership education that is profoundly different from those that have served us well in the past.

At least two significant challenges currently confront K-12 educational leaders. First, the role of

DOI: 10.4018/978-1-4666-9577-1.ch033

the school administrator has become increasingly multifarious. They must grapple with legislative requirements of the federal government, state-wide accountability mandates, drastic changes in school demographics, teacher performance incentives, and data driven decision making all while meeting requests from taxpayers, board of trustees, central office administration, and parents for transparency (Storey, 2010). Second, accountability has imposed on all school administrators the necessity to demonstrate their worth by leading instruction, supporting students and teachers, and maintaining a safe and orderly campus. These two challenges require the process of educational leadership preparation to become increasingly sophisticated and systematic, while simultaneously addressing professional standards such as the Interstate School Leaders Licensure Consortium Standards for School Leaders (ISLLC) and state standards such as Florida Principal Leadership Standards (FPLS). Maintaining compliance with professional standards and laws can be extremely demanding due to necessary periodic revisions to reflect the ever changing role of a school administrator. Currently, ISLCC standards emphasize “leadership, supervision, professional development, student performance assessment, budgeting and business planning, safety, communications and community relations, and professionalism” (Shakeshaft & Becker, Mann, Reardon, & Robinson, 2013, p. 5), whereas the ten FPLS are grouped into four categories, which can be considered domains of effective leadership, “student achievement, instructional leadership, organizational leadership, and professional and ethical behavior” (Florida Department of Education, 2015).

Hence, designing an educational leadership standards compliance program to support the knowledge, competencies, and skills that aspiring educational leaders need in order to be able to deal effectively with real-world problems is complex (Choi & Lee, 2008). Especially when combined with the need to ensure school leaders are able to make informed decisions that are not only rea-

sonable and reflective, but decisions that are also ethical, moral, and developmentally appropriate for 21<sup>st</sup> Century adult learners. Not surprisingly, the reality is that the academy is challenged by the difficulty of creating very complex, authentic, learning environments.

Program content, andragogical delivery, and learning outcomes all have to be examined to meet the needs of our future school leaders. Technology has moved to the forefront of college classrooms (Staub & Bravender, 2014), providing the means to develop, shape, and facilitate learning (Berry & Staub, 2010). Evolving technology of simulated and virtual environments are “slowly creeping into the education space, in much the same way that Microsoft word and PowerPoint crept onto educator’s desktops more than a decade ago, and in much the same way that interactive whiteboards and mobile devices are gaining traction in classrooms today” (Dieker, Straub, Hughes, Hynes, & Hardin, 2014, p.55). In this mixed-reality virtual environment, human knowledge and technological knowledge are blended to create seemingly authentic interventions (p. 56).

One sophisticated and systematic technology-based learning resource to facilitate real-world problem solving is that of a mixed-reality environment, frequently referred to as a totally immersive simulation. The idea of teaching through the use of simulation is not a new one as activity has long been part of the human experience. In fact role-playing is probably the oldest form of simulation used in the academy, dating back to the 1800s (Brown, 1999; Cruickshank & Telfer, 1980; Brown, 1999) and has previously been embraced in terms of paper-and-pencil style games, role-playing games, card games, and other pedagogical experiences not found in the real world (Cruickshank, 1977).

Immersive simulation scenarios can be utilized in higher education in a range of disciplinary contexts, and for a variety of educational purposes. Whilst, it offers advantages over scenario-based, activity-led, and problem-based approaches that occur in face-to-face contexts. For example, an

23 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage:

[www.igi-global.com/chapter/mixed-reality-immersive-environment-as-an-instructional-tool-for-building-educational-leadership-capacity/142401](http://www.igi-global.com/chapter/mixed-reality-immersive-environment-as-an-instructional-tool-for-building-educational-leadership-capacity/142401)

## Related Content

---

### Promoting Responsible AI Practices: Legal Responsibilities of Teachers for Students With Special Needs in the United Arab Emirates

Enas Mohammed Alqodsi, Iyad M. Jadalhaq, Mohammed El Hadi E. H. El Maknouzi and Imad Eldin Ahmad Abdulhay (2024). *Cutting-Edge Innovations in Teaching, Leadership, Technology, and Assessment* (pp. 195-211).

[www.irma-international.org/chapter/promoting-responsible-practices/339780](http://www.irma-international.org/chapter/promoting-responsible-practices/339780)

### The Effect of Pictures on Online Business English Vocabulary Retention of EFL Learners Amid the COVID-19 Pandemic

Kexin Zhang, Wei Wang and Hongmei Xu (2022). *International Journal of Technology-Enhanced Education* (pp. 1-16).

[www.irma-international.org/article/the-effect-of-pictures-on-online-business-english-vocabulary-retention-of-efl-learners-amid-the-covid-19-pandemic/302638](http://www.irma-international.org/article/the-effect-of-pictures-on-online-business-english-vocabulary-retention-of-efl-learners-amid-the-covid-19-pandemic/302638)

### Assistive Technology and Best Practices

Betsy Orr (2020). *Leveraging Technology to Improve School Safety and Student Wellbeing* (pp. 152-166).

[www.irma-international.org/chapter/assistive-technology-and-best-practices/239701](http://www.irma-international.org/chapter/assistive-technology-and-best-practices/239701)

### Blended Learning in Higher Education 4.0: A Brief Review

Arumugam Ramanand Mohan Rathakrishnan (2019). *Redesigning Higher Education Initiatives for Industry 4.0* (pp. 70-84).

[www.irma-international.org/chapter/blended-learning-in-higher-education-40/224208](http://www.irma-international.org/chapter/blended-learning-in-higher-education-40/224208)

### Investigating Students' Perceptions of DingTalk System Features Based on the Technology Acceptance Model

Danhua Peng (2023). *International Journal of Technology-Enhanced Education* (pp. 1-17).

[www.irma-international.org/article/investigating-students-perceptions-of-dingtalk-system-features-based-on-the-technology-acceptance-model/325001](http://www.irma-international.org/article/investigating-students-perceptions-of-dingtalk-system-features-based-on-the-technology-acceptance-model/325001)