Chapter 10
Teaching and Learning Mandarin Chinese:
Gamification and Simulation in an Early Childhood Classroom

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ABSTRACT

The advancement of new technologies in K-12 educational settings has the potential for new learner experiences and outcomes. The integration of gamification and simulation into second language learning classrooms has the potential to support language learning for young learners. This chapter explores effective ways to introduce instructional models and technological tools for immersing early childhood learners in the second language learning process. In this chapter, the author describes the need for gamified and simulated virtual technologies to facilitate the learning of Mandarin Chinese in an early childhood setting.

INTRODUCTION

Second language learning is a critical component of global and cultural awareness (Baker, 2015; Murphy, 2014). Although English and Spanish are the fastest-growing second language options in many American schools (Pinter, 2017), the United States has demonstrated a need for highly developed competencies in other world languages. Languages such as Arabic and Mandarin Chinese have gained popularity throughout American high schools and colleges (Liu & Wang, 2018). Although most of the language learning opportunities in Mandarin Chinese are in high schools and colleges (He, 2017; Liu & Wang, 2018), several early childhood and elementary education programs offer second languages such as Chinese (Asia Society, 2012). The enrollment of Mandarin Chinese as a second language has increased in early childhood and elementary school settings throughout the United States (American Councils for International Education, 2017). As the interest in learning Mandarin Chinese grows, it is essential to

explore technology integration and innovative instructional pedagogy, especially in an early childhood language learning environment.

Teachers play a vital role in integrating technology into classroom environments (Lu et al., 2014). As a result of COVID-19, the use of technology and innovative instructional practices are at the forefront of education. As many educational settings are resorting to online learning, educators must know how to shift from a traditional classroom to a virtual classroom by incorporating a virtual immersive learning environment in the Mandarin Chinese classroom. Educators are introducing students to virtual environments such as augmented reality, mixed reality, and virtual reality. Virtual environments provide useful and engaging learning experiences. Technological advances make it possible for these tools and resources to integrate the education field, specifically early childhood education. When working with young children, effective gamification and simulation activities positively impact second language development and learning. Therefore, educators need practical ways to implement gamification and simulation in early childhood classrooms.

However, noticeable gaps in second language learning in early childhood revealed a need for research advancements in pedagogical methods in Mandarin Chinese as a second language and the use of technological resources to facilitate the learning process. Bridging the gaps in second language learning may allow Mandarin Chinese language educators to increase their knowledge and understanding of integrating technology, pedagogy, and content knowledge in Mandarin Chinese for early childhood learners.

As young children are rapidly learning and developing in a digital age, early childhood educators need to integrate technology into their classrooms. The National Association for the Education of Young Children (NAEYC) (2012) stated that technology in early childhood classrooms supports learning and development if appropriately used. Instructional methods, tools, and technology are important to use in language learning classrooms. Language learning activities immersed in virtual reality technology promote the use of educational resources that stimulate visual, auditory, and kinesthetic learning styles to encourage students to learn a new language (Pugh-Opher, 2019). As educators shift from traditional-based learning tasks to more technology-based learning tasks, it is crucial to grasp a solid understanding of the theoretical perspective that promotes learning through experiences and play, especially for young children.

From a sociocultural perspective, the language learning classroom allows students to learn in a social context to construct knowledge (Vygotsky, 1978). The conceptual framework of Vygotsky's sociocultural theory is used as a lens to understand children's learning processes in a Mandarin Chinese language learning environment related to social activities through the use of virtual technologies. The use of a sociocultural lens in this chapter facilitates understanding social interactions and immersive technological and instructional methods that shape second language learning in an early childhood setting. In essence, learning in these environments requires the learner to solve problems, think critically, and apply knowledge to maximize their learning through virtual worlds.

In this chapter, the author explores the role of gamification and simulation in an early childhood second language learning setting. The following sections describe the fundamentals of teaching and learning a second language in an early childhood setting, focusing on Mandarin Chinese. The author explores the language learning process through Vygotsky's sociocultural lens to determine how gamification and simulated technologies help educators with virtual lessons and activities.

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