

An Exploration of  
Three-Dimensional (3D) Virtual Worlds  
through  
ESL/EFL Teachers' Perspectives in Second Life

Abstract of  
a thesis presented to the Faculty  
of the University at Albany, State University of New York  
in partial fulfillment of the requirements  
for the degree of  
Master of Science  
School of Education  
Department of Educational Theory and Practice

Ozan Varli  
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## ABSTRACT

Being one of the latest contributions of emerging technologies, three-dimensional (3D) virtual worlds have received considerable attention among language teachers by serving as interactive learning applications in online language education all around the world.

The present study, therefore, aims to investigate; (a) how sociocultural aspects of teaching and learning ESL/EFL manifest in three-dimensional (3D) virtual worlds, (b) how language teachers perceive such teaching and learning activities, and therefore adapt their pedagogies, design ESL/EFL course content, and deliver courses in a virtual setting in this respect.

Adopting a qualitative research framework, a descriptive and in depth comprehension of the educational activities in three-dimensional (3D) virtual worlds is aimed to be presented. For this purpose, data are collected through participant observation in Second Life and personal interviews with 5 online ESL/EFL teachers.

The findings and results show that three-dimensional (3D) virtual worlds offer unique learning opportunities with respect to sociocultural paradigms of learning, and support ESL/EFL teachers by providing several invaluable tools in online language education.

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## LIST OF ABBREVIATIONS

3D	Three-dimensional
CMC	Computer-mediated communication
EFL	English as a foreign language
ESL	English as a second language
HUD	Heads-up display
IM	Instant messaging
MMOG	Massively multiplayer online games
MMORPG	Massively multiplayer online role playing games
MOO	MUD object-oriented
MUD	Multi user dungeon/domain/dimension
RL	Real life
SCT	Sociocultural theory
SL	Second Life
SLurl	Second Life uniform resource locator
TP	Teleport

VW	Virtual world
WOO	Web-based MOO
WWW	World wide web
ZPD	Zone of proximal development

## CHAPTER I

### INTRODUCTION

Recent advances in the world of technology have led to significant changes in every aspect of life and common practices of human beings have been in a constant flux of change as a result. Especially, with the availability of the Internet, information technologies have gained rapid acceleration and the emergence of various innovative tools has influenced several practices in the field of education since then. Being among the latest contributions of these emerging technologies, *three-dimensional* (hereafter 3D) *virtual worlds* (hereafter VWs) provide numerous opportunities for language teachers and learners in cyberspace and challenge our understanding of what comprises the ideal educational setting at the dawn of a new cyber era. Offering unique learning opportunities for both *traditional* and *online* classrooms for the last few decades, VWs have been serving as interactive learning applications for language teachers and learners all around the world. Their potential for collaboration and social interaction has made them gain attention among educational researchers recently. Although there is no *direct* evidence in the literature, they are deemed to be supporting the state of the art educational theories, particularly *sociocultural theory* (hereafter SCT), which basically focuses on social and cultural aspects of learning (Vygotsky, 1978; Wertsch, 1985; Kramsch, 1993; Hinkel, 1999; Felix, 2002; Swan, 2005; Hayes, 2006; Lantolf & Thorne, 2006; Good, Howland, & Thackray, 2008).

The traditional implementations in a typical computer assisted language classroom have been experiencing a major shift due to the emergence and influence of

*sociocognitive* approaches on language acquisition theories (Kern & Warschauer, 2000); concepts like *communicative competence*, *sociolinguistic competence*, *discourse competence*, and *strategic competence* have been introduced to the language curricula in addition to the *linguistic competence* and current practices of language instructors in the last few decades have evolved in a more communicative fashion since then (Brumfit & Johnson, 1979; Canale, 1983; Savignon, 1985). The focus of interest has switched to communicative skills; whereas, the teaching of prescriptive grammatical rules has started losing its popularity. Creative self expression has become much more admired and preferred than rote memorization; mechanical drills have been replaced by negotiation of meaning; comprehension has been of primary importance; target culture has come to be valued in learning; and teachers have become facilitators helping learners participate in authentic social contexts which they would encounter in real life situations (Prabhu, 1987; Savignon, 1991; Long & Crookes, 1992).

This significant shift from *objectivist* to *constructivist* perspectives in learning paradigms supports the idea that knowledge is assumed to be constructed individually and co-constructed socially by learners depending upon their interpretation of experiences in the world. There is no transmission of knowledge; however, it is constructed through activities by learners' themselves. In order to facilitate knowledge construction, instructions should create opportunities for exploration and exchange in the learning environment; thereby, conversation and discourse are claimed to support collaboration and social negotiation in learning (Jonassen, 1999; Vygotsky, 1978).

Research on culture and language teaching has shown that culture and language cannot be separated from each other; on the contrary, should be treated as “mutually constructive concepts” (Kramsch, 1993). According to the sociocultural perspectives on second language teaching, language skills are claimed to develop through social interaction which can be achieved through collaborative tasks in a social and cultural setting (Vygotsky, 1978; Wertsch, 1985; Lantolf, 2004).

The changing conditions in emerging technologies as well as educational paradigms mentioned above have made language instructors adopt new strategies in order to consider the international cross-cultural communication which has become a major requirement for success in several academic, professional, and everyday life situations. Language courses are intended to be designed for promoting learners’ immersion in target language and creating opportunities for meaningful and authentic interaction. Language learners are being equipped with necessary tools for social and cultural explorations in the target language with the integration of new technologies in language classes (Warschauer & Meskill, 2000). Therefore, educators have become interested in teaching and learning through VWs because of their potential for the design of highly sociocultural activities that can be facilitated easily and efficiently (Dickey, 2003; Peterson, 2006; Childress & Braswell, 2006; Baker, Wentz, & Woods, 2009).

### 1.1. The Purpose of the Study

The present study aims to investigate; (a) how sociocultural aspects of teaching and learning ESL/EFL manifest in 3D VWs, (b) how language teachers perceive such

teaching and learning activities, and therefore adapt their pedagogies, design ESL/EFL course content, and deliver courses in a virtual setting in this respect.

## 1.2. Research Questions

For the purpose of this study, the following research questions are addressed:

1. What constitutes pioneering language teachers' understanding of language teaching and learning in 3D VWs?
2. How do perceptions and perspectives of ESL/EFL teachers steer their instructional practices in virtual learning environments?

## 1.3. Significance of the Study

The importance of using virtual environments for collaborative learning has been underlined several times by the educational researchers. The potential these worlds offer seems to be promising in terms of shaping the teaching practices of the future (Dede, 1995; Childress and Braswell, 2006; Stevens, 2006; Baker et al., 2009). However, the many contexts of teaching and learning in 3D VWs still remain blurred; more in depth explorations of these worlds are required to provide practitioners with further insights. In order to make the most of online education in a digital era, the dynamics of collaborative virtual environments need to be understood thoroughly by more qualitative explorations as it is the case at any initial work done when a new technology emerges. One way of realizing this understanding could be listening to the voices of teachers in VWs. Research on teachers' perceptions and perspectives emphasizes that investigating teachers' beliefs and expectations about teaching and learning is of utmost importance while exploring

their teaching practices (Pajares, 1992; Williams & Burden, 1997). Hence, I am in the hope that this in depth qualitative study on online ESL/EFL teachers' perceptions will contribute to the literature by expanding our understandings of teaching and learning in collaborative virtual environments.

#### 1.4. Definition of Terms

3D virtual worlds are three-dimensional *simulations* (sims) running on an internet-accessed computer *virtual reality* (VR) in which avatars can move and interact with each other as well as their environment (Dickey, 2005).

Sociocultural theory refers to learning as being embedded in social events and supports that higher order functions develop out of social interaction (Vygotsky, 1978).

Collaborative learning is a group learning activity in which learning depends on social information exchange among learners who are responsible for their own learning as well as the learning of others within the group (Olsen & Kagan, 1992).

Zone of proximal development refers to the difference between a person's level of accomplishment on his/her own and same person's level of accomplishment when there is support from someone else and/or social and cultural environment s/he is in (Lantolf & Poehner, 2008).

#### 1.5. Basic Assumptions

My assumption is that the participants answered the interview questions truthfully although people might reflect their personalities, therefore their perceptions and

perspectives behind an avatar as a surrogate persona, in a relatively different manner than in real life (Dede, 1992; Turkle, 1995).

## 1.6. Organization of the Study

A general overview of the organization of the study is presented in this section. In Chapter I, I present an introduction to the study by discussing the background of the context, the purpose of the study and the related research questions as well as giving an overview of the methodology adopted and the definitions of the terms. In Chapter II, I provide a review of the literature that led the research with the theoretical background and related empirical investigations with respect to my subject. In Chapter III, I explain the methodology of the study, the procedures of data collection and analysis. In Chapter IV, I analyze and discuss the data collected. Finally, in Chapter V, I provide the research findings, implications, and limitations of the research and recommendations for further research. There are also sections including the references and the appendices I used in the study.

## 1.7. Overview of the Methodology

For the methodology of this study, I adopted a qualitative research framework, field research in particular, in order to attain a descriptive and in depth comprehension of the educational activities in 3D VWs. My goal was to explore an educational tool in language teaching and learning context; therefore, I incorporated descriptions, explanations, and analyses to gain a deeper understanding of the phenomenon. In order to observe the implementation and investigate the implementers, I assumed a role as an observer and

spent several hours in the *Second Life* (hereafter SL) world on participant observation technique. After the observations, I wanted to take a closer look into the world of teachers to find out about their interpretation of SL as an educational medium, so that I would make connections between their practices and the quality of the environment, which would eventually provide me with a holistic understanding of its potential in education, particularly foreign language education. In order to achieve this, I supported my findings by interviewing the participants. I gathered the data by (a) observations which are partially presented as an observational vignette, (b) interviews with ESL/EFL teachers.

## CHAPTER II

### LITERATURE REVIEW

In the literature review part, I discuss the issues relating to this study in two subsections; these are virtual worlds and sociocultural theory.

#### 2.1. Virtual Worlds Terminology

Before starting the review of 3D VWs literature, there is one important point that I would like to clarify. The term *virtual worlds/environments* serves as an umbrella term; however, it is very likely to get confused by several other alternatives used to describe this technology in the literature. There is an abundance of expressions which usually denote to the same application. It seems that researchers coming from different backgrounds (designers, educators, gamers, etc) have come up with their own variety by focusing on a specific aspect of VWs, with more emphasis on their diverse uses. These are, for instance, synthetic constructivist worlds (Dede, 1995), immersive virtual environments (Jackson & Winn, 1999), immersive virtual reality (Jackson & Fagan, 2000), collaborative virtual environments (Benford, Greenhalgh, Rodden, & Pycock, 2001), virtual learning environments (von der Emde, Schneider, & Kotter, 2001), artificial learning environments (Winn, 2002), three-dimensional (3D) virtual worlds (Dickey, 2003; Peterson, 2006; Rymaszewski et al, 2007), online persistent game environments (Brown & Bell, 2004), massively multiplayer online role-playing games (Childress & Braswell, 2006), three-dimensional multi-user virtual environments (Stevens, 2008; Cooke-Plagwitz, 2008), and synthetic immersive environments (Sykes,

Oskoz, & Thorne, 2008). These terms refer to the same and/or similar technologies in almost all of the cases above. In this study, I preferred *3D virtual worlds* as it has the most frequent emergence in current academic contexts.

3D VWs are basically defined as three-dimensional simulations (sim) in which avatars (a common term for digital personae in VWs) can move and interact with each other by means of integrated text and/or audio chat tools (Dickey, 2005). There are several forms of VWs available on the internet for social users, gamers, business people, educators, and researchers: Second Life, Active Worlds, There, Adobe Atmosphere, OpenSim, Everquest, World of Warcraft, etc. Each application has its own unique affordances and constraints.

#### 2.1.1. Second Life Overview

Being the most active and populated virtual world and affording various opportunities that other applications cannot, SL has become very popular since it was first launched in 2003 by Linden Lab. It is defined as a free 3D virtual world imagined and created by its residents. More than a million internet users have accessed SL from all around the world within the last two months and approximately 70,000 people are online as of now according to the real time statistics window on the application.

SL provides many opportunities for its users. For instance, users can buy and sell artifacts, own land and build their own worlds however they would like, rent an apartment, find a job, run a real business, explore new places, travel in time, go shopping for their avatars, play games, go to a live concert, attend conferences, lectures, and social

events, hang out in clubs, and many other activities which are considerably similar to *real life* (RL). It is considered as a complex form of online social organization, a growing virtual community, and a vast space for social interaction (Brown & Bell, 2004; Childress & Braswell, 2006; Rymaszewski et al., 2007; Boulos, Hetherington, & Wheeler, 2007; Baker et al., 2009). Therefore, SL is preferred as the setting of this study due to its comparably high affordances in terms of educational use over other 3D VWs.

### 2.1.2. Use of Virtual Worlds in Educational Contexts

3D VWs have received a great deal of attention among educators; yet, the number of peer-reviewed articles indexed and published under the category of 3D VWs, particularly their use in educational contexts, has been very few – except for personal blogs, wikis, special interest groups on the WWW (world wide web), and so on, until recent years (Kuriscak & Luke, 2009). However, previous studies on *MUDs* (multi user dungeon/domain/dimension), *MOOs* (MUD object-oriented), *WOOs* (web-based MOO), *MMOGs* (massively multiplayer online games), which are considered to be the earlier versions of virtual worlds, can be linked with today's 3D graphic interfaced persistent immersive environments (Childress & Braswell, 2006).

The first known virtual world application was launched in England in 1978 (Bartle, 1990), featuring only text-based interaction among its users. In about ten years time, they evolved to MOOs by providing an object-oriented core (Schwienhorst, 1998), and since then their potential for teaching and learning have been under discussion. Turbee's (1999) research on language learning through MOOs and WOOs provides a pedagogical model for language teachers by emphasizing their potential for knowledge construction in a

social and cultural setting. She further discusses how to incorporate such tools into the language classroom and draws attention to pedagogical issues which raise accordingly; for instance, the changing roles of teachers as *facilitators* and students' *active involvement* rather than *passive reception* in their learning processes. Being active participants, language learners internalize linguistic patterns "within the broader contexts of dialogue and culture" (p. 360). Similarly, Bruckman and De Bonte (1997) underscores the benefits of using MOOs in classrooms as they help learners become active participants in a collaborative and cooperative learning environment due to MOOs multi-user nature.

These worlds provide a means for distant learners to converse and construct in a collaborative environment because of their special design features. Having distinctive names provide trust and accountability among users, and new personae and/or roles allow them to experience different responsibilities which are not always available in a traditional learning environment (Riner, 1996; Bruckman, 1997).

Von der Emde et al. (2001) also discuss the educational uses of MOOs in language classrooms by pointing out to five emerging pedagogical advantages:

1. Language content through authentic communication,
2. Learner autonomy and support for learner-centered curriculum,
3. Safe individualized learning for shy students,
4. Experimentation and play with the target language,
5. Students as researchers in the target language and culture (p. 213).

They also discuss the community based structure of these environments as they support peer-teaching since students begin to learn from each other (p. 215). In addition to the findings above, they also account that there are three primary ways of student facilitation in virtual learning environments. First of all, the activities need to be designed in a student-centered fashion with explicit content-based goals. Second, teachers need to promote learner autonomy by allowing them to determine their individual learning goals and monitor their own progress. Third, instructors need to respond regularly to the students' ongoing portfolios as well as to their efforts (p. 217).

In addition to 'collaboration' and 'participation' elements of MOOs, graphic interfaced MMOGs have upgraded the content of virtual environments. 'Creativity' and 'social interaction' have become more prominent; users could create their own digital persona and interact with the gaming environment as well as other users (Walker, 1990; Steinkuehler, 2004). Therefore, the sense of personality has gained a new dimension with the emergence of visual characters in comparison with the ones in plain text chat rooms. Some virtual environments have advanced a great deal until now; further detailed avatars with more flexible gestures and highly interactive inworld (within the world of SL) objects have increased the level of user autonomy; especially the availability of construction tools has added an enormous level of control and creativity. Users, as learners, have experienced a great deal of immersion in such distributed environments through their avatars, work together for knowledge construction.

Findings and discussions on 3D VWs overall have shown that these applications provide a variety of pragmatic affordances supporting social constructivist learning

paradigms (Bricken & Byrne, 1993; Dede, 1995; Riner, 1996; Bruckman, 1997; Winn, 1997). In her earlier works investigating different aspects of virtual learning environments, Dickey reports that 3D VWs support this social constructivist perspective by:

- making real-time communication coming together with a visual setting and numerous resources for collaboration (2003),
- providing a collaborative multidimensional environment for students to apply their skills (2004),
- fostering discourse opportunities among learners (2005a),
- enriching and enhancing interactivity in learning environments (2005b).

Similarly, Bailey, and Moar (2002) report on the *Vertex* project in which 9 to 11 year old students designed their own worlds using 3D modeling tools. According to the results, 3D VWs promote students' successful integration and active participation in tasks as well as develop their collaborative and communicative skills more than the expected level. Dede (1995) draws attention to virtual worlds' advantages; such as, doing experiments without almost any risks in comparison with real life conditions, which further supports the idea of *learning by doing*.

Because the objects in simulations are highly interactive, it is claimed that there is better conceptual understanding in virtual environments (Dalgarno & Harper, 2002). Such interaction with the environment attracts learners' attention and motivation in a powerful way. In a study by Jackson and Winn (1999), it is reported that students at elementary and tertiary levels enjoy their virtual interactions, and collaboration among

peers impacts the level of engagement in a positive way within the classroom. However, it is a difficult task to measure the effectiveness of virtual interaction. According to a recent study by Peterson (2006), it is stated that there are several elements influencing the nature of interaction in a virtual setting. Analyzing the chat transcripts of 24 intermediate EFL students on *Active Worlds*, he has found out that successful learner interaction is highly dependent on specific variables; such as, “task type, sociolinguistic factors, context of use, and the mix of technical affordances” of the application (p. 79).

Exploring *There* as a persistent collaborative virtual environment, Brown and Bell (2006) define it as a complex social organization. They also question issues like how social activities are supported by the medium and how the real time chat function fosters conversation among avatars who do not know each other; whereas, it is relatively more difficult to initiate talk in a face to face situation. Dede (1995) underlines that such interpersonal dynamics with other avatars in cyber worlds, even with machine-based agents, set necessary foundation to learning activities. One common conclusion drawn from both studies is that virtual environments encourage activities which can be carried out in coordination with others with less risk than in real life.

Childress and Braswell (2006) illustrate how SL engages online students in an environment which allows them to become more involved with each other and the instructor. Sitting around a coffee table in a cyber café and conversing in real time with other avatars by making use of emoticons and specific gestures, they have observed social interaction and concluded that graphical support of SL adds a visual feedback element that enhances the interaction while exchanging knowledge. These highly social

attributes of virtual worlds make them appropriate environments for cooperative learning activities (p. 188). Furthermore, offering a variety of partner and group activities, they promote critical thinking and problem solving skills of learners, which indicates cognitive presence in an online learning community (Garrison, Anderson, & Archer, 1999).

Identifying the basic characteristics of virtual environments (see Figure 2.1), Dillenbourg et al. (2002) draw attention to the motivational explicit representations that trigger positive attitudes toward the educational environment. They also add that learners are not only active, but also actors as it is possible for learners to create objects; therefore, be a part of the design process of their own learning environment by becoming “the contributors of the social and information space” (p. 7).

- A virtual learning environment is a designed information space.
- A virtual learning environment is a social space: educational interactions occur in the environment, turning spaces into places.
- The virtual space is explicitly presented: the representation of this information/social space can vary from text to 3D immersive worlds.
- Students are not only active, but also actors: they co-construct the virtual space.
- Virtual learning environments are not restricted to distance education: they also enrich classroom activities.
- Virtual learning environments integrate heterogeneous technologies and multiple pedagogical approaches.
- Most virtual environments overlap with physical environments.

*Figure 2.1* Common features of virtual learning environments (Dillenbourg et al., 2002, pp 3-4)

On the other hand, they (Dillenbourg et al., 2002) claim that “collaborative learning is not a recipe” (p. 13) as they disagree with the over-expectations of some educators regarding the benefits of virtual worlds. Because it is not possible to guarantee a successful collaborative task without rich interaction, discussion of meanings and representations, and exchanging roles, they emphasize the importance of teaching presence by offering two distinctive ways of carrying out collaborative processes. First, teachers should assign well-structured tasks which are expected to trigger productive interactions, and second, they should make sure that all students participate even though it is very hard to track it in virtual worlds (p. 14).

Recent publications and conferences on technology and education have specified their focus more on SL as an educational tool. Cooke-Plagwitz (2008) discusses the pros and cons of teaching languages through SL and finds the inworld tools very handy and convenient in foreign language education. Krish (2008) talks about the current teaching practices in SL and makes practical suggestions for online language teachers. (Baker, Wentz, & Woods, 2009) underline the importance of formulating clear teaching objectives, avoiding complex tasks, and consider learners’ opinions while designing new activities in SL. Finally, Kuriscak and Luke (2009) have examined the attitude of online language learners in SL by further investigating the relationship between corrective feedback and learner achievement, and recently reported that native speaker feedback in virtual learning environments is perceived in a positive way by non-native speakers.

Although the majority of educators and researchers seem to be very passionate about teaching in 3D VWs, some of them criticize the over expectations about these

applications. One of the most common critiques against the use of virtual worlds in education is due to economic reasons. It is a bit pricey to meet the minimum system requirements to run a 3D application on a regular desktop computer. The average memory and graphics card in the market may still not be enough to have a full virtual experience unless there is internet access with relatively high bandwidth (Winn, 2002; Wagner, 2008; Baker et al., 2009). Even if those conditions are provided, essential technical knowledge for being able to build and design educational content is beyond the capabilities of many teachers. This process can be very time consuming and teachers might develop anxieties while adapting the course content (Baker et al., 2009). Furthermore, teachers' efforts to find more resources and dedicating their time, energy, and money (building in SL is not free) to the technology might move them away from the actual course objectives (Dillenbourg et al., 2002; Wagner, 2008). There are also problems arose from the system which cannot be controlled by users at all. On the whole, SL itself is a computer program running on the servers of Linden Lab. Being in overpopulated sims becomes a major reason for lagging and crashing of the application. Apart from these, there are concerns about the unmanageable adult content which might be another important challenge in terms of moral values in educational contexts (Pence, 2007; Bugeja, 2007). However, all of the studies above bring these issues not to dispraise virtual worlds and deny their convenient use in teaching and learning activities, but to raise public awareness on less spoken topics and stress the significance of coordination skills and discipline.

## 2.2. Sociocultural Theory

Sociocultural theory (SCT) is mainly derived from the earlier work of Lev S. Vygotsky (1978), a Russian psychologist, who hypothesized that cognitive system of individuals cannot be detached from their social lives because individuals develop themselves cognitively through interaction within the social environment; therefore, the dynamic interdependence of social and individual processes is of primary significance in the knowledge construction.

Sociocultural approaches to teaching and learning have first been implemented at the beginning of the nineteenth century and since then they have become notably well-liked and accepted by many educators as well as researchers. According to this theory, human actions occur in cultural environments, are mediated by language, and best understood when they are in their cultural development (Wertsch, 1985). Therefore, learning is conceptualized as an interactive process which is the end product of learner's participation in a community of practice (Rogoff, 1994).

### 2.2.1. Sociocultural Perspectives in Second Language Learning

In second language learning, sociocultural perspectives focus more on how to construct a setting in which individuals "...learn language, learn about language, and learn 'through' language" by exploring the roles of interaction in a social and cultural context (Warschauer, 1997, p. 471). Therefore, the basic assumption is that language, being the most significant semiotic tool according to Vygotsky (1978), plays a very

important role while mediating purposeful action, and social interaction which is claimed to be the origin of all higher-order functions (Wertsch, 1985).

Thorne (2000) further states that the theory is not only Vygotsky's but also his students' formulation which focuses on providing an individual with "collective, material, and historical conditions" and lists common characteristics of the theory as the following:

- sociality more foreground than individuality,
- language as socially constructed rather than internally intrinsic,
- language as both referential and constructive of social reality,
- notions of distributed and assisted activity in contrast to individual accomplishment (p. 225).

Within traditional sociocultural perspectives in second language learning, learners are treated as novice participants of a community where they develop their knowledge and skills by interacting, engaging in conversations with more proficient users of that language. These learning processes take place within the realms of what is known as the zone of proximal development (ZPD). Vygotsky (1978) defines this notion as "...the distance between the actual development level as determined through independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers" (p. 86). SLA theoreticians identify the ZPD as a social domain in which novice learners cannot fully perform the competences on their own in the target language and culture; therefore, with the support of either native speakers or more knowledgeable learners, they learn how to accomplish certain tasks through the use of language. Collaborative scaffolding becomes

a significant process in this stage as it makes learners to do what they would not be able to do without assistance, such as gaining control over L2 forms and meanings (Dixon-Krauss, 1996; Wells, 1999; Kozulin, 2003; Lantolf & Poehner, 2008).

However, contemporary researchers, particularly in the field of second language acquisition (SLA), have diverse interpretations of the theory, which sometimes result in a *cohesion gap* as Thorne (2000) discusses. He notes that the theory itself has been in a process of evolution and under intensive scrutiny by western educational philosophers since the mid 80s and draws attention to the issues regarding incommensurability of educational constructs; such as, Krashen's (1985) *i + 1* versus Vygotsky's (1978) ZPD.

Swain (2000), investigating the dynamics of social interaction identifying it as *collaborative dialogue*, claims that "in second language learning, it is dialogue that constructs linguistic knowledge" (p. 97). That is to say, language learning co-occurs in such a cognitive and social activity because novice speakers are engaged in problem solving and knowledge building processes when they converse. Comprehensibility of *input* in a dialogue with an expert highly depends on negotiation of meaning which also leads to successful learning outcomes for the novice. Being another significant element of interaction, *output* also plays an important role; for instance, as he states "... output may stimulate learners to move from the semantic, open-ended, strategic processing prevalent in comprehension to the complete grammatical processing needed for accurate production" (p. 99). As a concluding comment on the issue, he comments that language learning takes place in collaborative dialogue since "internal mental activity" originates from "external dialogic activity" (p. 113).

Getting inspired from Sfard's (1998) *participation metaphor* and applying it to second language learning context, Pavlenko and Lantolf (2000) emphasize the importance of *participation* as it is distinguished from *acquisition* by certain tasks like "doing, knowing, and becoming a part of a greater whole" (p. 156). Therefore, language learning is overviewed more like a process of involvement in action and participation, rather than the acquisition of prescriptive rules. In their research, exploring the narratives of bilingual writers, they have observed how participation in second language learning could entail getting immersed in the resources of a new culture and how individuals could reconstruct a self in that culture eventually (p. 174).

Vygotsky's definition of learning "...as being embedded within social events and occurring as a child interacts with people, objects, and events in the environment" (Kublin et al., 1998, p.287) has shaped the implementations in second/foreign language teaching; new learning approaches have emerged and become trendy in recent years: constructivist approaches, problem solving approaches, and collaborative learning approaches (Felix, 2002). One prominent feature shared by all of the approaches above is that the idea of static knowledge transmission derived from the traditional learning approaches is no longer favored within the practices of recent learning paradigms. Both teachers and students find the new practices very advantageous and have positive feelings and attitudes toward them (Felix, 2000). For instance, according to Johnson and Johnson (1996), collaborative learning received a notable attention because it offers multiple opportunities in the classroom, such as peer teaching, new roles in group activities, realizing the capacity of acting as a group and taking bigger learning responsibilities.

Felix (2002) also points out to an interesting aspect of these sociocultural perspectives in the language classroom. She states that there are three common points shared between the sociocultural and communicative approaches to language teaching. These are the basic characteristics of tasks defined by theoreticians: “tasks have to be contextualized, authentic, and meaningful to the students” (p. 6).

### 2.3. Summary

In the literature review chapter of this study, I presented the empirical database as well as the theoretical underpinnings of using 3D VWs for educational purposes, especially in second/foreign language teaching and learning contexts. First of all, I discussed the terminology of virtual worlds, and then introduced SL as the virtual environment used in this study. Following the brief overview of SL, I tried to highlight the discussions and findings about the educational use of virtual worlds by focusing on research in language education. Finally, as the theoretical background of this study, I explained SCT and its implications in education with respect to sociocultural perspectives in second language learning.

In the following chapter, I will report the methodology of the study; the research design, data collection including the instruments, the procedures, and finally the analysis of data.

## CHAPTER 3

### METHODOLOGY

In this present study, I aim to investigate; (a) how sociocultural aspects of teaching and learning ESL/EFL manifest in 3D VWs, (b) how language teachers perceive such teaching and learning activities, and therefore adapt their pedagogies, design ESL/EFL course content, and deliver courses in a virtual setting in this respect. Therefore, for the purpose of this study, I try to address the following research questions:

1. What constitutes pioneering language teachers' understanding of language teaching and learning in 3D VWs?
2. How do perceptions and perspectives of ESL/EFL teachers steer their instructional practices in a virtual learning environment?

In this chapter, I explain the methods and procedures I followed during the data collection processes. The first section lists the research questions, then the setting, population and the instruments used for data collection. Finally, I discuss the procedures followed for conducting the study and data analysis in detail.

#### 3.1. Setting

As the setting of my field research, I tried to pick language schools in a 3D virtual world, SL. However, only two of them are commercial foreign language education initiatives, third one has been built by volunteers with the donations of SL residents offering free public education, and the last one is not necessarily an organized institutional structure but a collection of several different settings in the SL world. All

environments have students supposedly older than 18 because users are asked to verify that they are 18 or older to be able to sign up for a new account. In these educational settings, several other foreign languages are taught along with English as a second/foreign language (ESL/EFL) at different levels. Some schools also offer business English, conversational English, English for international exams like TOEFL and IELTS courses. The majority of the classes I attended during the observations were held in virtual classrooms which are designed and furnished as the replication of a typical language classroom in real life. However, there were classes outside the classroom as well. For this specific study, I have observed several hours of English classes; among these were general English, business English, conversational English, and English through drama.

### 3.2. Participants of the Study

As for the participants of this study, I had to follow a purposive sampling process due to the time restrictions for the research and scarcity of the sampling group; looking specifically for ESL/EFL teachers in a vast 3D open space. Trochim and Donnelly (2008) states that:

Purposive sampling can be useful in situations where you need to reach a targeted sample quickly and where sampling for proportionality is not the primary concern. With a purposive sample, you are likely to get the opinions of your target population... (p. 49).

Hence, my sampling experience included searching the web for virtual language schools in SL, visiting the language schools searched in SL, contacting program coordinators of those schools, joining online language teachers' networks and contacting them, and

attending educational conferences and workshops in order to find participants for my research. I sent a detailed consent form to every prospective participant informing about the general outlines of my research, participation processes, anticipated risks, purpose and significance of this study, issues regarding participants' confidentiality, procedure to follow upon acceptance, and detailed contact info.

As a result of my sampling efforts, I ended up with 5 participants who were selected among teachers either employed or had already had a teaching position in one of the language schools in SL. All of the them were English teachers either holding a college degree in teaching English or qualified teaching certificates, such as CELTA (Certificate in English Language Teaching to Adults) and already had had several years of teaching experience in ESL/EFL as well as other educational fields in their real lives.

Although users are asked to create a name of their own choice and pick a last name from a list of possible names for their avatars on the sign up page of SL, some people still prefer to stay with their names in real life. Moreover, SL allows users to search for specific avatar names and grants access to the profile page of any avatar listed in search results. Therefore, this situation brought the issue of confidentiality to my consideration since avatars can be tracked in SL. In order to protect the confidentiality of the participants, I generated pseudonyms for each teacher; so, all the names used in this study are supposed to have neutral values.

### 3.3. Research Design

In this study, I aim to present perspectives and perceptions rather than facts and numbers. Therefore, I adopted a qualitative research framework, field research in

particular, in order to attain a descriptive and in depth comprehension of the educational activities in virtual worlds. As Trochim and Donnelly (2008) state:

Qualitative research enables us to get at the rich complexity of the phenomenon, to deepen our understanding of how things work... if you really want to try to achieve a deep understanding of how people think about these topics, some type of in-depth interviewing or observation is almost certainly required (p. 143).

Because my attention was on the exploration of an educational tool in language teaching and learning context, I intended to incorporate descriptions, explanations, and analyses in order to gain a deeper understanding by both observing its implementation as well as investigating its implementers. In order to accomplish this task, I assumed a role as an observer and spent several hours in the SL world. After the observations, I wanted to take a closer look into the world of teachers to find out about their interpretation of SL as an educational medium, so that I would make connections between their practices and the quality of the environment, which would eventually provide me with a holistic understanding of its potential in education, particularly foreign language education. I, as the researcher, identified teachers as key informants in this study, who described their experiences, opinions, and perceptions toward SL, and more specifically, how SL served them as a tool for carrying out teaching and learning activities.

### 3.4. Data Collection

#### 3.4.1. Instruments of the Study

The research data in this study collected through observational field notes, interviews (see Appendix B), and other artifacts (i.e., personal blogs, course materials, screen shots) shared by the participants. I tried to analyze the collected data recursively; define

emerging themes and topics, and revise field notes and shared artifacts. I also conducted member checks to the end of the study to evaluate the credibility and verifiability of my personal interpretations.

Being a common observation method as Trochim and Donnelly reports (2008), I preferred direct observation method over participant observation as it required “only watching rather than both watching and taking part” (p. 147) in the classes. They further note that it “tends to be more structured than participant observation...the researcher is observing certain sampled situations or people, rather than trying to become immersed in the entire context... direct observation tends not to take as long as participant observation” (p. 147).

In order to triangulate the observational data, I conducted personal interviews with the participants through a synchronous CMC (computer-mediated communication) tool of their choice. The interview was made up of eight open-ended questions which I developed in order to find out about the instructors’ individual experiences.

### 3.4.2. Procedure

Since the aim in this research is to explore the potential of an educational tool through educators’ perspectives, data collection procedure included their observed and self-reported practices. Hence, the data were collected in two phases: observations and interviews.

As I have mentioned while identifying the instruments, I adopted direct observation as the method for the observations, each of which took about 60 – 90 minutes. During the

observations, my primary concern was to avoid any sort of immersion and interaction with the participants. In order to achieve this, I located my avatar in the farthest position available, so that I could not be noticed by the teachers and learners. Thanks to the *camera view* feature of SL, I was able to zoom in and out from far distances without distracting anyone's attention. However, it was only applicable for the classes outside; avoiding interaction in small-sized classrooms was almost inevitable. As for such indoor classes, I preferred very back seats, oftentimes the ones on the corners. That was mainly because I was also recording the classes with a third party recording application. The video recordings further helped me since I could refer back to the observations while revising my observational notes.

Having personal interviews with the participants provided me greater ease because it is assumed that "the interviewer has the opportunity to probe or ask follow-up questions, and interviews are generally easier for the respondent, especially if you are seeking opinions and impressions" (Trochim & Donnelly, 2008, p. 120). However, since the participants were from different countries, and therefore, different time zones, I had to negotiate with the subjects to set the appropriate time and place. Available CMC tools were the integrated audio/text chat tool of SL and other third party IM (instant messaging) applications. Because of the nature of the questions and provoking discussions, the interviews took about 45 – 60 minutes, while I had been assuming that they would have taken less time as aforementioned in the participant consent form.

### 3.5. Data Analysis

Since my research intends to provide a description and achieve a deeper understanding of the phenomenon which could also be depicted as “exploring the potential of 3D VWs for language teaching and learning in terms of sociocultural perspectives”, I find Creswell’s (1998, pp. 147-150) phenomenological data analysis frame useful, relevant, and applicable to my context. Therefore, starting off with a detailed description of the phenomenon with respect to the field observations, I tried to find out significant *statements* emerging from the personal interviews with the teachers and grouped them into *meaning units*. Supporting the statements with the findings from the literature, I reflected my own understanding and interpretation by looking for *possible meanings* and *divergent perspectives* to illustrate the phenomenon under consideration.

### 3.6. Summary

I tried to present the methodology of this study by describing the related procedure. Therefore, I provided information about the setting and the participants of the study by discussing how sampling issues are handled, gave an overview of the research design (i.e., the reason why I picked a qualitative study), detailed the data collection processes are illustrated under two categories: the instruments of the study and the procedure, and finally, I talked about how I carried out data analysis processes.

Next chapter will show the results and findings in accordance with the data analysis process described above.

## CHAPTER IV

### RESULTS AND DISCUSSION

Presenting the results of the descriptive analysis of the collected qualitative data by means of the instruments which are observations and interviews, I, then, report the results of the analysis for the following questions to see how findings relate to my research questions as well as my theoretical framework:

1. What constitutes pioneering language teachers' understanding of language teaching and learning in 3D VWs?
2. How do perceptions and perspectives of ESL/EFL teachers steer their instructional practices in a virtual learning environment?

#### 4.1. Background of the Participants

The participants of this study were 5 English teachers whose names (participants are given pseudonyms) are Amber, Dana, Irene, Jade, and Jillian. They were all teaching English as a second/foreign language in SL. Although personal characteristics of these teachers might have connections with their practices, I tried not to involve this information in my research because their professional experiences, opinions, beliefs, and expectations about virtual worlds are of priority concern. However, I thought a bit of personal background might give further insights while getting into their worlds and trying to understand their pedagogies. The following information is excerpted from the interview results, not necessarily following a specific format.

*Amber* did both her bachelor's and master's degrees in education with a concentration in communication in the US. She started her teaching career in 1991 and has been teaching online and face-to-face classes since then. She also initiated and ran a private school at some point in her life. Currently she has a managerial position in an online educational initiative along with her teaching activities in SL. She is homeschooling her children and has been in SL since November 2008.

*Dana* was raised as a German – Turkish bilingual in Germany. She trained as a photographer and started her own business as a part of her first professional career. Then, she studied translation and interpretation for two semesters in Turkey. She changed her mind again and got interested in becoming a multilingual secretary and learned French in addition to her English. She first started teaching by giving private English courses at home, and then went on in a language school in Germany. She liked teaching and got her CELTA (*Certificate in English Language Teaching to Adults*). She taught English in Germany, the UK, and Turkey. She has been teaching in SL since the summer of 2008.

*Irene* was born in South Africa although her parents are from Denmark. She lived in several other countries like China, Canada, Australia, the United States, and Denmark. She studied Sinology in Taiwan and did her master's in ICT (Internet and Communication Technologies). She started teaching ESL when she was in Australia and she has been teaching English, communication, cultural understanding at a professional training center of a college. She teaches English and building courses in SL with more than 300 hours of experience.

*Jade* got her degree in property and worked as a property valuator for several years in the UK. Her experiences as a valuator included teaching business lectures at university level. Then, she moved to Australia and wanted to teach English there. She qualified for a CELTA degree and started her teaching career. She has been teaching business English in SL since February 2009.

*Jillian* was also raised as a Welsh – Indonesian bilingual in the UK. She started with social anthropology as for her bachelor's and got a master's degree with concentration in digital culture and technology in the UK. She also did CELTA and taught English in Chile, Indonesia, and the UK. She has been teaching online EFL classes in SL and working as the customer relations manager of a reputable English school in SL for a few years by now.

By looking at the diverse and multicultural background of teachers in addition to their professional experiences, I could speculate that such distinctive experiences might have inspired them in forming their individual teaching philosophies. However, that would make a whole different topic for some other research in the future. Therefore, as I have already mentioned in the data analysis section of this study, I intend to go on with teachers' observed practices in the SL world by sharing a vignette which came out of my field observation notes.

#### 4.2. Observations of ESL/EFL Settings in Second Life

While observing the ESL/EFL settings of this study, I recorded some of the classes and took a great amount of sketchy notes. However, since I was supposed to define my experiences and interpretation of the phenomenon as the first step of the data analysis, I

thought it would be a good idea to render a vignette by using the chunks of raw data drawn from the observational notes as well as the video recordings. Because an observational vignette portrays specific captions and lively images from the research setting, it might contribute to the rich description of the nature of teaching and learning activities, and therefore, provide further understanding to my exploration with respect to the teachers' practices.

The vignette below, hence, is a detailed caption taken from one of the very many classes I could get an opportunity to observe. I aim to provide an ample explanation and an in-depth perspective to a specific teaching session which I observed with direct observation method. Asking the research questions and applying the issues discussed in the literature review chapter, I have noticed that there are various themes emerging from this vignette. However, I will use my conceptual framework to filter the themes since my primary focus is on educational characteristics of the activities.

#### 4.2.1. Observational Vignette

I wrote this vignette in one of my observational tours in *English City* which is used as an environment for teaching and learning activities by one of the first educational initiatives in SL. The city itself can be considered as an educational sim, specially designed for EFL learners logging in all around the world. The activities are carried out either by English teachers or people from different fields in order to provide the learners with real life like immersion experience. There are various settings to be used for teaching and learning activities, such as a bank, hospital, or a hotel. The city has its

inhabitants who live there and help the learners performing daily chores. The vignette is from the *performing arts center* of the city where students act out together.

*Vignette: The Performing Arts Center*

As I check the class schedules on the school website, I notice there is only 5 minutes left to the class I am planning to observe. Not necessarily panicking because of the little time left, I click on the tiny course info link attached to the schedule and notice that it takes me to a *SLurl* (Second Life uniform resource locator) on a new tab, which looks like a colorful two-dimensional (2D) map of the SL world on my browser, showing islands and parcels where my target destination is located. With a simple click on the *SLurl*, a small speech bubble pops up and asks me if I want to *teleport* (TP) to the clicked location. Upon hitting the teleport button, I see the SL log in window running on the foreground. I log in with my username and password immediately, and find myself in the lobby of the school. The whole process takes less than a minute.

Here I am, being kindly greeted by a lady at the reception area. “Welcome Ozan, how may I help you?” as she can see my name on my *HUD* (heads-up display). I type her back on the local chat area instead of using the voice function and let her know that I am there to observe the drama class which is about to start in a few minutes. She sends an *instant message* (IM) to the teacher for confirmation and I notice that the teacher is offering me a TP as another small blue window pops up; so, I hit the button again and with funny special sound effects like in a sci-fi movie, I teleport myself to the performing arts center of the city (see Figure 4.1). The teacher welcomes me with a private IM. Since other people cannot see a private IM, they are not distracted with our conversation at all.

I immediately walk to the farthest corner of the performance hall and fix my avatar view to observe the class. I can hear the teacher having a pep talk with the students while they are testing their microphones to make sure that everyone can be heard. I can see tiny green waves over some students’ HUDs showing that their voice chat tool works.

One of the students complains about having an exam in his real life soon, another one asks if they can go and hang out with friends in a virtual cafe after the class. There is someone else by the stage slightly bending to the front; must be away from his computer I suppose. They must be from different countries as they all have very distinctive accents. In the meantime, there are still a few students appearing; first in the form of a light ball, and then in their regular shape. I look around and see that the place is a replication of a typical performance hall from its wooden stage to red velvet curtains hanging on both sides.



Figure 4.1 The performing arts center

To my left, there is an interactive bulletin board mounted on the wall where they display pictures from previous shows as well as a notification box to click and get the text of the day. Without bothering anyone, I click on the box and get my copy. It reads as “The Argument Clinic by Monty Python – Live at City Center”. I take a quick look at the material by scrolling down on the note card and find out that it is the original script of one of Monty Python’s (a group of British comedians) comedy shows with an attached unknown vocabulary list at the end. While I am skimming through the text, I hear the teacher giving the instructions about reading it out loud and assigning the roles in the text. There are students standing in front of the stage and constantly checking if everyone can hear them. Some are still having problems with echoing, but the teacher and other students support them by typing what they are talking about on the local chat area. From time to time, avatars automatically animate and take different postures, and it adds a sense of liveliness in the setting. They start studying the text by reading out loud while the teacher helps them work on their pronunciation skills, and explains unknown idiomatic expressions by using the new patterns in different sentences.

“Ok, well, what do you think *festering gob* means? Have you ever heard of that before?” asks the teacher. Students try to answer. Meanwhile, I notice another native English speaker, who is an inhabitant of the city, chimes in the conversation by giving a further reference from real life: “Oh yea, like... like... *Uncle Fester* in the *Addams Family*?” Giggles arise when a student asks about the *Addams Family*. They all try to guess the meaning of the expression with the help of the examples and clues given, and eventually agree on its meaning as the teacher also verifies.

The students pay attention to the gestures and mimics given in brackets, as in “clears throat, stunned, exasperated”, and try to reflect the feeling with proper intonation. Once the text is over, the teacher goes “All right, now, it is time to put it on stage!”



*Figure 4.2* The students as actors/actresses and the teacher as director

She asks for the volunteers; students move to the stage which is furnished with the appropriate décor for the performance. They wear their costumes which are already in their inventories and start acting it out. The teacher stands next to the stage as the “director” giving positive feedback on their acting skills (see Figure 4.2). I can hear others watching them and giggling. Voices arise on the stage: “NO, I DIDN’T! ... YES, YOU DID! ... NOOO, I DIDN’T! ... YES, YES, YOU DID!” I think they are really having fun...

#### 4.2.2 Findings Related to the Observations

Taking the above situation into consideration, one can come up with various emerging themes regarding different aspects of the 3D VWs. However, since my focus to describe a typical classroom setting, I will speculate more on the nature of the activities designed by the teacher by pointing out how these activities are supported by the environment.

My initial reactions to language learning situations in SL including the findings from other observational sites are as the following:

1. Students learn new language items by conversing with teachers and other native speakers. They are fond of role playing activities; especially when the setting and the costumes are provided, they get easily engaged in the task.
2. Students are engaged socially; they talk to each other and type in the local chat area. They share personal stories from their second lives as well as real lives, spend time together, and do extracurricular activities in SL, such as hanging out in a virtual club or going shopping for their avatars.
3. Teachers design activities around tasks. Students use the language while doing things, such as performing as actors/actresses on a stage. Teacher stays at the background as the director, observes them, and helps when they need.
4. The text they use is not always a pedagogic material; authentic materials are also used effectively while presenting new forms of language in the SL world.
5. Culture is available and accessible to a great extent, especially when native speakers use idiomatic expressions or cultural references during conversations.
6. As in RL, avatars take roles in SL, too. When students are given a collaborative task; as in performing on a stage, they share the responsibility to accomplish the task by assigning new roles to themselves.

Above, I tried to present some of my initial reactions emerging from the situation in the vignette. In addition to those above, I would like to go on with further findings from the other observations to cover more of teaching and learning practices in SL.

7. Teachers immerse students to both written and spoken forms of the language especially when they want to underline a specific use or assist them through multiple channels (audio/text chat tool) when they have difficulty in performing the tasks.
8. There are several settings where students learn to practice certain communicative skills. Being a relatively new tool in the SL world, *holodecks*, menu-based scene generator tools, provide numerous new settings appropriate for the lesson content. Teachers, equipped with these tools in their inventories, create the required setting (e.g., an airport scene with a check-in desk, see Figure 4.3) to immerse learners in several situations they would encounter in RL.



*Figure 4.3 A holodeck scene with penguins theme*

9. It is also possible to experience many things which are “fantastic” in RL. Flying, teleporting, and building skills bring a new dimension to teaching and learning activities. It gives mobility to those who do not have in RL.

Apart from the situations discussed above, it is also likely to observe classes which are taught in a very structural way, allowing students learn purely linguistic structures through direct transmission. These classes usually aim to prepare students for certain tests in English which measure only structural knowledge. SL serves only as a CMC tool for the transmission patterns in such situations where students are passive recipients. However, one of the purposes of this study was to investigate how sociocultural perspectives in language education manifest in 3D VWs. For this reason, I tried to illustrate how theory meets the practice in SL, rather than comparing different teaching approaches. My reactions describing the potential of virtual learning environments in this section originate from the findings which are drawn from the observations. Next section reports the findings from personal interviews with ESL/EFL teachers in SL.

#### 4.3. Teachers’ Self-Reported Practices in Second Life

Teachers’ self reported practices showed considerable similarities between their observed practices. There were several statements emerging from the interviews.

##### 4.3.1. Emerging Statements from the Interviews

Teachers who participated in this study believe that 3D VWs provide unbeatable educational opportunities. They draw attention to the different aspects of online education while sharing their ideas. For example, according to Dana, 3D VWs are flexible open spaces for learning:

The classroom (main meeting point) is in a garden... (We have) some sessions in my house... But we use many different locations in SL depending on the lesson... It's a shame to stay in one place in SL... Even worse to replicate real life classrooms...

Because SL has a rich, diverse, and enormously growing content and it is possible to change locations easily, Dana finds no value in getting stuck in a classroom where learners are comparably passive participants. She thinks that SL provides great opportunities for social immersion and interaction which are relatively similar to those in RL.

Another opportunity mentioned by the teachers was how well 3D VWs support *anonymity* in a language classroom. Jillian mentions that:

I think that the students are relaxed behind their avatars. I have taught mixed nationality classes in London and people's prejudice and cultural mores are much stronger in the physical world... Also, the dynamic between the ages is great here; we have students in their 60's and they enjoy the fact that they can represent themselves how they like!

Representing self behind a surrogate digital persona highly promotes risk-taking. According to what Jillian says, their new roles coming with their new avatars are supposed to remove the social and emotional barriers in a RL classroom, and let them take new responsibilities within the learning community.

Beside the student anonymity, 3D VWs are thought to be supporting *multiple intelligences* (Gardner, 1983) as Irene notes:

They are so useful for role playing, useful for simulation, useful for illustration of things... I don't know if you know Howard Gardner's Multiple Intelligences Theory, it is useful to reach people at different levels.

Although 3D VWs have a strong potential to support multiple intelligences, such as good quality 3D graphics and a vast open land for *visual/spatial learners*, a social setting for *interpersonal learners*, and the text chat tool which even saves the chat logs in a folder for future reference for *verbal/linguistic learners*; I would still question how it would work for *bodily/kinesthetic learners*.

Providing tools for *multimodal activities* is also considered as a distinctive feature of 3D WVs as such features enrich the content and students can easily get engaged in the learning community. Jillian states:

The way that you can have multiple channels of communication is great - instant messaging for a shy student, or for peer learning, a private voice call, open chat, music, textures with text; I think that all of them are useful to make it engaging...

Issues regarding the resources seem to be common sense among the teachers. In addition to their educational opportunities, 3D VWs offer flexible opportunities in terms of time, space, energy, and cost. Amber says:

I homeschool my children and cannot teach outside of the home. All my teaching has to be done online. (I prefer Second Life because it) can be done from home without leaving the children.

She underlines that she has the ease of being able to work from home, not necessarily having to leave her children. This might, at first, sound like a personal choice; however, it saves her time for her children's education. Similarly, Irene and Jillian also agree with Amber by saying:

People don't want to pay, they don't want to use transportation time, and they don't want to use transportation money, so the idea of having an e-learning platform at work is very very cool... (Irene)

The fact that you don't have to set the scene is great. You don't need to say "Oh, imagine you are in the train station, etc... They are there ... SL saves time!" (Jillian)

Due to providing several useful tools for successful online education, teachers report that 3D VWs support the integration of highly sociocultural activities in online language classes. Dana states that:

I was intrigued by what I heard SL had to offer to learners and teachers. I am a visual learner with an interest in technology and the internet. As a teacher, it was the immersive and collaborative nature of SL that appealed to me. I had also been looking for motivating ways to teach online, and the game-like nature of SL seemed to be one such way... Because of the feeling of real presence, I think it can enhance distance education.

By pointing out at immersive and collaborative features of 3D VWs, Dana mentions that these environments can also be motivating for teachers, who want to teach online, because of their high potential for participation and interaction. Moreover, she draws attention to the sense of reality by underlining its advantage for distance education.

Next statement is that 3D VWs make language classes more multicultural and diverse settings. People logging in from different countries enrich the social environment. It might be interpreted as a *teacher reward*; Jade states:

I just love hearing about the other cultures. I'm obviously fascinated when I hear students from China, Germany, Poland, Russia, and Saudi Arabia... I keep a list; I got an Egyptian, also somebody from Lebanon...

When they are asked about the similarities and differences they noticed in their teaching, they reported that 3D VWs are similar to and different from educational contexts in real life (see Figure 4.4).

Similarities	Differences
<ul style="list-style-type: none"><li>• the nature of content exchange</li></ul>	<ul style="list-style-type: none"><li>• lack of body language, gestures, and mimics</li></ul>
<ul style="list-style-type: none"><li>• being real-time and synchronous</li></ul>	<ul style="list-style-type: none"><li>• multinational/multicultural classes</li></ul>
<ul style="list-style-type: none"><li>• multi-modality features</li></ul>	<ul style="list-style-type: none"><li>• limits of technology</li></ul>
<ul style="list-style-type: none"><li>• the pace of the lessons</li></ul>	<ul style="list-style-type: none"><li>• immersion in experience</li><li>• easy to interact with strangers</li></ul>

*Figure 4.4* Similarities and differences reported by the teachers

Teachers all agree on the statement that nothing can “beat” face-to-face classes. However, teachers should make most of 3D VWs and know more about the opportunities they offer. They also note that the majority of the teachers adapt their materials from RL curricula; very few activities are designed particularly for SL.

Teachers also report that they like the activities in which they are facilitators, guiding the learners. They describe their most favorite activities in SL as going on fieldtrips, intercultural activities, and interactive games. For example, Jillian says:

Ok, so, my favorite activity is “Dark Mines” - an MMO style sim where the students have to work out puzzles, and then there are zombies, robots, very dark stuff going on... and a mine full of drill bots :) You are more of a facilitator and they work as a team...

As a final statement, they all sound very passionate about teaching and learning in 3D VWs because these environments are future promising and innovative tools for education:

It is where education is going to be in the future ... It has the potential to be a major player long term. (Amber)

I believe we are only at the beginning of this adventure with virtual worlds and one day they will become normal at least for online education! (Dana)

I definitely want to say that I'm not even in little bit in doubt now. Maybe SL, may be not; but, definitely a virtual classroom... I'm here to stay, I just started a company that's called virtual learning, I will be here, you talk to me in ten years, I will be here, and I will always be with the best one... (Irene)

I always thought that tech would change how students learn but I don't think in my wildest dreams I could have thought of them, SL and English city... (Jade)

The emerging statements from the interviews show that there are several common opinions, feelings, and expectations shared by teachers.

#### 4.4. Summary

Comparing the findings drawn from both instruments, it is seen that teachers' observed practices quite match with their self reported practices. There were several repeating themes; the teachers' personal statements from the interviews supported the themes emerged from the observations. The common perspectives of teachers about the 3D VWs can be categorized under these units; potential for social collaboration, interaction, engagement, participation, immersion; authentic tasks, contexts, experiences; sense of community, self; anonymity, risk-taking, multiple channels for conversation and discourse possibilities, flexibility for teachers and students in terms of resources, and etc.

Therefore, in relation to the research questions of this study, I can speculate that the keywords below provide insights about what constitutes pioneering language teachers' understanding of language teaching and learning in 3D virtual worlds how sociocultural aspects of teaching and learning ESL/EFL manifest.

## CHAPTER V

### CONCLUSION

The aim of this present study was to provide an exploratory study on three-dimensional (3D) virtual worlds through ESL/EFL teachers' perspectives in Second Life. For the purpose of this exploration, I investigated how sociocultural aspects of teaching and learning ESL/EFL manifest in 3D VWs by observing the current teaching practices in virtual learning environments and examining how language teachers perceive such teaching and learning activities. Analyzing the collected data, I have come up with a number of common themes and statements that provide further insights to (a) how sociocultural aspects of teaching and learning ESL/EFL manifest in 3D VWs in terms of pioneering language teachers' understanding, (b) how language teachers' perceptions and perspectives steer their instructional practices.

In relation to the first research question; "What constitutes pioneering language teachers' understanding of language teaching and learning in 3D VWs?", observations and personal statements show that the elements of sociocultural perspectives toward language teaching and learning were reasonably evident in the practices and personal statements of the teachers who participated in this study. Therefore, teachers practices illustrate that they are following the sociocultural paradigms which explain language learning as it occurs in social environments with assisted activity (Thorne, 2000); through social participation in a community of practice (Rogoff, 1994); by taking part in collaborative dialogue (Swain, 2000); by performing authentic tasks and becoming a social self and active member in a community (Pavlenko & Lantolf, 2000). It can be

concluded from this research that 3D VWs provide several opportunities for ESL/EFL teachers to accomplish teaching and learning activities suitable to the new educational paradigms.

In relation to the second research question; “How do perceptions and perspectives of ESL/EFL teachers steer their instructional practices in virtual learning environments?”, it is found out that the teachers are excited and passionate about the opportunities 3D VWs offer for their students, their course content, and their teaching; curious and impatient about the innovations in VWs technologies, have positive expectations about the educational practices in VWs, aware of that fact that teaching in VWs is a different phenomenon than teaching in RL, in favor of social and collaborative learning activities, and hopeful about the future potential of these worlds. However, they think that teachers in this study think that they need more time to explore the dynamics of this new setting and more training in building and design skills so that they can also have a say in design processes. Having these perceptions and perspectives, teachers are motivated to explore new tools and adopt the best practices.

### 5.1. Implications

This study has practical implications for teachers and researchers. The findings about the current educational practices in VWs have shown that 3D VWs has a significant potential in language education through sociocultural perspectives by discussing the themes drawn from the observational notes. The collected data portray a rich picture of the current situation of language education in VWs; particularly, how courses are delivered, what kind of inworld tools are effectively used, and what sort of activities have

proven to be useful by the teachers. Therefore, it might give an idea about the roles of teachers, nature of activities and learning processes according to SCT based approaches in language classes.

Since teaching and learning in VWs is becoming a growing interest, more teachers will soon be needed. Although some language initiatives train their own staff, it would be interesting to see a special training program in becoming a language teacher in VWs. Current study might provide a better understanding of what comprises the current understanding of teaching languages in 3D VWs and how it is already implemented by pioneering language teachers. The professional certification programs might encourage teachers, who are relatively more technologically savvy, to be more interested in applying different teaching tools in their classes. Therefore, these findings might also provide further insights to prospective teachers who are willing to get into the world of SL and expertise in becoming an online English teacher.

## 5.2. Limitations

Due to the time constraints and the number of the English teachers available in Second Life, I had to choose purposive sampling as my sampling method. Trochim and Donnelly (2008, p. 47) says “With a purposive sample, you are likely to get the opinions of your target population, but you are also likely to overweight subgroups in your population that are more readily accessible”, I might have overweighed the results and findings which might be considered as a bias, and therefore might comprise a limitation for this research. However, the conclusions drawn are based on the explorations within this specific study

and they try to ascertain the presence of a specific phenomenon within language classes in 3D VWs.

### 5.3. Recommendations for Future Study

The potential virtual worlds offer has already been under discussion since they were first defined as future promising tools shaping the teaching practices (Childress and Braswell, 2006; Stevens, 2006; Baker et al., 2009). It was interesting to see how practices have evolved since the first time researchers started to talk about education in virtual learning environments. Looking at the point where we are today, I see that the opportunities are increasing more and more as innovative technologies advance. Therefore, more in-depth studies, exploring the affordances and constraints of these worlds are needed. Focusing more on design and instruction processes, it would be interesting to investigate what kind of pedagogical practices in teachers should adopt to make the best use of these worlds in language education.

## REFERENCES

- Bailey, F., & Moar, M. (2002). The Vertex project: Exploring the creative use of shared 3D virtual worlds in the primary (K-12) classroom. In *ACM SIGGRAPH 2002 conference abstracts and applications* (pp. 52-54). San Antonio, Texas: ACM.
- Baker, S. C., Wentz, R. K., & Woods, M. M. (2009). Using virtual worlds in education: Second Life® as an educational tool. *Teaching of Psychology, 36*(1), 59-64.
- Bartle, R. A. (1990). Early MUD History. Retrieved April 24, 2009, from <http://www.mud.co.uk/richard/mudhist.htm>.
- Benford, S., Greenhalgh, C., Rodden, T., & Pycock, J. (2001). Collaborative virtual environments. *Commun. ACM, 44*(7), 79-85.
- Boulos, M., Hetherington, L., & Wheeler, S. (2007). Second Life: An overview of the potential of 3-D virtual worlds in medical and health education. *Health Information & Libraries Journal, 24*(4), 233-245.
- Bricken, M., & Byrne, C. M. (1993). Summer students in virtual reality: A pilot study on educational applications of virtual reality technology. In A. Wexelblat (Ed.), *Virtual reality: Applications and explorations* (pp. 199 – 218). Boston, MA: Academic.
- Brown, B., & Bell, M. (2004). CSCW at play: There as a collaborative virtual environment. In *Proceedings of the 2004 ACM conference on computer supported cooperative work*. Chicago, Illinois, USA: ACM.

- Bruckman, A. (1997). *MOOSE crossing: construction, community, and learning in a networked virtual world for kids*. Unpublished doctoral thesis, Massachusetts Institute of Technology.
- Bruckman, A. and De Bonte, A. (1997). MOOSE goes to school: A comparison of three classrooms using a CSCL environment. *Proceedings of CSCL 97*. Toronto, Canada, December 10 - 14, 1997. Retrieved April 25, 2009, from <http://www.oise.utoronto.ca/cscl>
- Brumfit, C. J. & Johnson, K. (1979). *The communicative approach to language teaching*. Hong Kong: Oxford University Press.
- Bugeja, M. J. (2007). Chronicle Careers: 9/14/2007. Retrieved April 25, 2009, from <http://chronicle.com/jobs/news/2007/09/2007091401c.htm>.
- Canale, M. (1983). From communicative competence to communicative language pedagogy. In J. C. Richards & R. W. Schmidt (Eds.), *Language and communication* (pp. 2-27). Singapore: Longman.
- Childress, M., & Braswell, R. (2006). Using massively multiplayer online role-playing games for online learning. *Distance Education*, 27(2), 187-196.
- Cooke-Plagwitz, J. (2008). New directions in CALL: An objective introduction to Second Life. *CALICO Journal*, 25 (3), 547-557.
- Creswell, J. W. (1998). *Qualitative inquiry and research design: Choosing among five traditions*. SAGE Publications, Inc. Thousand Oaks, CA.

- Dalgarno, B., Hedberg, J. & Harper, B. (2002). The contribution of 3D environments to conceptual understanding. In *Winds of change in the sea of learning: Charting the course of digital education. Proceedings ASCILITE, Auckland 2002*.  
<http://www.ascilite.org.au/conferences/auckland02/proceedings/papers/051.pdf>
- Dede, C. J. (1992). The future of multimedia: bridging to virtual worlds. *Educational Technology*, 32(5), 54-60.
- Dede, C. J. (1995). The evolution of constructivist learning environments: Immersion in distributed, virtual words. *Educational Technology*, 35(5), 46.
- Dickey, M. D. (2003). Teaching in 3D: pedagogical affordances and constraints of 3D virtual worlds for synchronous distance learning. *Distance Education*, 24(1), 105.
- Dickey, M. D. (2004). An architectural perspective for the design of educational virtual environments. *Journal of Visual Literacy*, 24(1), 49 – 66.
- Dickey, M. D. (2005a). Brave new (interactive) worlds: a review of the design affordances and constraints of two 3D virtual worlds as interactive learning environments. *Interactive Learning Environments*, 13(1/2), 121-137.
- Dickey, M. D. (2005b). Three-dimensional virtual worlds and distance learning: two case studies of Active Worlds as a medium for distance education. *British Journal of Educational Technology*, 36(3), 439-451.
- Dillenbourg, P., Schneider, D., Synteta, V., (2002) Virtual learning environments, *Proceedings of the 3rd Congress on Information and Communication*

*Technologies in education*, Rhodes, Kastaniotis Editions, Greece, 3-18.

von der Emde, S., Schneider, J., & Kotter, M. (2001). Technically speaking: transforming language learning through virtual learning environments (MOOs). *Modern Language Journal*, 85(2), 210-25.

Dixon-Krauss, L. (1996). *Vygotsky in the classroom: Mediated literacy instruction and assessment*. White Plains, NY: Longman.

Ely, C.M. (1986). An analysis of discomfort, risktaking, sociability, and motivation in the L2 classroom. *Language Learning*. 36 (1), 1-25.

Felix, U. (2000). The potential of CD-ROM technology for integrating language and literature: student perceptions, *German as a Foreign Language*. <http://www.gfl-journal.de/2-2000/felix.pdf>

Felix, U. (2002). The web as a vehicle for constructivist approaches in language teaching. *ReCALL*, 14(1), 2-15.

Gardner, Howard (1983) *Frames of mind: The theory of multiple intelligences*. New York: Basic Books.

Garrison, D. R., Anderson, T., & Archer, W. (1999). Critical inquiry in a text-based environment: Computer conferencing in higher education. *The Internet and Higher Education*, 2(2-3), 87-105.

Gass, S. M. (1997). *Input, interaction, and the second language learner*. Mahwah, N.J:

Lawrence Erlbaum Associates.

Good, J., Howland, K., & Thackray, L. (2008). Problem-based learning spanning real and virtual worlds: a case study in Second Life. *ALT-J: Research in Learning Technology*, 16(3), 163-172.

Hayes, E. (2006). Situated learning in virtual worlds: The learning ecology of Second Life. *Proceedings of the Adult Education Research Conference 2006*. Retrieved April 25, 2009, from <http://www.adulterc.org/Proceedings/2006/Proceedings/Hayes.pdf>

Hinkel, E. (Ed.). (1999) *Culture in second language teaching and learning*. Cambridge: Cambridge University Press.

Hymes, D. (1971). Competence and performance in linguistic theory. In R.Huxley & E. Ingram (Eds.), *Language acquisition: Models and methods*. London: Academic Press.

Jackson, R. L., & Fagan, E. (2000). Collaboration and learning within immersive virtual reality. In *Proceedings of the third international conference on collaborative virtual environments* (pp. 83-92). San Francisco, California, United States: ACM.

Jackson, R. L., & Winn, W. (1999). Collaboration and learning in immersive virtual environments. In *Proceedings of the 1999 conference on computer support for collaborative learning* (p. 32). Palo Alto, California: International Society of the Learning Sciences.

- Johnson, D. W. & Johnson, R. T. (1996). Cooperation and the use of technology. In D. Jonassen (Ed.), *Handbook of research for educational communications and technology* (pp. 1017–1044). NY: Macmillan.
- Jonassen, D. (1999). Designing constructivist learning environments. In Reigeluth, C. (Ed.), *Instructional-design theories and models: a new paradigm of instructional theory* (pp. 215-239). Mahwah, NJ: Lawrence Erlbaum Associates, Publishers. Vol. II.
- Kern, R. & Warschauer, M. (2000). Theory and practice of network-based language teaching. In M. Warschauer & R. Kern (Eds.), *Network-based language teaching: concepts and practice*. New York: Cambridge University Press.
- Kozulin, A. (2003). Psychological tools and mediated learning. In A. Kozulin, B. Gindis, V. Ageyev & S. Miller (Eds.), *Vygotsky's educational theory in cultural context* (pp. 15- 38). Cambridge: Cambridge University Press.
- Kramsch, C. J. (1993). *Context and culture in language teaching*. Oxford: Oxford University Press.
- Krashen, S. (1985). *The input hypothesis: Issues and implications*, New York: Longman
- Krish, P. (2008). Language learning in the virtual world: instructors' voices. *International Journal of Pedagogies and Learning*, 4(4), 113-129.
- Kublin, K. S., Wetherby, A. M., Crais, E. R., & Prizant, B. M. (1989). Prelinguistic dynamic assessment: A transactional perspective. In A. M. Wetherby, S. F.

- Warren, & J. Reichle (Eds.), *Transitions in prelinguistic communication* (pp. 285-312). Baltimore, MD: Paul H. Brookes.
- Kuriscak, L. M., & Luke, C. L. (2009). Language learner attitudes toward virtual worlds: An investigation of Second Life. In Lomicka, L.& G. Lord (Eds.), *The next generation: social networking and online collaboration in foreign language learning*. CALICO.
- Lantolf, J. P. (2000). Introducing sociocultural theory. In J. P. Lantolf (Ed.) *Sociocultural theory and second language learning*. Oxford: Oxford University Press .
- Lantolf, J. P., & Thorne, S. L. (2006). *Sociocultural theory and the genesis of second language development*. Oxford, UK: Oxford University Press.
- Lantolf, J. P., & Poehner, M. E. (Eds.). (2008). *Sociocultural theory and second language teaching*. London: Equinox.
- Long, M.H. & Crookes, G. (1992). Three approaches to task-based syllabus design. *TESOL Quarterly*, 26(1), 27-55.
- Olsen, R. E. W.-B., & Kagan, S. (1992). About cooperative learning. In C. Kessler (Ed.), *Cooperative language learning: A teacher's resource book* (pp. 1–30). Englewood Cliffs, NJ: Prentice Hall.
- Pajares, F. (1992). Teachers' beliefs and educational research: Cleaning up a messy construct. *Review of Educational Research*, 62(3), 307-332.

- Pavlenko, A. & J. P. Lantolf. (2000). Second language learning as participation and the (re)construction of selves. In J. P. Lantolf (Ed.) *Sociocultural theory and second language learning*. Oxford: Oxford University Press.
- Pence, H. E. (2007). The homeless professor in Second Life. *Journal of Educational Technology Systems*, 36(2), 171-177.
- Peterson, M. (2006). Learner interaction management in an avatar and chat-based virtual world. *Computer Assisted Language Learning*, 19(1), 79-103.
- Prabhu, N. S. (1987). *Second Language Pedagogy*. Oxford: Oxford University Press.
- Riner, R. D. (1996). Virtual ethics – virtual reality. *Futures Research Quarterly*, 12(1), 57–70.
- Rogoff, B. (1994). Developing understanding of the idea of communities of learners. *Mind, Culture, and Activity*, 1(4), 209–229.
- Rymaszewski, M., Au, W.J., Wallace, M., Winters, C., Ondrejka, C., & Batstone-Cunningham, B. (2007). *Second Life: The official guide*. Indianapolis, IN: Wiley Publishing.
- Savignon, S. J. (1983). *Communicative competence: Theory and classroom practice*. Reading, MA: Addison-Wesley
- Savignon, S. J. (1991). Communicative language teaching: State of the art. *TESOL Quarterly*, 25(2), 261-277.

- Schwienhorst, K. (1998). Matching pedagogy and technology. In R. Soehaert, E. De Man, G. Van Belle (Eds.). *Language Teaching On-Line*. Ghent: University of Ghent. pp. 117-127.
- Sfard, A. (1998). On two metaphors for learning and the dangers of choosing just one. *Educational Researcher*, 27(2), 4-13.
- Steinkuehler, C. A. (2004). Learning in massively multiplayer online games. In Y. B. Kafai, W. A. Sandoval, N. Enyedy, A. S. Nixon, & F. Herrera (Eds.), *Proceedings of the Sixth International Conference of the Learning Sciences* (pp. 521-528). Mahwah, NJ: Erlbaum.
- Stevens, V. (2006). Second Life in education and language learning. *TESL-EJ*, 10(3), 1-4.
- Stevens, V. (2008). Class of the future. *The Linguist* (June/July), 18-20. Available: [http://sl2ndchance.pbwiki.com/f/linguist18-21\\_2ndLife\\_lo-res.pdf](http://sl2ndchance.pbwiki.com/f/linguist18-21_2ndLife_lo-res.pdf)
- Swan, K. (2005). A constructivist model for thinking about learning online. In J. Bourne & J. C. Moore (Eds.), *Elements of Quality Online Education: Engaging Communities*. Needham, MA: Sloan-C.
- Swain, M. (2000). The output hypothesis and beyond: Mediating acquisition through collaborative dialogue. In J. P. Lantolf (Ed.) *Sociocultural theory and second language learning*. Oxford: OUP.
- Sykes, J. M., Oskoz, A., & Thorne, S. L. (2008). Web 2.0, synthetic immersive environments, and mobile resources for language education. *CALICO Journal*,

25(3), 528-546.

Thorne, S. L. (2000). Second language acquisition theory and the truth(s) about relativity. In J. P. Lantolf (Ed.), *Sociocultural theory and second language learning*. Oxford: OUP.

Trochim, W. M. K., & Donnelly, J. P. (2008). *The research methods knowledge base (3rd ed.)*. Mason, OH: Cengage Learning.

Turbee, L. (1999). Classroom practice: MOO, WOO, and more--language learning in virtual environments. In J. Egberg & E. Hanson-Smith (Eds.), *CALL environments: Research, practice, and critical issues* (pp. 346-361). Alexandria, VA: TESOL.

Turkle, S. (1995). *Life on the screen: Identity in the age of the Internet*. New York: Simon & Schuster.

Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes*. Cambridge, Mass: Harvard University Press.

Wagner, C. (2008). Learning experience with virtual worlds. *Journal of Information Systems Education*, 19(3), 263-266.

Walker, J. (1990). Through the looking glass. In B. Laurel (Ed.), *The art of computer-human interface design* (pp. 213-245). Menlo Park, CA: Addison-Wesley.

Warschauer, M., & Meskill, C. (2000). Technology and second language teaching and

- learning. In J. W. Rosenthal (Ed.), *Handbook of undergraduate second language education: English as a second language, bilingual, and foreign language instruction for a multilingual world* (pp. 303-318). Mahwah, NJ: Erlbaum.
- Wells, G. (1999). *Dialogic inquiry: towards a sociocultural practice and theory of education*. Cambridge: Cambridge University Press.
- Wertsch, J. V. (1985). *Vygotsky and the social formation of mind*. Cambridge, Mass: Harvard University Press.
- Williams, M. & Burden, R. L. (1997). *Psychology for language teachers: A social constructivist approach*. New York: Cambridge University Press.
- Winn, W. (1997). *The impact of three-dimensional immersive virtual environments on modern pedagogy*. HITL Technical Report R-97-15. Seattle, WA: University of Washington, Human Interface Technology Laboratory.
- Winn, W. (2002). Research into practice: current trends in educational technology research: the study of learning environments. *Educational Psychology Review*, 14(3), 331-351.
- Yalden, J. (1983). *The communicative syllabus: Evolution, design and implementation*. Oxford: Pergamon Press.

## APPENDIX

### INTERVIEW QUESTIONS

1. Tell me about how you first started teaching in SL (Second Life)?
2. Why do you prefer SL as the medium of your teaching?
3. What are your beliefs and expectations about teaching in a virtual classroom?
4. What do you think the similarities and differences between teaching face-to-face and teaching online are?
5. How would you describe your teaching in SL?
6. How would you evaluate the course material presented in SL?
7. What is your most favorite activity in your virtual classroom?
8. What do you think about the future of teaching in SL?