EDUC 500: Research Methodology in Education
Example of Problem and Purpose

Designing Immersive Language Learning Environments in Virtual Worlds

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In a global economy and increasingly connected society, the acquisition of a second/foreign language has become more and more important. Foreign language learning typically takes place in the learners' home countries, while second language learning primarily happens in an environment where the target language is spoken. Foreign language learning and second language learning share much— acquiring vocabularies, grammar, and pragmatic features— but differences exist. The surrounding environment, which is rich with linguistic and spatial clues, is often missing in foreign language learning. It is through immersion that foreign language learning most approaches second language learning. Immersion allows foreign language learners to more fully immerse themselves in language learning through intensive exposure to the target language. It has been shown that foreign language learners obtain greater benefits through an immersive language learning environment, which "promotes language learning by enabling the student to use the new language, not analyze or translate it" (Hamburger & Maney, 1991, p. 81).

Virtual worlds may offer foreign language learners opportunities to go beyond context boundaries to learn a target language, as in the target language speaking culture, without physically stepping out of their home countries. The specific instructional design of virtual worlds may blur boundaries between foreign language learning and second language learning by providing an opportunity for foreign language learners to experience the target language speaking culture without physically being in those targeted countries.

Statement of the Problem

Two critiques of learning in virtual worlds shaped this research: 1) many virtual worlds were designed as places where three-dimensional contextual objects and buildings did not invite meaningful participation and interaction (Zheng & Zhao, 2009); and 2) "activities and approaches (in virtual worlds) – for example, task-based activities, role-play, vocabulary and grammar games – resembled those used in real world second language (L2) classrooms" (Zheng & Newgarden, 2012, p. 14).

Since *Second Life*, first released in 2003 and now one of the most popular virtual worlds in education, there has been an exponential rise in the number of language educators investigating the use of virtual worlds for language teaching and learning. However, as practitioners and researchers such as Dongping Zheng, Yong Zhao and Kristi Newgarden further explored current design practices in virtual worlds, they reported two challenges of using virtual worlds for language teaching and learning in terms of instructional design activities and approaches (Zheng & Newgarden, 2012; Zheng & Zhao, 2009). Writing of their experiences of exploring educational islands in *Second Life*, these scholars were concerned with the untapped affordances of virtual

worlds for language teaching and learning. How might affordances of a 3D virtual world platform be shaped as an immersive language teaching and learning environment?

Research Questions

In this research, I was interested in exploring how the most powerful affordances of a 3D virtual world platform might be shaped as an immersive language teaching and learning environment. In order to address the design of immersive language teaching and learning in virtual worlds grounded in a embodied, situated and distributed theoretical design framework, three specific questions were formulated and explored:

Question 1: What affordances do virtual worlds for language teaching and learning provide?

Question 2: How should we design immersive language teaching and learning activities in virtual worlds to engage language learners?

- How do embodiment and avatars in a virtual world support second language acquisition?
- How can virtual world platforms support legitimate peripheral participation and engagement in communities of practice that are relevant to language learners' needs through co-presence?
- How can virtual worlds be designed as places where three-dimensional contextual objects and buildings invite meaningful participation using a sculpted prim?

The third question aimed to test the effectiveness of an immersive language teaching and learning environment designed in virtual worlds. Experiments were conducted to statistically test specific hypotheses.

Question 3: Do language learners learning in the specific designed virtual environment feel real?

- Does a chatbot learning artifact increase language learners' presence in the specific designed immersive virtual language teaching and learning environment?
- Does a time machine learning artifact increase language learners' presence in the specific designed immersive virtual language teaching and learning environment?
- Does the combined use of a chatbot and time machine increase presence more than either learning artifact alone?

Purpose of the Study

Building on research literature (e.g., Zheng & Zhao, 2009; Zheng & Newgarden, 2012) of using virtual worlds for language education, I draw upon open source virtual world platforms to explore potential effective ways of designing immersive language teaching and learning environments in virtual worlds. I argue that virtual world adopters, language teachers, and instructional designers need to examine not only just the virtual world, the technological system, but also the broader embodied, situated and distributed concepts of language teaching and learning. Such an embodied, situated and distributed view of language teaching and learning, in contrast to the long-held information processing view, generates a new framework to design virtual worlds as effective technologies that might engage language learners.