In Their Own Words: Teachers Experiences and Activities in 3D Virtual Worlds for Foreign Language Teaching

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Abstract

The purpose of this qualitative research study is to investigate teachers' perceptions of the use of the 3D simulated virtual world Second Life, and factors that affect their willingness to integrate virtual worlds into foreign language instruction. Specifically, participants' perceptions toward issues and viability of their current practices of Second Life (SL) were examined. The potential of SL in education has yet to be fully explored and exploited. Eight educators who have been teaching English as a foreign language online and utilizing SL to adult learners since 2006 were interviewed. Data analysis consisted of three phases: Phase I- Breakdown of the text; Phase II- Examination of the breakdown; and Phase III- Integration of the examination. Themes of the interviews that surfaced during the interviews were categorized into current practices, perceptions, and viability. Analysis of responses indicate that SL is used as pedagogy and another form of education for meeting students' social needs using today's advanced technology. Regarding the viability of SL were as follows: building 3D representations of learning objects; attractions: animation/graphic design/ virtual words/games; and cultural diversity The viability and future of SL are promising; in particular, Second Life has great potential as a 3D simulated virtual school that provides newly developed pedagogy to meet participants' social needs.

Keywords

3d simulated virtual computer-assisted language learning worlds, multi-user virtual environments, second life, second-language learning, simulated learning environments.

1. Introduction

As the capability and sophistication of information and communication technologies improves educational institutions seek innovative ways to transform the traditional teaching into new online forms [1]. The potential of simulated three-dimensional (3D) multi-user virtual worlds as a tool for foreign language teaching and learning attracts the attention of educators [2, 3]. Increasing popularity of 3D multi-user virtual environments (MUVEs) among educational institutions has coincided with the availability of these tools which can be designed, or adopted, to support situated immersive learning experiences and represent users with avatars (picture icons or three-dimensional characters). Furthermore, 3D virtual worlds (VWs) are computer simulated and networked spaces that resemble the real world with rules, the ability to roam, distance and gravity [3]. In addition, they allow the learner to have a strong sense of "being there" [4] and interacting with multiple users, through pseudo-physical contact, similar to real-world situations, simulation of physical movement within the learning environment, and positioning of self and objects within the 3D virtual space [2, 5]. One area that shows particular promise for the use of 3D MUVEs in foreign language learning is simulating experiences that allow the simulation of scenarios, real-time immersive interaction between students and instructors, and

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interaction with 3D spaces. These experiences have the potential to enhance the ability to function in simulated and role-play language learning games in cultural contexts. MUVEs enable learners to access virtual contexts, interact with digital artifacts, represent themselves through "avatars," communicate with other learners and with computer-based agents, and enact collaborative learning activities of various types [6]. Second Life (SL) is the most striking example of the emerging multi-user virtual world with 3D simulated and immersive features. It is a server-based, user-built 3D simulated virtual-world environment which offers social and culturally simulated interactions for not only language learners but also other learners who do not have opportunities to see different cultural contexts in real life. The experiential nature of SL also meets instructors' pedagogical needs. For instance, it provides an environment for role-playing and simulation. Furthermore, SL provides appealing and culturally relevant simulated spaces for foreign language learners of a target language to interact with native speakers of the target language in culturally situated and simulated learning space. As MUVE becomes an embedded medium throughout our daily lives, research into its use for foreign teaching and learning has shifted its focus from the MUVE itself to how it can support learning theories and approaches. SL can encompass the use of a range of foreign teaching tools that support learning theories such as experiential learning [7], situated learning [8] and project-based learning [9]. For instance, in foreign language education, students can participate in synchronous discussions using SL, allowing student interaction that is typically not possible in other online environments. Furthermore, students can virtually experience real-life situations, allowing repeated practice in a given environment. There is a growing body of research that reveals the educational potential of MUVEs specifically SL [3, 10, 11]. Due to immersive and interactive nature, SL can be employed for social and cultural interaction in foreign language learning [6, 12]. Although the potential of SL in foreign language education has been stated in the recent literature [11, 13, 14], little empirical evidence has been available ad- dressing the understanding of the roles of SL in foreign language instruction, how foreign language teachers employ SL in their instruction and factors that affect their decision to integrate SL into language instruction. Therefore, the current study was designed to begin to fill this research void. It is hoped that the study can contribute to a wider understanding of research in 3D simulated virtual learning environments and draw attention to foreign language teaching in SL. SL was chosen to explore due to one of the largest and most well-known MUVE. Therefore, following research questions were explored in the study;

- What are EFL educators' perspectives and current practices / experiences with SL as a foreign language learning platform?
- What are EFL educators' perceptions of SL as a simulated VW?
- What are the positive aspects of SL practices; namely, what is the viability of SL practices in educational context?
- What do EFL educators' view as issues, for potentially using of SL in educational context?

2. Research Methodology

A qualitative method was employed for this study because it allows the researcher to focus on specific situations, events or people and emphasize understanding the meaning for participants in the research, events, actions, situations and experiences they were engaged in or involved with [15]. Furthermore, according to [15], the qualitative approach allows researchers studying a relatively small number of individuals or situations to understand the specific context within which the participants act, and the influence that this context has on their experiences and actions. In this qualitative approach, the researcher collected open-ended, emerging data through semi-structured interviews with the primary objective of developing themes from the data [16, 17]. The interview questions were sent to three experts with knowledge and experience of several years in using SL across the USA for content and face validity. Two of these experts were researchers and also experts in both survey content and survey format. Based on experts' opinions, the semi-structured interview questions were re-organized; some new items which seemed necessary were added while some others were removed. The aim of the interview questions (see Appendix 1) was to investigate EFL educators' perspectives and experiences on using SL for foreign language instruction. Specifically, through interviews, participants' perceptions toward, issues of, and viability of their current practices of SL were also examined.

2.1. Setting, Participants and Data Collection

Purposive convenience sampling was used for this qualitative investigation, in order to reach the desired specific group of EFL educators who have teaching experiences in SL. In order to select individuals to be interviewed, the contact information of potential participants was collected from educators via SL blogs, social networks, and a SL educators' mailing list. Eight participants from this poll answered and expressed their willing to be interviewed for the study. The interviewees were contacted by emails with a request for their participation. The interview date and time were arranged for each interviewee based on their availability. Furthermore, the context of the research was also outlined in the message. Participants included people from eight different countries including the United States of America, Turkey, the United Kingdom, Japan, Greece, Poland, and Finland. Because all of participants were living in different countries and locations, interviews were conducted over the Skype with English as the lingua franca. All interviews were recorded. Participants were also informed that the material gathered would be considered confidential within the research team. Each interview was semi-structured with fifteen questions, with room allowed for the participants to add their ideas, thoughts, and stories, to aid them in accurately articulating perceptions of their experiences. Each participant was also given the opportunity to provide additional information at the end of the interview about their experiences that was not provided in their answers to other questions throughout the interview.

2.2. Data Analyses

According to Creswell (2017), data analysis requires organizing, accounting for, and explaining data, and making sense of data in terms of participants definitions of the situation, noting patterns, themes, categories, and regularities. Semi-structured interviews were conducted to collect the data. During the data analysis process for the study, data included content analysis of semi-structured interview responses. To conduct the interviews, a series of 15 questions were developed using the method of sketching out the domain of the topic (see Appendix 1). The questions addressed the following: (a) the purposes of using SL, (b) the practices of SL, (c) perception about, experiences with, and the usability of SL, and (d) its viability.

The average length of each one-on-one interview was about thirty minutes. The interviews were transcribed in text format for analysis. Semi-structured interviewing is best used when researchers are limited to one interview with participants or when several interviewers are involved in data collection [17, 18]. At the beginning of each interview, participants were asked to provide demographic information for the study, including their years in teaching English as foreign language online utilizing SL and their location. Each interview transcript was read and reviewed several times and codes were assigned for the major themes that surfaced. Interviews were analyzed using standard social science methods for analyzing qualitative data [19]. The qualitative data from the interviews were analyzed in three phases [20];

- Phase I. Breakdown of the text. This includes coding materials, identifying themes, and finding patterns,
- Phase II. Examination of the breakdown. This includes explaining and examining the network. Finally,
- Phase III. Integration of the examination. This includes explication of the patterns and elaborating and refining the patterns to generalize the findings.

3. Findings

3.1. Identifying themes and building networks

Coding for this research involved organizing text data from the interviews into categories and then labeling these categories with a term to help bring meaning to the statements. Based on the purpose of

the study and the underlying research questions, themes were identified and networks were built from respondents' answers. The themes were categorized into three categories: "Current Practices", "Perceptions", and "Viability". According to Maxwell (2012), the organizational categories serve as "bins" for sorting the data for further analysis. Categories were derived from participants' own words and concepts [15, 21]. The Current Practices category includes purpose, current ownership of islands or space in SL, and implementation in instructional context. The Perceptions category surveys perceptions of SL as a 3D MUVE and a teaching and learning tool. Finally, the Viability category sheds insights strengths, weaknesses, and challenges on using SL in educational contexts. Networks between the categories were also developed. Based on the interviewees' career pursuit in teaching English as a foreign language, they rented or bought parcels on SL island from the land / island providers such as New Media Consortium (NMC) and implemented technology into their teaching practices, yielding positive perceptions of implementing SL into their teaching practice. Multiple strengths and benefits of the 3D MUVE pedagogy of SL was connected.

3.2. Current practices

3.2.1. Purpose

According to the results, most SL educators' primary reasons for employing SL were professional development and to enhance their career of teaching English. They also mentioned getting in touch with other SL language educators and having fun applying SL in teaching English as a foreign language. Lastly, participants also expressed the reasons for starting to use SL was to pursue new teaching methods in teaching English as a second language; besides, they thought SL was fun. All interviewees stated that their primary reasons were professional development and to enhance their career of teaching English.

3.2.2. Current ownership in SL

The participants were asked about their ownership islands or space in SL. Six participants reported that they owned their own plots; one had his/her own headquarter, and the eighth rented a plot so he/she was able to conduct teaching and learning. Participants addressed the reasons why having a personal plot was important as follows: classroom management, stable meeting space for generating teaching and learning experiences, preparation for students' self-access materials and posting students' own work.

3.2.3. Implementation

The participants were asked about their implementations of SL as a tool for English language teaching. Most of them chose to implement SL for the following reasons: SL serves an authentic learning and teaching place and practiced educational activities. Participants prefer SL for doing something he/she cannot do in real life, namely a jointed meeting where students can learn languages and social languages, using different forms of language based on social settings, and interactions with culturally rich spaces. The functions of SL frequently used by participants are local text chat, local voice chat, IM text chat, conferences, meetings, building and buying objects and workshops. Moreover, discussions, field trips, role-plays and simulations activities are also implemented as a teaching and learning activities using SL.

3.2.4. Perceptions

All participants expressed positive perceptions toward SL as a teaching and learning tool, and SL as a 3D MUVE. The reasons provided by participants for positive perceptions toward the SL were: creative and artistic components of SL, situations similar to real life except lacking the emotions or facial

expressions, the ability to talk (voice), to record (voice, text, and photo), to play (such as flying, swimming, sitting and skiing), and to network (friend); and finally, cultural diversity available in second life – the broad range of people from different cultural and linguistic backgrounds and places that make up SL.

While the interviewees reported positive perceptions of the efficacy of SL, they also addressed technical issues, such as – lag, graphic cards, Internet speed, and crashes.

3.2.5. Viability

According to respondents, the viability of SL is promising. SL has great potential to build 3D representations of learning objects with animation, graphic, role-play and simulation attractions. SL is an engaging platform which allows users a "sense of being there", a real sense of embodiment, the immersive social environment, increasing the scope for authenticity futures allows the learner to perform a real communication act with cultural clues in a virtual authentic learning environment. SL provides opportunities in culturally diverse environments to language learners. Furthermore, 3D MUVE offers teacher-training opportunities through its simulation and role-play feature.

Focusing on computer-mediated communication, one interviewee stressed that SL allows language learners access to speakers of other languages in a way that the RW (real world) does not. Another interviewee noted that SL is very useful in creating 3D learning environments – simulations of real-life situations – and providing authentic environments for language learning. Yet another interviewer said that SL provides a cost-effective way for instructors to give students access to the world through simulation; students can access different languages than their mother tongues easily.

Induction, tutors and training needed to operate SL are the weaknesses of SL. In addition, technical problems and lack of facial expressions are also cited as weakness of SL.

Technical issues, classroom management, difficulty of synchronous communication due to time zone, training skills to operate SL and how to use it to attend the class in SL, lack of body language and other forms of feedback and cultural difference are the main challenges facilitating SL in language teaching.

3.2.6. Strength and Weaknesses

Strengths included authentic or semi-authentic material, interactive, fun, and motivation. Participants focused in on the following weaknesses: Second Life needs (a) some induction; (b) more training; namely, learners should be familiar with using a PC; (c) tutors need to be online almost like synchronous classes; and (d) lack of body language.

One interviewee noted,

"It's what teachers and learners make of it. Since it can be virtually anything, potential is unlimited. Incredible, rich, context for teaching . . . face-to- face over distance . . . ability to do things students can't do outside of Second Life. Can't usually "fly up to X" in Thought Process Re-engineering lesson, for example.

In addition, the interviewee mentioned technical problems, including the fact that Second Life technology changes fast.

3.2.7. Strength and Weaknesses

All eight interviewees said they used local text chat, local voice chat, IM text chat, and conferences in SL very often. Seven answered they participated or followed meetings in SL very often.

3.2.8. Educational Activities

Educational activities included workshops and conferences – Sloodle, Youtube viewers, vocab activities as a presenter and learner– talks, conferences, meetings, visiting parts of foreign countries, museums, concerts, and discos – activities through Google and Twitter – teaching, tutorials.

3.2.9. Future of 3D Virtual Worlds

The predictions from seven interviewees were positive and promising. For example, they mentioned characteristics such as (a) advanced interface to the extent that people with physical disabilities can move their bodies as freely as the people without disabilities, (b) more and more progress and culturally and sexually non-biased safe place for education, (c) 3D web as a staple of education, (d) promising, and (e) offering teacher training courses and/or material or lesson plans for teachers like they do for RL or online classes. One interviewee made a negative prediction, such as ". . . VWs will never play a big part in the mainstream . . . "

4. Discussions

This section discusses the answers to the research questions underlying the study. As far as the purpose of implementing SL into one's teaching practice goes, SL meets the social demands of the digital age, such as allowing people from across the world to share collective ideas without any time and place limitations. The fact that participants can have learning and teaching experiences across cultures, places, and time within 3D simulated space implies that SL is a more advanced application than eLearning. SL provides authentic learning environments, joint learning places, and task-based language practices that are impossible to build in the real world with the learners in different locations. Through positive educational activities, such as collaboration, meeting with colleagues, teacher satisfaction, such as having fun in teaching, as well as creating and building learning experience, participants in this study have developed positive perceptions of SL as pedagogy. These findings are also consistent with those reported by Molka-Danielsen and Deutschmann. They especially liked the potential of SL to design and create educational experiences and situations similar to real life. They also liked the ability to talk, record, play, and network. Finally, they mentioned cultural diversity and cost effectiveness as other benefits provided by SL.

Technical problems have long created challenges with the use of technology for learning. Many participants in this research study reported that lack of poor hardware such as inadequate graphic cards, broadband connections for speed, sound quality, and technical problems have caused challenges in their SL teaching experiences. Furthermore, distracting objects, lack of non-verbal clues, and time-consuming challenge were also reported by study participants in their teaching experiences in simulated SL. Indeed, it is important to minimize the issues as much as possible from the beginning of the learning experience. This can be accomplished in a variety of ways, including providing overviews of the tools used for the course and/or hands-on workshops with the technology that will be used in the online learning experience. Based on reflections from the participants, SL as 3D MUVE has been found beneficial to language teaching environment because of its immersive and interactive environments. Further- more, it could be possible to use SL to provide field experiences of pre-service language instructors. Moreover, it also provides an arena for language instructor to enact innovative pedagogies such as student-centered interaction, authentic teaching with cultural clues to provide engaging and constructive learning in 3D MUVE. 3D environments allow scenario-based simulations, which include real time interaction between students and teachers, interaction with 3-dimensional (3D) spaces, and self-directed study. Some key enabling features of the virtual worlds are the ability to construct 3D environments that simulate real world situations; the ability to have a virtual identity to create a cross-cultural self; and the ability to have participants from around the world participate virtually in designated roles that convey new types of learning within the simulated environment. Furthermore, the ability to facilitate linguistic immersion for a deeper, socio-cultural approach to language acquisition and cross-cultural collaborations is in high demand in methods for teaching, especially with 3D emerging virtual world technologies. Streaming videos, international collaboration, multi-users features are suitable to implement the deep approach method to the learning of a foreign language. In deep approach teaching methods, students need to examine the nature of what they perceive as "foreign" in a foreign culture, their own foreignness as subjective speakers, and the ways in which cultural values are reflected in the language. They also need to be guided in reflecting on their language acquisition and on the target culture and to develop their own viewpoint by examining various the targeted language worldviews. These critical capabilities rarely addressed by existing approaches in teaching foreign

language can be taught through cooperative learning work, discussion and debates, focused interviews, and other discourse in a 3D environment.

One of the main criticisms of SL is the cost of using this virtual world. Construction 3D virtual space needs hardware requirement to run the SL as client software which means extra financial cost for individuals or educational institutions. In addition to the financial constraints, facilitation SL for educational purposes that involves learning how to function in the 3D virtual environment and how to build the physical structure and content. In addition to basic skills, building 3D educational spaces in SL requires technical and software skills and time.

A further criticism of using SL as a learning environment is the misguided pedagogy of employing SL to teach in old ways. Generally, it is the traditional, teacher-centered unguided instruction transferred into the new 3D virtual environment. Other critics that have surfaced are misbehaving, virtual unwanted content, and vandalism are the most common social problems in SL virtual environment.

4. Implications and Conclusions

Second Life is a 3D simulated virtual learning environment and another form of meeting social need using today's advanced technology. It has added more authentic and technical elements to the existing practices of eLearning, which is Internet based. The challenges brought up by interviewees included technical issues, classroom management, difficulty of synchronous communication due to different time zones, training necessary to operate SL and how to use it to attend a class in SL, and lack of body language and other forms of feedback. Further, classroom management in SL is difficult because there may be students from various cultures across the world. However, all of the interviewees believed that SL would overcome the above issues in the future.

The major points regarding the viability of SL were addressed as follows: building 3D representations of learning objects; attractions: animation/graphic design/ virtual words/games; and cultural diversity. The interviewees suggested overcoming these challenges by developing the advanced interface to the extent that people with physical disabilities could move their bodies without limitation, building culturally and sexually non-biased safe places for education, designing a 3D web as a staple of education, and finally, offering teacher training courses and/or material or lesson plans for educators to help facilitate their work. Participants want faster functionality and more stability in the software platform, cost effectiveness for the initial equipment requirements, easier-to-learn building tools and scripting, increased ability to import ready-to use objects from other programs, simpler ways to stream media, and more seamless integration of most other standard-use software products into the simulated SL virtual environment. Other issues that were highlighted as useful in this study related to technology were the user's experience and comfort level operating in SL. In this study, experience with the technology influenced the participants' perspectives of how useful the technologies were for SL virtual environment. There is also a need to investigate which assessment tools can investigate and document successful teaching and learning in this interesting and promising environment. The current study offers several implications for practice and research. First, there is a need to develop effective instructional strategies and design for foreign language courses in 3D simulated SL virtual world. The instructional strategies and design should focus not only on the technological aspects of the course, but also on the goals, objectives, and expectations for the foreign language learners. Second, there is a need to work with educator as well as foreign language learners in SL to assist them in the development of computer literacy and technical skills to utilize SL. Courses in SL are simulated and situated in dynamic location and information is received in a variety of formats. Assisting foreign language educator and learners in establishing strategies for managing their time may prove to be useful.

Finally, there is a need to work with EFL educator to assist them with establishing community or feelings of connection for students in SL contexts. Therefore, EFL educators need to be trained to integrating strategies for community building in SL virtual environments may assist with this effort. Continued research related to community building strategies in a variety of contexts is also needed to enable the advancement of best practices in the dynamic context of SL. The growth of simulated 3D MUVEs will continue, and as indicated in this study, it will come with challenges. EFL educators engaged in foreign language course in SL may have different qualities for a successful multiuser virtual environment or elements that are challenging. Each experience will be unique to the each individual

EFL teacher. As EFL educators become more comfortable and adept at communicating and learning at 3D MUVEs, it will remain imperative that the best practices associated with these learning environments continue to be explored.

In sum, the viability and future of SL are promising; in particular, SL has great potential as a virtual school that provides newly developed pedagogy to meet participants' social needs. Second Life is an engaging platform having "sense of being there", a real sense of embodiment, the immersive social environment, increasing the scope for authenticity futures allows the learner to perform a real communication act. Therefore, the SL environment contextualizes the language in the virtual synthetic space, which may improve to practice of language skills in these environments.

5. References

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Appendix 1: Interview Questions: https://drive.google.com/file/d/1NmvG8WcGVkVPq4T3-FI7rg2ooKqCNg eq/view?usp=sharing