Fostering Cultural Understanding with Virtual Reality:
A Look at Students' Stereotypes and Beliefs

Margherita Berti, University of Arizona, Tucson, USA

https://orcid.org/0000-0002-6572-921X

Stefano Maranzana, Southern Methodist University, Dallas, USA

Jacob Monzingo, University of Arizona, Tucson, USA

ABSTRACT

In virtual reality, language learners can experience the foreign culture by exploring authentic and contextualized learning environments. To date, there is a lack of studies investigating the use of highly immersive virtual reality for cultural understanding as well as learners' attitudes toward its implementation in the language classroom. This study addresses this gap by exploring language learners' stereotypes and generalizations of the foreign culture experienced in highly immersive virtual reality, and their beliefs regarding its use in the educational setting. Undergraduate students enrolled in beginner Italian courses viewed three ordinary Italian environments with the use of their smartphones, headphones, and Google Cardboard. Through surveys, written reflections, and a focus group interview participants shared their cultural understandings and attitudes toward virtual reality. Results show that virtual reality was positively perceived and helped learners discover new cultural layers generally not encountered in traditional pedagogical materials.

KEYWORDS

CALL, Cultural Understanding, Culture, ELT, Google Cardboard, Immersion, Italian, Kolb, Presence

INTRODUCTION

Foreign language (FL) textbooks often provide a static representation of culture without giving learners the opportunity to engage with different aspects of the foreign country (McConachy & Hata, 2013). Thompson (2013) claims that writing FL textbooks requires difficult choices about what cultures should be represented, hence the teaching of culture becomes a challenging endeavor. Fortunately, the advent of the Internet and the rapid advancement of technology has facilitated access to culturally authentic resources and educators now integrate technology in their lessons to support culture pedagogy. Much scholarship has been devoted to the impact of technology tools such as podcasts (e.g., Ducate & Lomicka, 2009), social networking sites (e.g., Barrot, 2016), and blogs (e.g., Pinkman, 2005), however to date little is known about the effect of highly immersive virtual reality (VR) on culture (Berti, 2019). Differently from low immersive VR environments (e.g., Second Life), highly immersive VR utilizes a head-mounted display (HMD) enabling a fully immersive and personalized learning experience (Schwienhorst, 2002). Highly immersive VR is learner-centered and

learner-driven, unlike other traditional pedagogical materials, since users can move in any direction and focus on what catches their attention within the digital 360-degree environment.

Considering the important role of technology in the field of language education and the scarce attention to highly immersive VR, this study attempts to shed light on the use of this emerging technology by answering the following research questions:

(1) How does highly immersive VR impact FL learners' understanding of environments and people of the studied foreign culture?
(2) What are FL learners' attitudes and concerns toward the use of VR in the classroom setting?

This article is organized into four main sections. The first section provides background information on VR and immersion, cultural understanding, and experiential learning theory (ELT). Next, the methodology is described and followed by a discussion of the results. The last section addresses the limitations of the study and suggests that future research focuses on the potential of interactive highly immersive VR for language education.

BACKGROUND

Virtual Reality and Immersion

Historically, Computer-Assisted Language Learning (CALL) scholarship has focused on how language learners might benefit from the use of computer technology in and out of the classroom. More recently, VR technologies have been looked at to answer a variety of questions since they allow for manipulation of concepts in low-risk environments. VR is generally defined from anything as an immersive experience to having particular qualities of hardware or software (Blyth, 2018). A central aspect of VR is the ability to immerse users in authentic and contextualized settings. Nell (1998) defines immersive an experience where the reader is transported by what they read and the level of emotional investment in what is being described by the author. Ryan (2015) applies immersion to literary theory by referring to the vividness and realism found in three-dimensional (3D) displays through some kind of hidden depth. One could argue that the hidden depth Ryan (2015) speaks of and the experience Nell (1998) discusses are one and the same. If this is true, VR may be defined as an immersive, computer-enabled technology that replicates an environment and allows a simulation of the user to be present and interact within that environment (Ryan, 2015; Sadler, 2017). Wang et al., (2012) provide a more concrete example of immersion in support of Ryan's (2015) theoretical positioning, furthering its use in language learning contexts. In their study, 3D virtual worlds created realistic scenarios useful for FL learners' authentic practice. In a similar study, English learners explored a virtual world under the guidance of a native English-speaking instructor (Shih, 2015). Data collected through observations, interviews, and blog entries suggested that VR has great potential for the enhancement of learners' cultural knowledge. Thus, a virtual world becomes a place where context is available for language use and cultural observation.

One issue that Kern (2014) raises regarding the use of emerging technologies for learning and teaching, is the risk associated with the blind use of a technology as a type of panacea, a cure-all for ills of educating language learners. While technology is useful, it is fundamental to consider the theoretical framework that supports its use in language education. This study draws on ELT to describe how highly immersive VR activities may be used to support the learning of culture in its various facets.

Cultural Understanding

Before touching on the theoretical framework, however, it must be discussed how cultural understanding is defined in this study. Understanding alone can be difficult to describe as it changes in the observer and the observed, already implying the subjectivity of what any version of understanding

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