AN ANALYSIS OF TEXT BASED CMC OF ADVANCED EFL LEARNERS IN SECOND LIFE

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ABSTRACT

AN ANALYSIS OF TEXT BASED CMC OF ADVANCED EFL LEARNERS IN SECOND LIFE

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In the study, it was aimed at determining the discourse patterns of text-based CMC in Second Life in terms of social presence, negotiation of meaning and turn distribution of the students.

During the data collection procedure, 54 freshman students participated in the study. Some reading and writing tasks were carried out in Second Life. During the data analysis, the taxonomy adapted by Akayoğlu & Altun (2008) was used for negotiation of meaning and the taxonomy prepared by Rourke, Anderson, Garrison and Archer (2001) was used for social presence. Finally, the words uttered by each student were counted and the equality of turn distribution of the students was measured using Gini Coefficient.

At the end of the study, it was found that the most frequently used social presence function was “expression of emotions” and the least frequently used function was “quoting from others’ messages”.

In terms of negotiation of meaning functions, the most frequently used function was “confirmation” and the least frequently used function was “reply vocabulary”.

As for the third research question, the numbers of the words uttered by the students were counted and Gini Coefficient was calculated. At the end of this analysis, it was seen that there was equality in all sessions in terms of turn distribution of the students as it was hypothesized in literature.

The findings of this study might be helpful for students, educators and researchers who are willing to attend to and design language courses in Second Life. They might better understand the context.

Key Words: Second Life, Computer Mediated Communication, Social Presence, Negotiation of Meaning, Turn Distribution

ÖZ

YABANCI DİL OLARAK İLERİ SEVİYEDE İNGİLİZCE ÖĞRENENLERİN SECOND LIFE ORTAMINDAKİ METNE DAYALI BİLGİSAYAR DESTEKLİ İLETİŞİMLERİNİN ANALİZİ

Akayoğlu, Sedat
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Bu çalışmada Second Life ortamındaki bilgisayar yoluyla metin tabanlı iletişimin sosyal buradalık işlevleri, anlam söyleşmesi işlevleri ve öğrencilere söz hakkı dağılımı açısından söylem kalıplarının belirlenmesi amaçlanmıştır.

Veri toplama sürecinde, üniversite seviyesinde okuyan 54 birinci sınıf öğrencisi çalışmaya katılmıştır. Dönem boyunca bazı okuma ve yazma etkinlikleri Second Life'da yapılmıştır. Veri analizi aşamasında, anlam söyleşmesi için Akayoğlu & Altun (2008) tarafından uyarlanan sınıflandırma; sosyal buradalık içinse Rourke, Anderson, Garrison ve Archer'ın (2001)'de hazırladıkları sınıflandırma kullanılmıştır. Son olarak da her öğrencinin kullandığı kelimeler sayılmış ve öğrencilerin söz hakkı dağılımının eşitliği Gini katsayısı kullanılarak ölçülmüştür.

Çalışma sonunda, en sık kullanılan sosyal buradalık kategorisi "duyguların ifade edilmesi" olarak belirlenirken, en az sıklıkta kullanılan kategori "diğerlerinin mesajlarından alıntı yapma" olarak bulunmuştur.

Anlam söyleşmesi açısından ise, en sık kullanılan kategori “onaylama” iken; en az kullanılan kategori “kelime isteğine cevap verme” olarak belirlenmiştir.

Son olarak ise öğrenciler tarafından kullanılan kelimeler sayılmış ve Gini Katsayısı hesaplanmıştır. Bu çözümleme sonucunda, alan yazında da iddia edildiği gibi, öğrencilerin her oturumdaki söz hakkı dağılımları arasında bir eşitlik söz konusu olduğu görülmüştür.

Bu çalışmanın bulguları üç boyutlu ortamlarda derse katılmak isteyen veya ders tasarlamak isteyen öğrencilere, eğitimcilere ve araştırmacılara yardımcı olabilir. Bu ortamları daha iyi anlayabilirler.

Anahtar Kelimeler: Second Life, Bilgisayar Yoluyla İletişim, Sosyal Buradalık, Anlam Söyleşmesi, Söz Hakkı Dağılımı

To my beloved wife,

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CHAPTER I

INTRODUCTION

1.1. Introduction

The purpose of this study was to analyze the text-based computer-mediated communication (CMC) data obtained from the advanced learners of English at an English medium university in Turkey in order to find out the discourse patterns in terms of social presence, negotiation of meaning and turn distribution. These functions are among the crucial elements studied in literature; and these were searched in many different platforms such as face-to-face classroom settings, both synchronous and asynchronous online conferences and with native and non-native speakers. In most of the studies, these platforms or the participants of the studies were compared in terms of these functions; however, in this study, it was aimed at finding out the discourse patterns in a setting in which English is taught as a foreign language (EFL). The findings of this study might be helpful to see how the participants and their interlocutors interact with each other; and teachers, learners and researchers might benefit from the results of this study.

1.2. Background of the Study

The pedagogy has always been influenced by the technology of its era. In earlier times, the use of audio tapes, cassettes and videos in classrooms were considered as a revolution and new methods and approaches emerged as a result of the technological developments. In today's world, the rapidly changing and developing technology is the Internet without any doubts. Each and every day, it is getting much more developed in every field and it is becoming an

inescapable part of people's lives day by day. For example, in an ordinary day, people, regardless of their age, gender or nationality, communicate using computer mediated communication tools; they can share their photos, videos, ideas or messages with the other users of the Internet; they can meet and organize events in online environments; they can even use mobile phones in order to access the Internet. The reflections of this development and spreading of the technology, computers and the Internet are so obvious that educators cannot ignore the use of the technology in classroom settings. Researchers, educators and teachers are trying to integrate computers into the classroom settings. As a result, the ways students learn and teachers teach have changed a lot. There are many differences between the traditional classrooms and a classroom which is supported by technology or completely virtual classes. However, as Kern (2006) stated the effects of technology use depend on how it is used, who uses it and what is used. Thus, it cannot be claimed that technology affects teaching and learning processes in a positive or negative way; but we can easily state that it has changed the pedagogy a lot.

The Internet era is usually categorized in three groups as Web 1.0, Web 2.0 and Web 3.0 considering the creation of their content. Although there seems to be a shift from Web 1.0 to Web 3.0, their purposes are quite different and all of them are used in accordance with the purpose. Web 1.0 can be considered to be starting point for the Internet. The companies and institutions had their own web sites and the Internet was basically used for making announcements or giving information to the users. In other words, the interaction was one-way interaction and it was human-to-computer interaction. The ordinary users could not interact with each other and they were expected to have knowledge about using complicated codes for designing web sites. Because of this reason, many people preferred to be the visitors of the web pages rather than creating the content. As a response to this problem, Web 2.0 tools emerged in later years

with the developing technology and the ordinary users became the authors of the Internet. They could design web pages, create the content of the web, and communicate with other users of the Internet. It became very easy to share the content in this era. New online tools like blogs, wikis, podcasts and virtual classes emerged in this era. In this era, all users were the creators of the content on the Internet and the authorship became quite important. After a period, Web 3.0 emerged. The content created by the users was semantically grouped and categorized and presented to the users. For example, when a user enters a web site, s/he encounters with many advertisements and they are mostly associated with the needs and the interests of that user. If the user is a teacher or a graduate student, s/he receives advertisements for studying abroad, learning a foreign language, etc. However, Web 3.0 is not still very common and researchers and educators are still in search of Web 2.0 tools in terms of their use in classrooms.

Although there are many Web 2.0 tools used in learning environments, the most developed one is 3D virtual worlds as they include audio-visual elements, enable users to create his *second lives* through avatars, and help them to experience many things that they cannot do in their *real lives*. Users can come together with the native speakers of the target language and organize discussions. They can visit many places like hotels, cities and buildings virtually and they have the chance to discover these places in a 3D environment. They can even touch them and interact with these objects. 3D environments have been used since the early 1990s; however, the most developed version was started in 2003 and its name is Second Life. Before SL, there were some other 3-D environments like Active Worlds and Quest Atlantis; however, they were not as good as SL in terms of visual quality and when compared to SL and they looked much simpler. In addition to this, voice based messaging is not available in either of these environments. Nevertheless,

these features of SL require better computers in hardware and this is one of the disadvantages of SL.

Second Life is a 3D environment in which there are users from all over the world and users join through the avatars. It is possible for users to create and design buildings in this environment. Moreover, it is not required to create something, users can also walk or fly around and communicate with other users through voice or text based messaging. According to the Second Life official website (2011) hundreds of educational institutions are currently using this environment for their educational activities.

Since its creation by Linden Lab in 2003, Second Life has been searched and several educators have created virtual classrooms in this environment. However, the number of the studies examining the patterns of this environment in terms of linguistics characteristics is very limited. In literature, 3D related studies can be categorized in four dimensions as the studies on (a) transferring face-to-face classroom activities into 3D environments and the potential uses of 3D environments for language teaching (Dickey, 2003; Childress & Braswell, 2006; de Freitas & Oliver, 2006; Stevens, 2008; Baker, Wentz & Woods, 2009; de Freitas & Neumann, 2009; Jarmon, Traphagan, Mayrath & Trivedi, 2009; Girvan & Savage, 2010; Andreas, Tsiatsos, Terzidou & Pomportsis, 2010; Ahmad, Wan & Jiang, 2011; Loureiro & Bettencourt, 2011); (b) suggesting a guideline for using 3D environments in language classes based on the potential uses of 3D environments (de Freitas & Oliver, 2006; Hayes, 2006; Baker, Wentz & Woods, 2009; Jarmon, Traphagan, Mayrath & Trivedi, 2009; Iqbal, Kankaanranta & Neittaanmaki, 2010); (c) the attitudes of teachers and students on the use of 3D environments (Cheong, 2010; Huang, Rauch & Liaw, 2010; Gamage, Tretiakov & Crump, 2011; Kennedy-Clark, 2011; Zuiker & Ang, 2011); and (d) analyzing the discourse patterns occurred in 3D environments (Hagsand, 1996; Axelsson, Abelin & Schroeder, 2003; Brown & Bell, 2004;

Peterson, 2006; Jamaludin, Chee & Mei Lin Ho, 2009; Traphagan, Chiang, et al., 2010; deNoyelles & Kyeong-Ju Seo, 2011). As it can be seen here, the most frequently studied issue about the 3D Worlds was on transferring face-to-face classroom activities into these worlds and creating simulations of the real environments. However, in order to implement these activities in these platforms, the characteristics of the virtual environments should be analyzed in detail. The researchers and teachers should be aware of what is going on these virtual classes and see whether there are some similarities and differences between these two settings.

In addition to these, SL offers a great potential for language education as it allows users to practice target language, which is quite important in EFL settings. Considering the importance of this fact, the number of studies integrating SL to language education can be said to be limited. Therefore, there is a need for such a study; and in the light of the findings of these studies, teachers and educators will use this environment more effectively. In this study, three aspects were taken into consideration and studied in detail, which were social presence functions, negotiation of meaning functions and turn distribution of the participants. The findings of this study are expected to shed light in order to better understand these platforms in terms of these aspects.

Using the new tools for Internet and new online environments, researchers have attempted to compare real communities with online communities and to describe the patterns of these environments. One of the issues studied so far is that of social presence. Gunawerdana and Zittle (1997) define social presence as “the degree to which a person is perceived as a ‘real person’ in mediated communication” (p. 9). In other words, it's the process in which we become comfortable and present ourselves socially. This topic has been studied in face-to-face communication environments and with the emergence of online

communities of practice, social presence has started to be studied and examined in these online environments.

The studies on social presence can be categorized in three categories as the studies on (a) implementing Community of Inquiry model, which was developed by Garrison, Anderson & Archer (2000) (Garrison, Cleveland-Innes & Fung, 2010; Ke, 2010; Traphagan, Chiang, Chang, Wattanawaha, Lee, Mayrath, Woo, Yoon, Jee & Resta, 2010); (b) the factors affecting level of social presence and association of social presence with satisfaction (Tu, 2002; Tung & Deng, 2007; Homer, Plass & Blake, 2008; Kim, Kwon & Cho, 2011, Bulu, 2011); and (c) discourse analysis for social presence in different platforms (Rourke, Anderson, Garrison and Archer, 2001; Goertzen & Kristjansson, 2007; Akayoğlu, Altun & Stevens, 2009; Reysen, Lloyd, Katzarska-Miller, Lemker & Foss, 2010). As it can be seen, although there are many studies on the first two dimensions of the studies on social presence, the final dimension needs more attention and as mentioned in these studies; and there is a need for further research on analyzing the settings, particularly the online ones, in terms of social presence.

Another dimension of the study is related to functions of negotiation of meaning. Pica (1994) describes negotiation of meaning as "the modification and restructuring of interaction that occurs when learners and their interlocutors anticipate, perceive, or experience difficulties in message comprehensibility" (p. 494). To elaborate on this quotation, it can be said that during interaction the sender and the receiver of the message may have some difficulties in understanding each other because of their social background, their age, their prior knowledge, even of their gender, and in these situations either side of the communication will use some utterances to repair, elaborate, and clarify themselves.

The studies on negotiation of meaning can be grouped into two dimensions as the studies on (a) comparing groups and different settings in terms of negotiation of meaning (Sotillo, 2000; Leahy, 2001; Biesenbach-Lucas & Weasenforth, 2002; Oliver, 2002; Schweinhorst, 2004; Jepson, 2005; Patterson & Trabaldo, 2006) and (b) analyzing the data obtained from a group of participants in order to determine the discourse patterns in terms of negotiation of meaning (Bitchener, 2004; Arjava, Salovaara, Hakkinen & Jarvela, 2007; Akayoğlu & Altun, 2009; Kaur, 2011; Kibler, 2011; Knapp, 2011). When the studies in literature were reviewed, it could easily be noticed that the recent studies mostly focused on the second dimension, which was analyzing a specific group instead of comparing different groups. This kind of perspective might help the educators, researchers, learners and teachers to better understand these platforms.

In many studies in literature, it was hypothesized that the participants in this kind of classrooms contribute to the course equally and even shy students could attend the classroom discussions and activities. This hypothesis was also examined as another dimension of the study. Although this was claimed in many studies, only a few researchers (Kern, 1995; Warschauer, 1996; Chun, 1998; Fitze, 2006) carried out studies on measuring the turn distribution of the participants quantitatively. In order to examine whether the equal turn distribution of the learners was a myth or reality, the findings of this study might be helpful to make generalizations about this issue.

To sum up, this study mainly focused on analyzing a virtual course in terms of different perspectives as social presence, negotiation of meaning and turn distribution. The findings of this study might be helpful for educators, researchers, learners and teachers.

1.3. Statement of Purpose

The interaction among the learners in a foreign language classroom is quite crucial for learning. Instead of just measuring the outcome of the learning, the process should also be studied in order to see how students interact with each other and with their teachers. This issue has been studied in real classrooms; however, the investigation of online platforms has become quite important with the emergence of technological devices into the classrooms.

In this study, it was aimed at determining the patterns of discourse produced by the advanced learners of English at an English medium university in Turkey, an EFL context, in a virtual environment called Second Life in terms of social presence, negotiation of meaning and turn distribution. This study focused on the data obtained by means of text-based CMC and the findings of this study might help the researchers, educators, teachers and learners to better understand what is happening in these environments in terms of aforementioned issues.

1.4. Research Questions

The questions searched in this study are as follows:

1. What are the frequencies of social presence functions observed in conversations taking place in task based activities designed in virtual classroom in Second Life – affective responses, interactive responses and cohesive responses?
    a. What are the frequencies of affective responses observed in conversations taking place in task based activities designed in virtual classroom in Second Life?
    b. What are the frequencies of interactive responses observed in conversations taking place in task based activities designed in virtual classroom in Second Life?

c. What are the frequencies of cohesive responses observed in conversations taking place in task based activities designed in virtual classroom in Second Life?

2. What are the frequencies of negotiation of meaning functions observed in conversations taking place in task based activities designed in virtual classroom in Second Life?
    a. Which type of negotiation of meaning function is most frequently used in conversations taking place in task based activities designed in virtual classroom in Second Life?
    b. Which type of negotiation of meaning function is least frequently used in conversations taking place in task based activities designed in virtual classroom in Second Life?
3. What is the distribution of student talk in conversations taking place in task based activities designed in virtual classroom in Second Life?
    a. Is the student talk distributed equally in each session?
    b. In which type of activities was the student talk distribution more equal?

1.5. Significance of the Study

In parallel with the technological developments, the classroom activities and tasks started to be transferred to the online platforms. Teachers and educators are trying to make use of these environments in their classes and they want to use these platforms, especially in countries in which the target language is used as EFL, like Turkey; because the Internet allows users to communicate with the native speakers of the target language and more authentic activities could be easily created using the Internet. However, the characteristics of these virtual classes should be investigated in order to better understand the discourse patterns of virtual classes. Teachers and educators should be aware of these patterns if they would like to use them with their students. In addition to the

teachers and educators, learners should also be ready for the interaction patterns in virtual environments in order to benefit from the potential uses of online platforms.

As this study focused on the discourse analysis of a course carried out in a 3D world, Second Life, in terms of social presence, negotiation of meaning and turn distribution, it could be claimed that this study might be very helpful for teachers, researchers, educators and learners of English as a foreign language.

1.6. Definition of Terms

Computer Assisted Language Learning (CALL): Using computers, the Internet and some software programs to foster teaching and learning both in classroom settings and in online platforms.

3D Virtual Worlds: Virtual worlds that users could join through avatars and in which the simulation environments are created for education, shopping and trading.

Second Life: One of the most commonly used 3D worlds produced by Linden Lab and started in 2003.

Computer-Mediated Communication (CMC): Communication through computers both synchronously and asynchronously.

Social Presence: It was defined as "the ability of learners to preject themselves socially and emotionally as 'real' people into a community of learners" by Garrison, Anderson & Archer (2000, p. 94).

Negotiation of Meaning: It was defined by Pica (1994, p. 494) as "the modification and restructuring of interaction that occurs when learners and their

interlocutors anticipate, perceive, or experience difficulties in message comprehensibility".

Turn Distribution: In this study, this term was used for student contributions in a classroom in terms of words uttered in text-based communication.

1.7. Conclusion

In this chapter, it was aimed at presenting the background of the study, the statement of purpose, research questions, significance of the study and definition of terms in order to better understand the rationale of the study. In the following chapter, the literature review of this study was focused on giving more detailed information about the studies mentioned in this chapter. In the third chapter, the methodology part, the research design, participants, instruments and the data collection procedure of the study were touched upon. In the fourth chapter, the results and the findings will be discussed and in the final chapter, the conclusion of the study was presented.

CHAPTER II

LITERATURE REVIEW

2.1. Introduction

This chapter provides a review of literature related to the topic of this study. The literature review is presented in five sections. Firstly, social constructivism as the theoretical framework of this dissertation and the implementation of CALL tools within the framework of social constructivism are discussed. Secondly, the changing role of the computer user from being an individual user to being an Internet citizen is presented within the history of CALL. Thirdly, 3D environments are described briefly; and among these environments, Second Life is discussed in detail as an educational environment. Then, studies on determining the discourse patterns in the Internet environments are presented mentioning what kinds of patterns are observed. Finally, research related to social presence, the negotiation of meaning functions and turn distribution is presented within the dimensions studied so far.

2.2. Social Constructivism as the Theoretical Framework

Constructivism is not a theory of teaching; but it is a theory of learning. This theory has focused on how learning occurs, not on how teaching should be. Once the learning process is understood, it is considered that teaching situations, methods, techniques and materials can be designed in accordance with this process. From this point of view researchers claimed that knowledge is constructed. It is not transferred from one person to another but the learner construct new knowledge combining what s/he learns with his/her experiences. As each individual has different experiences, learning occurs at different levels

for different individuals. This theory is mostly attributed to educational researchers Jean Piaget, Lev Vygotsky, John Dewey and Jerome Bruner (Matthews, 2003) who are thought to be pioneers of this theory.

Constructivism is studied under two headings – cognitive constructivism and social constructivism. Cognitive constructivism takes learning as a cognitive process and focuses on learners individually; however, social constructivism takes learning a result of social interaction and learning is accomplished as a result of interaction.

Piaget thought that learning is a constructive process and the association of prior knowledge with the new ones is quite important while constructing the new knowledge. The key concept for learning is interaction. According to him, learning is not an accumulation of information which means that information is not stored in the learners' mind waiting to be added to the new information. When the learner actively interacts with the new information, s/he constructs the new information. Thus, not the teacher or the information is in the center of learning, but the learner is the central focus of this theory.

> "In contrast to more traditional views which see learning as the accumulation of facts or the development of skills, the main underlying assumption of constructivism is that individuals are actively involved right from birth in constructing personal meaning, that is their own personal understanding, from their experiences. In other words, everyone makes their own sense of the world and the experiences that surround them. In this way, the learner is brought into central focus in learning theory." (Williams and Burden, 2005, p.21)

After Piaget, Vygotsky shaped the way of interaction and proposed a term "Zone of Proximal Development (ZPD)" and added this term to constructivism. According to him, this is the "term used to refer to the layer of skill or knowledge which is beyond that which the learner is currently capable of

coping" (Williams and Burden, 1997). As Piaget claimed, Vygotsky also mentioned the importance of interaction; however, he stated that one of the partners should be more competent or equipped than the other partner in terms of knowledge and capabilities. Thus, learning could take place for the less competent partner in an interaction.

After these two psychologists, Bruner added a new term for the constructivism which was called as "instructional scaffolding". This was another attempt for designing the interaction style in which learning could be accomplished. As a difference from Vygotsky's ZPD, Bruner claimed that one of the partners should not be necessarily above the other partner's capabilities. A peer might be helpful for a learner while constructing new knowledge, in other words while learning.

These three psychologists were influential in the first years of social constructivism. Although there is a general agreement on the principles of constructivism in psychology, the implementation of constructivism into learning settings is still debated. As Dalgarno (2001) mentioned "there is a significant disagreement about the details how to implement these broad principles". However, following the psychologists aforementioned, some educational researchers (Rüschoff & Ritter, 2001; Dalgarno, 2001; Doolittle, 1999; Johnson, 2001) attempted to adapt this theory into classroom settings and they listed the principles of this theory while implementing it in classrooms and the principles can be summarized as follows:

Firstly, knowledge is not the accumulation of the transferred knowledge. Knowledge is the combination of previous knowledge, previous experiences and expectations with the presented knowledge by the instructor. Since all learners have different background characteristics, they all have different knowledge although it is presented by the same instructor and by means of the

same materials, methods and techniques. Secondly, knowledge should be presented in a particular situation. In other words, the knowledge should be presented with realistic situations. The material and topic should be contextualized and they should not be separated from the real world tasks. The activities should be meaningful as well. Thirdly, the constructed knowledge is not isolated from the biological, neurological, social and cultural context. Teachers should be aware of the backgrounds of their students so that they could associate the topic with the characteristics of their students. Fourthly, the tasks should be designed in accordance with the constructivist theory. The most appropriate activities are group work activities, collaborative tasks and activities requiring team work. Finally, the last but not the least, teachers should be just the facilitators for learning process. They are not the people to transfer the information but they help learners to explore and discover.

When these principles and tenets of constructivism are taken into consideration, it could be obviously seen that the technological tools and particularly the computers and the Internet help teachers to present the knowledge and learners to acquire, explore, discover and as the most importantly construct the new information.

Being one of the researchers associating constructivism with CALL, Dalgarno (2001) made the following interpretations focusing on:

- Learner-directed discovery using hypermedia, simulations, and microworlds to encourage active exploration within a virtual environment.
- Direct instruction while still allowing students to actively construct their own knowledge using guided hypermedia, cognitive tools (e.g., concept mapping tools), and tutorial system.

- Social interaction in the learner's knowledge construction process (with peers and teachers) and the use of computer-supported collaborative learning (CSLC) tools.

As Dalgarno (2001) mentioned there are some phrases for constructivism which are also crucial for CALL, such as learner-directed discovery, actively construct their own knowledge and social interaction. The technology offers opportunities for the educators to accomplish these.

Besides Dalgarno, Rüschoff & Ritter (2001) also mentioned the importance of the real-world-best situations and authentic materials stating that "best learning results are achieved if learners work as much as possible with authentic and semi-authentic materials which are being put in the context of authentic, real-world-based situations or at least simulations and thus supported by authentic tasks" (p. 226). These tasks can easily be designed by means of the Internet. Learners can easily interact with the people using the target language as their first language or second language. They can work in collaboration with these people and share their experiences. 3D worlds also provide the simulations of real-world tasks like shopping, interviewing, walking around just for fun or discovery. When the potentials of the Internet are taken into account, it could easily be claimed that CALL tools are quite important while implementing the constructivism principles into language learning settings.

In the next part of this chapter, the historical development of CALL is mentioned from the perspective of the users and associating the theories of language learning and their practice.

2.3. History of Computer Assisted Language Learning: Changing role of the user from being an individual user to being an Internet citizen

The history of CALL was described in detail by Warschauer (1996) and he associated the learning theories with the technological advances and proposed the following stages for the history of CALL.

- *Behavioristic CALL:* In this phase, the main keywords were repetitions and reinforcement as in the behaviorist theory. The software programs were mostly based on repetition. The programs presented the topic again and again without getting bored and the learners received a prize if they answered correctly. There are still some software programs nowadays and they are not totally ignored; however, there are also some activities used in classroom settings based on behaviorist approach.
- *Communicative CALL:* Since the behaviorist approach was criticized severely because of its artificial use of language and communicative approach appeared which was mostly based on real language, contextual grammar and implicit learning. Learners should focus on using forms instead of forms themselves; learning should learn the grammar implicitly; they are not judged very severely and they are encouraged to communicate and interact. In this period, the keywords were communication and interaction. Thus, the tools were designed based on these views.
- *Integrated CALL: the multimedia:* With the advances in technology, some multimedia tools (audio, videos, graphics, etc.) started to be used in the software programs; and the materials were designed using these multimedia tools together. As Warschauer (1996) stated "using multimedia may involve an integration of skills (e.g. listening with reading), but it too seldom involves a more important type of integration - integrating meaningful and authentic communication into all aspects of

the language learning curriculum." The integration of hypermedia was also great contribution in this period.

- *Integrated CALL: the Internet*: In the last phase Warschauer (1996) mentioned, the Internet appeared and the communication was among the real people. It was not an artificial communication anymore as it had been previously. There was a real communication regardless of time and place. Computers were not tutors, teachers but just tools that offer platforms for communication.

Warschauer (1996) listed these phases; and this historical development has been referred to in many studies so far while mentioning the history of CALL. However, this classification was made in 1996 and since then many things have changed and new technologies have emerged. Butler-Pascoe (2011) has recently published an article on the history of CALL and associate the recent developments in CALL with the recent popular approaches, like Communicative, Task-Based and Content Based Learning approaches. While giving detailed information about these approaches, she listed some Web 2.0 tools for language learning such as blogs, wikis, podcasts and social networks. However, she did not propose a word associated with the recent phase. Should another title for the new phase be proposed, that phase could be called as "the Internet phase: social networks".

The computers were firstly used as a tool for practicing the target language as an individual user. No real interaction occurred in the learning process and the interaction was between the computer and the individual which is completely artificial. Moreover, taking the constraints of the technology, the responses were quite primitive when compared to the ones used today. However, this interaction has changed dramatically recently and the individuals are not only computer users but also the Internet citizens and they use the computers just as

a tool to become a member of this world. The main purpose is not to teach the target language but to involve in this Internet world as a citizen.

In today's world, the Internet provides many platforms for creating social networks. People create groups on different platforms and choose to share their lives with the other members. These groups are sometimes created on a common purpose and sometimes just for fun; however, there is a streaming life going on in the Internet environments. It was also claimed that there would be identity cards for the Internet environments and all people would be an Internet citizen soon. In other words, a cyber-village will be created in the near future.

As the technology goes towards this shift, the role of the computer users has changed radically as well. As for the summary for this shift in the role of the computer users, the users do not only use software programs; but they also join communities and they create their second lives on the Internet. At first, the computers were somehow teachers; they presented the material, asked the questions and reinforce the correct answers. After that, they became tools for learning; they provided environments and tools for learning; and finally, they are not simply a tool for learning but a tool for becoming a member of the Internet world. People are not learning a language by means of computers; but they are learning a language in order to become an Internet citizen. Thus, the role of the users has changed dramatically.

2.4. 3D environments

3D environments have been recently used very commonly in educational environments. Many universities and colleges have started to implement 3D environments as supplementary environments; they upload the content of their courses into these environments and share with their students and sometimes with other users of this environment. There have been remarkable changes in

3D world technology. The graphics are much more advanced and the use of various media tools is available. Although the only communication medium in previous tools was text based chat, currently it is possible to use voice based chat as well.

As the most developed and final point in Web 2.0 tools, 3D environments include audio-visual elements, enable users to create their *second lives* through avatars, and help them to experience many things that they cannot do in their *real lives*. Users can come together with the native speakers of the target language and organize discussions. They can visit many places like hotels, cities and buildings virtually and they have the chance to discover these places in a 3D environment. They can even touch them and interact with these objects. 3D environments have been used since the early 1990s; however, the most developed version was started in 2003 and its name is Second Life. In the following section, firstly, the features of these 3D environments are presented in terms of technical details; and after this section, the studies on the educational uses of these environments are presented.

2.4.1. Active Worlds

The use of 3D environments started with Active Worlds (AW) in 1995, when the company released the version 1.0 of Active Worlds. Since then, they added various changes in terms of its technical features and its membership issues. The membership for this environment was not free of charge. The users had the chance to try this environment for 30 days and they were required to pay for citizenship. Finally, they released the open beta version for users to download and use. Currently, version 5.1 is offered to the users.

There are two types of users in Active Worlds – citizens and tourists. If the user just want to see the environment, s/he logs in as a tourist and walk around in

this environment. However, there are some features which are offered for citizens and citizenship is not free of charge. After becoming a citizen in Active Worlds, the users have access to the following features:

- Unlimited access to hundreds of virtual worlds.
- Reserve a unique citizen name for your use.
- Create your own custom avatar from the built in avatar maker.
- Build and own property in any of the many worlds open for building.
- Your property remains under your control and ownership, and cannot be deleted by other users.
- Send telegrams to other citizens.
- Send files to other citizens.
- Locate and join other citizens anywhere in Active Worlds.
- Posting rights on our community messageboards
- Maintain a contact list to keep in touch with your friends.
- Use Voice Over IP to talk to other users in real time (http://www.activeworlds.com/products/citizenships.asp)

In this environment, there are some worlds and universes. The users can teleport from one world to another if the owner of the world of universe allows or if the location is a public one. In the following figure, the screenshot of Active Worlds is presented.

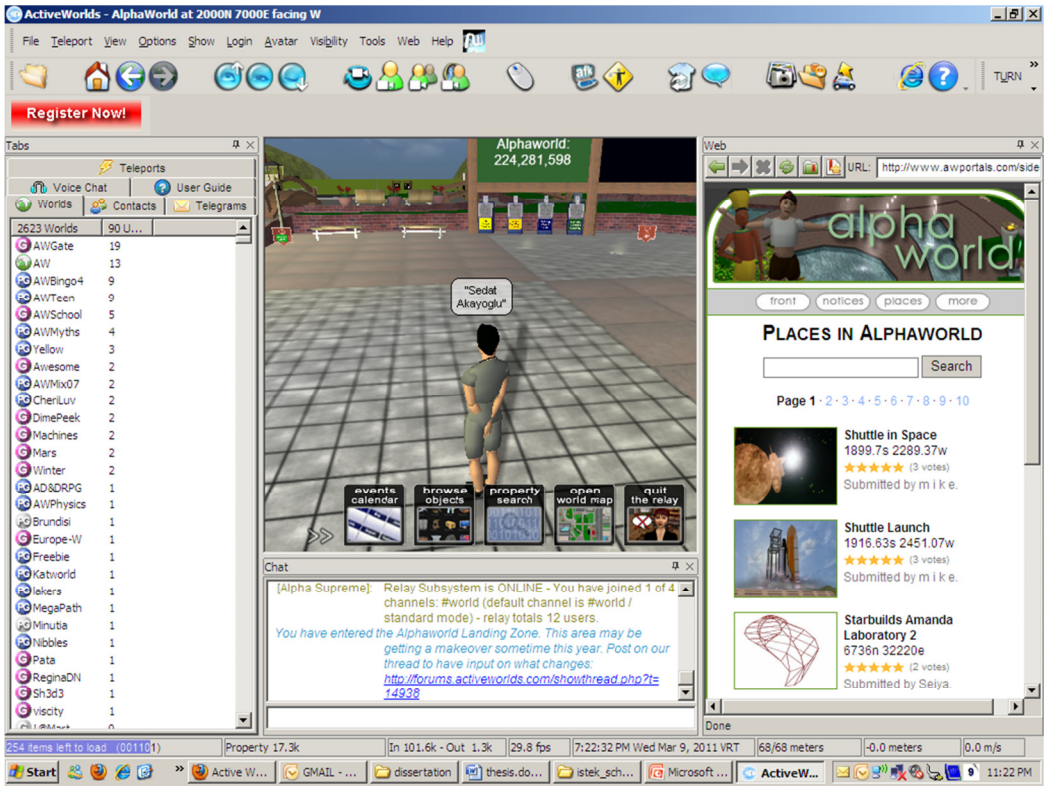

Figure 1: A Screenshot from Active Worlds

As it can be seen in the figure, the graphics window is not in full screen mode. It is smaller when it is compared with the other 3D environments. In addition to this window, there are other windows for the Worlds, Web pages and chat board. The users can choose a world from the left panel and they can teleport. On the right panel, a window for web pages is offered. The users can surf the net without opening any other web browser. When a link is given to the users in the environment, they can visit the link in this panel just by clicking on the link. The avatars are not designed in detail. The users cannot see the facial expressions of the users and the avatars are standard for male and female users. On the top menu, there are some buttons for moving the camera and some movements like turn, wave, etc.

As for the communication in this environment, the main medium is text based chat; and the users can chat with other members in an area of 200-meter circle. The chat messages are mostly public; however, the users can also send private messages using telegrams. When a user attempts to send telegrams to anyone in this environment, there is no need for users to be in the same location. Voice-based chat is also possible for public conversations and lectures; but, it is not a free option. The users should be citizens and pay money for that. Thus, the main medium is text based chat as it was mentioned before.

2.4.2.1. An Educational Game Created Using AW: Quest Atlantis

Quest Atlantis, which started in 2002, is an international learning and teaching project as the founders of this environment claimed. There are some quests in this 3D environment and the students are expected to complete these quests. From this point of view, this platform is similar to the commercial games. The students are given tasks and they go through these tasks one by one and there is an end for the learning activity. While completing the quest, the users can talk to other members. This platform is designed for the students aged 9-16. There is not much technical knowledge is required and this platform is secure as the worlds are not public. Schools, institutions and teachers apply for projects and they are given usernames and passwords. Students can meet their friends and teachers in this environment. Briefly, at the core of the student activities is the completion of the quests.

When the user attempts to log in this environment without being approved by the Quest Atlantis team, the user cannot see anyone or communicate with other users. In the following figure, the interface of the program is presented.

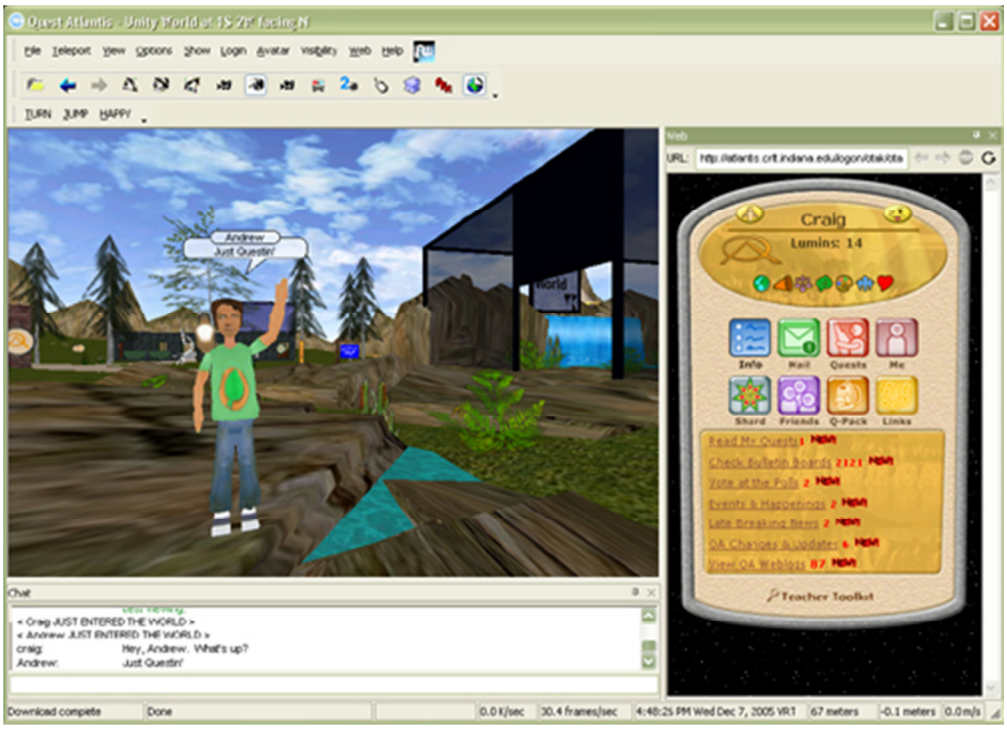

Figure 2: A Screenshot from Quest Atlantis

As it can be seen in the figure above, the interface of Quest Atlantis is quite similar to the one of Active Worlds. There are three windows – the graphics window, the quest panel (it is also the web page panel) and the chat board. The buttons, the windows and the features are nearly the same as in Active Worlds. As for the differences between them can be listed as Quest Atlantis is not environment open to public use; it is designed for specific projects; there are some quests to complete in Quest Atlantis; and this platform is designed for students aged 9-16. In terms of these measurements, Quest Atlantis can be presented as a secure platform for the learners.

However, the teachers should be trained in order to create quests in this platform. It requires technical knowledge and as the Quest Atlantis team stated "a professional development course is mandatory for all new Quest Atlantis

teachers. While there has been very high demand by interested teachers and schools, the technology is complex and requires committed teachers."

Finally, as for the communication in this environment, it can be stated that all communication is text based. Users can communicate with other learners through text based chat; and it is limited. Not all members can see each other. The members of a project can see each other and communicate. This increases the security of this platform. The students at the age of 9 to 16 can be prevented from harmful content and conversations with foreigners.

2.4.2. Second Life

Second Life is one of the 3D environments which was developed by Linden Lab and launched in 2003. Since then, millions of users registered this environment. The number of the residents was announced to be 25.1 million (http://dwellonit.taterunino.net/sl-statistical-charts-testing) by September 15th, 2011. This platform has been used for many purposes like tourism, marketing, education and designing up to now. The residents log in to this environment through avatars as in previously mentioned platforms; however, they have a great control over their avatars. They can change the appearance of their avatars, its clothes, add some gestures for their avatars; in other words, the residents can create their own avatars which are unique for themselves. The content is hundred percent user-created.

This platform is not a game as there is no objective for the users to accomplish. Second Life just provides its users a 3D simulation environment; and the tasks, movements and activities totally depend on the creativity of the users.

It is basically free of charge. An ordinary user of the Internet can easily sign up for membership and log in to the environment. S/he can easily participate in some activities, communicate with other members or interact with other users

and objects in this environment; however, there are some features which are not free. For example, the users can buy some lands, some tools or participate in some paid activities using Linden Dollars, which is the currency of Second Life.

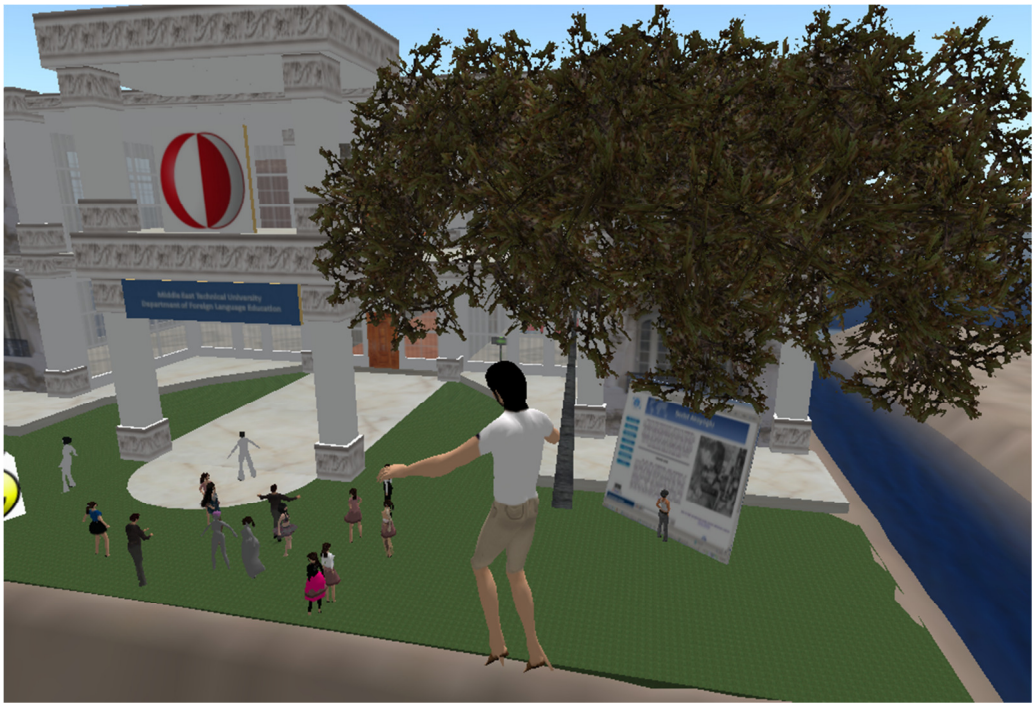

Figure 3: A Snapshot from Second Life

As for the communication tools, it offers text based chat (both public and private conversation) and voice based chat which is quite good in quality. All users can interact with each other. Besides, the users have the chance to add other users as their friends and they can see their friends when they are online.

In this environment, teachers and learners can work in virtual classrooms and other amazing learning environment; they can take part in simulations and role-plays; they can build environments collaboratively; and briefly, they can interpret, analyze, discover and evaluate.

There are some weaknesses of Second Life to be mentioned as well. First of all, Second Life may not work effectively with very old computers if they do not meet the lowest requirements; the students and the teachers should be familiar with the terminology of Second Life, like touch, teleport, build, world and resident; and teachers should be aware of the potentials of Second Life.

The number of educational activities in SL is also increasing dramatically in recent years. For example, Professor Gene Koo, from Harvard University School of Law, taught a course entitled "Cyber One: Law in the Court of Public Opinion" and this course was both face-to-face and on the Internet; and he integrated Web 2.0 tools into his course and he is still teaching this course (http://blogs.law.harvard.edu/cyberone/). In addition to this example, SL is used as integrated to the courses in many schools and universities. In order to create a communication place for educators in SL, a page was designed on SL official page (http://secondlife.com/whatis/?lang=en-US#Education_&_Enterprise) and there are some e-mail lists for the education professionals in SL. There is invaluable information on how education professionals can use this environment and on activities which can be carried out in SL. Moreover, a wiki page (http://simteach.com/wiki/index.php?title=Institutions_and_Organizations_in_SL) was also designed for the list of schools using SL and the names of the institutions are published on this page. When this list is examined, it can clearly be seen that in many prestigious universities like Harvard University, Illinois University, Stanford University, Iowa State University, Indiana University, Ohio University, Penn State University and Princeton University SL is used as an educational tool and the number of these institutions is increasing day by day. As for the number of the institutions, Stevens (2008) also claimed this number is over 150.

In addition to its being an educational tool SL environment is also used for conferences, discussions and talks. An island which belongs to a company called "Consultants-E" in Spain can be given as a great example for this. There are some presentations, conferences, talks and discussions held in this environment and they are as good as face-to-face events in terms of its interaction. Moreover, participants are usually from various countries and nationalities since there are no travel and accommodation expenses. The only things participants need are a computer and the Internet connection.

Up to this part, the technical features of 3D environments have been presented; and in the following section, the studies on language teaching carried out in Second Life and other 3D environments are discussed.

2.5. Research in 3D Worlds

Since 3D Worlds started to be used in educational settings, researchers have focused on these environments and attempted to present the features of these environments in detail in terms of strengths and weaknesses. The studies in literature can be basically categorized in four dimensions. The first dimension is about transferring face-to-face classroom activities into 3D environments and the potential uses of 3D environments for language teaching (Dickey, 2003; Dickey 2005; Childress & Braswell, 2006; Chittaro & Ranon, 2006; de Freitas & Oliver, 2006; Hayes, 2006; Stevens, 2006; Stevens, 2008; Baker, Wentz & Woods, 2009; de Freitas & Neumann, 2009; De Lucia, Frances, Passero & Tortora, 2009; Jarmon, Traphagan, Mayrath & Trivedi, 2009; Girvan & Savage, 2010; Iqbal, Kankaanranta & Neittaanmaki, 2010; Andreas, Tsiatsos, Terzidou & Pomportsis, 2010; Ahmad, Wan & Jiang, 2011; Loureiro & Bettencourt, 2011); the second dimension is about suggesting a guideline for using 3D environments in language classes based on the potential uses of 3D environments (de Freitas & Oliver, 2006; Hayes, 2006; Baker, Wentz &

Woods, 2009; Jarmon, Traphagan, Mayrath & Trivedi, 2009; Iqbal, Kankaanranta & Neittaanmaki, 2010); the third dimension is about the attitudes of teachers and students on the use of 3D environments (Cheong, 2010; Huang, Rauch & Liaw, 2010; Gamage, Tretiakov & Crump, 2011; Kennedy-Clark, 2011; Zuiker & Ang, 2011); and the final dimension is about analyzing the discourse patterns occurred in 3D environments (Hagsand, 1996; Axelsson, Abelin & Schroeder, 2003; Brown & Bell, 2004; Peterson, 2006; Jamaludin, Chee & Mei Lin Ho, 2009; Traphagan, Chiang, et al., 2010; deNoyelles & Kyeong-Ju Seo, 2011).

2.5.1. Transferring Face-to-Face Classroom Activities into 3D Platforms and the Potential Uses of 3D Environments for Language Teaching

In the first dimension of the studies related to the 3D worlds, the implementation of pedagogies, techniques and the potential uses of these environments were presented. Mostly, the studies were successful and the researchers mentioned many advantages of using 3D worlds in education. As for the weaknesses, some technical issues were listed; however, they were not discouraging for the implementation of 3D worlds in education.

Dickey (2003) examined a 3D virtual world, Active Worlds, in terms of pedagogical affordances and constraints of the discourse, experiential and resource tools and found that these tools supported the constructivist learning environments. However, there were some limitations as the lack of affordances like whiteboard and collaborative writing space. She also mentioned that students did not have the access to the server to upload their projects. In spite of these limitations, she concluded that 3D virtual worlds might be an effective medium for distance learning, depending on context and resources available. Dickey conducted this study in 2003 when these worlds were not very well

developed in terms of technical features. The limitations she mentioned were totally changed as the technology developed in time.

Two years later, Dickey (2005) carried out another study and compared the inscription, discourse, experiential and resource tools of Active Worlds Educational Universe, which she had studied previously, with Adobe Atmosphere. She aimed at informing educators about the instructional design of the 3D virtual worlds in order to support interactive learning environments by comparing two popular environments of her time. She found that although both of the environments had unique affordances and constraints, they supported collaborative and constructivist learning. However, this study was limited to only two environments of her time and technology developed so much that the limitations she mentioned in those times are no longer called as the limitations in today's world.

In 2006, Childress & Braswell designed a virtual space in Second Life in order to facilitate communication and interaction and to carry out some cooperative learning activities in an online course. They integrated Second Life into a graduate course at Midwestern University. The researchers aimed at engaging students in an online environment with not only the instructor but also with each other. They adapted some critical thinking and cooperative learning activities which had been used in face-to-face classroom settings as group work and pair work activities into the virtual world. They concluded that the improvements in 3D virtual world technology would increase realism and interactivity; and the differences between an online classroom and face-to-face classroom was disappearing.

Chittaro & Ranon (2006) summarized the features of Web3D technology and its uses in education. After summarizing these features, they mentioned how these environments affected the motivation of the students. They associate these

environments with constructivist learning theory. It was mentioned in the study that the possibility of providing highly interactive experiences was the most important feature of virtual worlds and this was closely related to constructivism. In this study, the traditional classrooms were compared to the virtual environments and it was stated that:

> Traditional educational methods rely on knowledge, acquired from books and teachers that must be then applied to real situations. On the contrary, the situated learning approach (i.e., knowledge and skills are learned in the contexts reflecting how knowledge is obtained and applied in everyday situations) suggests that it is easier for students to learn concepts in the same context where these will be applied. (7)

In this part, the importance of virtual experiences was mentioned and this feature of virtual worlds was mentioned as the superiority of virtual worlds over the traditional educational methods. The limitations of virtual worlds were also presented and they were mostly related to the technical issues. For example, the difficulties in navigation, teachers' lack of experiences, high expectations of the users. At the end of the study, it was mentioned that these environments should be used in education together with the textbooks and the curricula followed at schools.

In de Freitas & Oliver's (2006) study, four-dimensional framework for evaluating the potential uses of virtual worlds and simulation games was presented. When an educator decides to use these environments, s/he has some questions in their minds such as which game or simulation to select for the specific learning context, which pedagogic approaches to use to support learning outcomes and activities and what is the validity of using the chosen game or simulation. In this study, the presented four-dimensional framework was expected to help to educators to answer these kinds of questions. The first dimension of this framework focused on context; the second dimension focused

on learner or learner group; the third dimension focused on internal representational world; and the fourth dimension focused on the processes of learning. According to the authors of the article, the simulation environments or games should be selected using these criteria and the detailed explanations of these criteria were presented in the study. Moreover, a detailed checklist was also given.

Hayes (2006) also attempted to investigate how learning occurred in virtual world, Second Life; and in her study, she tried to determine how the design and social dynamics of one virtual world support as well as constrain various types of learning and to suggest implications for the use of virtual worlds in adult education. She mentioned that the most important feature of Second Life was that this environment was totally a user-created environment and this made the users feel the ownership of their learning. She mentioned that it was difficult for newcomers to navigate the world and there were some technical difficulties of using Second Life command buttons; and these should be taken into account while using this environment for adult education.

As an active user of Second Life, Stevens (2006, 2008) had also published articles on the potential uses of Second Life in language learning. In 2006, he compared this new environment with the previous 3D Virtual Worlds, Active Worlds and Quest Atlantis and he claimed that Second Life environment was not a totally new concept. Although there were some similar features between Second Life and previous 3D Virtual Worlds, there were many advantages of Second Life. He also summarized at which institutions Second Life was set and how it was used. He also mentioned online collaboration through peer-to-peer distributed learning networks and how Second Life environment helped its users to work in collaboration. In 2008, he described this environment as an authentic linguistic environment. In this article, he gave some examples of

using Second Life in language learning. He expressed how easy it was to meet with the native speaker of the target language and to practice target language.

Baker, Wentz & Woods (2009) attempted to describe the potential uses of Second Life in education, listed advantages and disadvantages in their study. Instead of reporting the findings of a research study, they described how to prepare a lesson in this virtual environment, very basic skills for carrying out a course. According to them, using Second Life in classes might increase the student engagement, students, especially the shy ones, were more comfortable in virtual classes, and Second Life provided a more informal communication and interaction between the student and the faculty, which were listed as the advantages of Second Life. On the other hand, they also listed some disadvantages such as time should be allocated for designing a classroom setting, creating avatars and instructing navigation tools which needed extra time for instructors; there were some technical requirements and a well-equipped computer was needed for Second Life; and instructors should be ready for new classroom management issues. After giving these advantages and disadvantages, the researchers presented a guideline for instructors and this part is given while discussing the following dimension of the studies on Second Life.

In 2009, de Freitas & Neumann (2009) implemented exploratory learning model into the 3D virtual worlds. This model was not originally developed for virtual worlds, but for traditional classroom settings. It was based on constructivist premise that learning occurred only through experience and interaction with the environment and according to this model the learning goals should be intrinsically motivation and the mission could only be accomplished using specific skills and knowledge. This study was also sample for the studies based on transferring the methods and techniques used in classroom setting into the virtual worlds. At the end of the study, the researchers concluded that the

use of these tools might significantly reshape the ideas on learning, roles of the tutors and empowering the learner. The potentials of virtual worlds might change the learner engagement and improve the quality and depth of learning.

De Lucia, Frances, Passero & Tortora (2009) created virtual spaces called as common student campus, collaborative zones, lecture rooms and recreational areas for university students. In order to increase the interaction and communication opportunities between the students and the instructor, Second Life was designed with objects and tools. They claimed that learning in a virtual classroom was closely related to the user perception of belonging to a learning community, the perception of awareness, presence and communication. During the study, the researchers evaluated this virtual environment. At the end of the study, they found out that virtual environment successfully supported synchronous communication and social interaction and the students were quite motivated. The students had many positive answers related to the use of Second Life in education and this justified further studies for long term effects of these environments.

In a very similar study with de Freitas & Neumann's (2009) study, Jarmon, Traphagan, Mayrath & Trivedi (2009) implemented experiential learning and assessment into a virtual world, Second Life. This study aimed at exploring the nature and process of learning in Second Life in a communication course. The research questions of this study were (a) how learning occurred in Second Life; (b) what types of learning students experienced often in Second Life; (c) whether learning in Second Life transferred to real life; and (d) whether students perceived Second Life as instrumental in learning. At the end of the study, they claimed the learning occurred in Second Life could be best described as experiential learning. Six important features of Second Life were considered to facilitate the experiential learning and they can be listed as (a) the opportunities for virtual social interactions and collaborations, (b) the users

could test hypotheses by applying them to an actual project and there was no risk for experiencing these, (c) the users could relate virtual actions to real world, (d) various types of abilities could be practiced and demonstrated, (e) it allows stimulation of imagination, exploration and creativity, and (f) it allows sense of personal presence and tangible experience in the virtual world. An interesting finding of the study was that students' views on the effectiveness of Second Life environments for facilitating communication and communication changed throughout the course. Their views were more positive at the end of the course. The use of virtual worlds was suggested to the instructors who would like to facilitate learning through experiential learning.

Girvan & Savage (2010) thought that it would be better to present a novel pedagogical approach instead of recreation of traditional classrooms and proposed communal constructivism as the most appropriate pedagogy for Second Life. From around the world, twenty educators participated in the study and they created five groups. The features of communal constructivism were listed and the activities of the participants were checked with these features. It was found that all features of communal constructivism were exhibited by the participants. These features can be listed as follows:

- Interaction with the environment to construct knowledge
- Interaction between group members
- Interaction with learning objects
- Active engagement in knowledge construction
- Active collaboration
- Publishing of knowledge between groups
- Transfer of knowledge between groups
- Evidence of group viewing past groups' books
- Evidence of group using book to build knowledge
- Dynamic and adaptive course

At the end of the analysis of chat logs and semi-structured interviews revealed that there was evidence of learning. It was found that communal constructivism was an appropriate pedagogy to be used in virtual worlds; however, they expressed that it was not the only pedagogy to be used in virtual worlds, other pedagogies should also be evaluated for the virtual worlds.

Iqbal, Kankaanranta & Neittaanmaki (2010) started to study on virtual worlds claiming that deeper learner engagement resulted in higher learning gains and positive results. Thus, they explored how virtual worlds could support the engagement for learning. They listed the educational uses of virtual worlds and presented engagement theory in their study. Actually, this study focused mostly on engaging learners and engagement theory; and they associate this concept with virtual worlds. At the end of the study, they presented a framework for the design and the use of virtual worlds in education in order to foster and facilitate learner engagement.

In one of the studies based on transferring face-to-face techniques into the virtual worlds, Andreas, Tsiatsos, Terzidou & Pomportsis (2010) transferred jigsaw and fishbone techniques which were considered as collaborative techniques into the Second Life environment. They implemented these techniques in this virtual environment and they found out that Second Life could be effectively incorporated as the online part of a blended learning. Postgraduate students participated in this study and it was stated that the majority of the students were experienced in collaborating online through 2D interfaces; however, the majority of the students were not familiar with 3D environments. At the end of the study, it was found that students used many features of Second Life for online collaboration and Second Life was an appropriate environment for online collaboration.

Ahmad, Wan, Jiang (2011) focused on the evaluation process of the courses carried out in Second Life. They stated that there were many studies on using Second Life in educational settings; however, the evaluation of the courses was not studied in detail. They presented a guideline for evaluating courses in virtual worlds, which was composed of formative and summative techniques. As for the formative ones, observation, pilot studies, questionnaires and comments were suggested and test and questionnaires at the end of the course were given as the sample for summative evaluation.

The final research on the implementation of pedagogies in virtual worlds was carried out by Loureiro & Bettencourt (2011). In this study, some of the potentialities and barriers of 3D immersive virtual environment when used in a learning context were presented. As for the potentialities, it was mentioned that immersive learning allow users to learn in first person perspective, the users had the control over what, how and when they want to learn. Moreover, these environments allowed students to participate in richer interactions at times that are more convenient to their work/study patterns regardless of any physical restrictions. This study was conducted with a regular undergraduate day class and part-time night class. They were over 23 years old and the teacher met the class once a week as in traditional classroom. The students discussed Prensky's (2000) article on digital natives and digital immigrants and a quotation about networked society. As for the barriers, it was mentioned that there were no physical barriers or border and it had many advantages over face-to-face classrooms.

2.5.2. Suggesting a Guideline for Using 3D Environments in Language Classes

In this part, the second dimension of the studies on 3D worlds, which was about suggesting a guideline for using 3D environments in language classes based on the potential uses of 3D environment, was presented.

The first sample study for this dimension was carried out by de Freitas & Oliver (2006) and they presented a framework for the evaluation of the environment for the course. In this framework, there were four categories as context, learner specification, pedagogic considerations and mode of representation. The researcher or the evaluator of the environment takes this framework before using it for the course and evaluate the environment; and asks similar questions with the followings:

- What is the context for learning, how can links be made between context and practice?
- Who is the learner, what is their background and learning history?
- What are the curricula objectives, what are the learning outcomes?
- Which software tools support the learning?

After answering these questions, the instructor decides whether the environment is appropriate for the learners and learning objectives.

In the next study, Hayes (2006) suggested implications for the adult education theory and practice. She claimed that Second Life had the benefits of user creation and ownership, particulary in terms of innovation and engagement. However, the users should agree to an elaborate code of behavior in order to avoid abusive and inappropriate behaviors. While she was appreciating the

benefits of Second Life, especially the freedom of the users, she also suggested that there should be the balance of control and freedom in these worlds. The instructor might encounter some unforeseen challenges if they could not control the classroom in a virtual environment.

In addition to these studies, Baker, Wentz & Woods (2009) listed some specific and to the point rules while using virtual worlds in education item by item. These items can be listed as (a) do not send students into SL without some educational objective; (b) be prepared for the unexpected and have a contingency plan; (c) prepare students for the social experience; (d) start small; (e) send students in with a partner; (f) make students your learning partners; (g) spend time in Second Life yourself; (h) connect with other users of Second Life; (i) consider Second Life to be one tool in your toolbox; and (j) assess the efficacy of Second Life. All of them are quite crucial suggestions while using Second Life for the courses. For example, students should have educational objectives when they are online in this environment; otherwise, they might get lost in this environment without any purpose. The instructors should make students their learning partners as there are many features, tools and places in this environments that cannot be explored by only one person. In some cases, students help their teachers to explore this environment.

Jarmon, Traphagan, Mayrath & Trivedi (2009) proposed experiential learning pedagogy for virtual worlds as mentioned above and they presented some types of activities; and these activities were concrete examples, active experimentation, reflective observations and abstract conceptualization. In concrete examples, meeting people, negotiating and planning were recommended; in active experimentation, applying and testing strategies were recommended; in reflective observations, journal entries and class discussions were presented; and in abstract conceptualization, adapting strategies and

revised theories were given. These activities and techniques were considered as the most appropriate techniques for the courses in virtual worlds.

As for the final study on suggesting a guideline for virtual worlds, Iqbal, Kankaanranta & Neittaanmaki (2010) studied on learner engagement in detail; and built a framework for the design and use of virtual worlds in education for better learner engagement. According to them, teachers should shift their traditional roles and take part in the game to guide and drive student's learning; they should be co-learner and learn with their students; and performance-based assessment should be made in addition to the traditional forms of assessment. The views in this paper were in parallel with Baker, Wentz & Woods's (2009) study as both of them proposed that teachers should participate in the activities with their students and they should learn while they are facilitating learning and guiding students.

In this dimension of the studies on 3D worlds, some guidelines were presented and researchers attempted to provide some guidelines and notes to keep in mind while carrying out a course in a 3D virtual world.

2.5.3. The Attitudes of Teachers and Students on the Use of 3D Environments

In this dimension, the studies focused on the attitudes of teachers and students on 3D worlds.

Cheong (2010) carried out a study focusing on the personal teaching expectancies of pre-service teachers; and it was found that there was a positive impact of collaborative practice of teaching in Second life on their personal teaching expectancies. At the end of the study, it was also mentioned that pre-service teachers could practice teaching skills in Second Life; and as it was just a simulation, they could practice repeatedly and easier than real life. However,

this study was a short-term experiment as the author mentioned; thus, there is a need for a longitudinal study on this issue.

In Huang, Rauch & Liaw's (2010) study, the attitudes of learners towards virtual learning environments were examined; and 190 university students participated in the study. The learners used a virtual environment anytime for a period of one month; and at the end of the study, the learners were asked to complete a questionnaire on the attitudes of learners toward virtual learning environments. According to the results of the questionnaire, learners believed that learning occurred through interaction, problem solving opportunities promoted creativity and learning, and these environments motivated learners to learn. In other words, it could be claimed that the attitudes of the students were mostly positive towards the use of virtual worlds in education.

Gamage, Tretiakov & Crump (2011) interviewed with 22 teachers in order to investigate the educators' perceptions of virtual world affordances for learning. Of these teachers, 11 of them were experienced in using virtual world and 11 of them were not experienced. As a result of the study, it was found that perceptions of teachers in both groups were similar and both of them were positive. In both groups, teachers were aware of the educational value of replicating real life experiences in virtual worlds and they suggested that virtual worlds were quite beneficial for shy students for expressing themselves. As for the final remarks, it was concluded that these environments could be easily and effectively used in learning environments.

Kennedy-Clark (2011) conducted a research study for determining the attitudes of pre-service teachers about virtual worlds. They used a multi user virtual environment called Virtual Singapura for the study and 28 pre-service teachers participated in the study. At first, the environment was introduced to the pre-service teachers and a questionnaire was given to the participants at the end of

the study. The questionnaire was divided into two sections - the first section was about the participants' current knowledge of virtual worlds and their attitudes toward using virtual worlds in education and the second section was about the scenario and technical issues. As a result of the study, it was found that the majority of pre-service teachers were positive about the use of virtual worlds in the classroom; however, they also mentioned the constraints while using these virtual worlds. These constraints were listed as expense, access to the technology, differences in students' abilities and the issues related to the behavior management. They believed that these environments could be used in order to engage and motivate the learners.

Finally, Zuiker & Ang (2011) also focused on the attitudes of pre-service teachers and working teachers about the use of virtual worlds. The researchers organized a pre-service and an in-service training in a virtual world and tried to collect data through a survey on the concerns and perceived challenges of the participants. For the in-service training, 11 primary and 15 secondary level teachers participated and they attended the training paying the fee for the training. As for the second group of participants, 24 pre-service teachers who enrolled in a twelve-month certification program participated in the study. The study was carried out in Quest Atlantis environment and the platform was designed by Indiana University. At the close of the workshop, participants reported positive experiences and they mentioned the importance of hands-on interactivity and working in groups. The pre-service teachers also exhibited positive attitudes toward the virtual environments and they stated that they meaningfully engaged in the presentations, Quest Atlantis missions and group discussions. It can be concluded that both groups had positive attitudes towards the use of virtual worlds in education.

In the third dimension of the studies on 3D worlds, the attitudes of teachers and pre-service teachers on the use of virtual worlds in education were investigated.

Briefly, it could be claimed that the attitudes of educators were mostly positive and they mentioned the potential uses of these environments; however, in some studies, the participants mentioned the constraints of these environments as mentioned above.

2.5.4. Discourse Patterns Occurred in 3D Environments

In the final dimension of the studies, the discourse patterns in these environments were explored. In this group of studies, researchers did not focus on the potential uses of these environments; but, they focused on how interaction occurred in virtual worlds. This group of studies is crucial for this dissertation as the discourse patterns in terms of social presence, negotiation of meaning and turn distribution were explored in this dissertation.

Hagsand (1996) explored the interaction types in a multi user virtual environment and asked how the users in a multi user virtual environment interact with objects, applications and other users. In those days, he examined a platform called DIVE (Distributed Interactive Virtual Environment). The researcher emphasized the importance of the interaction between humans instead of the interaction between computers and humans. However, the interaction styles were mostly limited with the technological constraints such as bandwidth considerations and the qualities of computers. This study mostly focused on technical details about the environment instead of linguistic features of the interaction and the importance of the interaction was mentioned.

Axelsson, Abelin & Schroeder (2003) studied on the linguistic functions of the interaction occurred in multi user virtual environment and focused on (a) the intentions of introducing a new language, (b) the response to this language introduction, (c) the consequences of language interaction; and (d) the factors influencing rejection of acceptance of language introduction. The study was

carried out in Active Worlds. As for the data collection, approximately 50 hours of observation was made in ongoing conversations and interaction between users. Two different worlds as the central place and language specific worlds were observed; because English was spoken in central places while other languages were dominant in language specific worlds. At the end of the study, it was found that the language introduction depended mainly on the type of language, character of the setting and perceived intention of language introducer. It was found that English was the dominant language and shared language in non-English settings; non-English speakers were more skilled in language. It was claimed that English speakers were less accepting towards non-English speakers. This study summarized the discourse patterns of Active Worlds in terms of using English as a medium; and this might help the educators and researcher to better understand the context of Active Worlds as a virtual environment.

Brown & Bell (2004) observed *There* as a 3D virtual environment for nine months in order to determine the discourse functions of this environment. The observations of the researchers were taken as the data of this study. The interaction patterns between the users were the main focus in this study. Three aspects of this environment were explored and these aspects were how the environment supported a range of social activities around objects, how the chat environment was used to produce overlapping chat and how the game itself provided topics for conversation and how this place was a fluid interaction space that supported safe interactions between strangers. The importance of chat in online environments was mentioned as a valuable and enjoyable part of online interaction. The temporal aspects of text chat, that is the timing of the chat, was given importance in this environment as the sentences were appeared as speech bubbles on the screen; however, the system supported overlapping chat and many users could talk at the same time. As for the topics of chat logs

were based on *There* itself, bugs or mistakes in the system. The final aspect explored in this study was about the places in this platform; it was found that each world was designed for different purposes and in different styles. There were some places for social activities as parties or carnivals and these places affected the language used and helped the user to socialize. This study actually focused on the linguistic and technical features of *There* as a multi user virtual environment and it was concluded by sample lesson designs concerning the importance of supporting shared online activity and interaction between strangers.

Peterson (2006) studied on the interaction management of the learners in a 3D environment, Active Worlds. He collected and analyzed the text-based chat logs of 24 intermediate level EFL participants. The participants of the study were composed of 24 undergraduate students at the ages of 19 to 29 years old at Tokyo University. As their TOEFL scores in paper-based version were between 500 and 540, they were expected to understand the directions and undertake the tasks. They were unfamiliar with the environment and had never used before the study. Peterson (2006) attempted to discover what kind of communication strategies were used by the participants in 3D world and found that transactional communication strategies and interactional strategies were used in chat logs. The transactional communication strategies used by the participants included the use of feedback markers, addressivity and time saving devices; and the interactional strategies used by the participants included politeness and deployment of keyboard symbols. In this study, negotiation of meaning functions were also examined; however, the results and the implications of this function are described in the following sections as one of the research questions of this dissertation included negotiation of meaning functions.

Jamaludin, Chee & Mei Lin Ho (2009) also carried out a similar study focusing on the discourse patterns observed in a 3D world environment, Second Life.

Role-playing activities were organized for 45 pre-university level students from two different classes in order to collect the data. They were randomly assigned to groups of four to five students. These students discussed on the issue of euthanasia. Tutors were facilitators in tasks during the study. Qualitative data were collected through open-ended responses and quantitative data were collected through chat sessions. Whether the student was sharing at a higher or advanced level, communicating on a more superficial level or digressing off-topic were studied in epistemic dimension; in argument dimension, students' ability in sequencing their arguments based on the levels of their argumentative moves was analyzed; and in social dimension, how the students were able to share and construct knowledge interactively either through articulating thoughts to the group, questioning group members, accepting contribution of group members, applying others' perspectives or disagreeing with, modifying, or replacing others' perspectives was examined. At the end of the study, it was found that there were some significant differences between two groups in terms of the nature of epistemic interactions, the patterns of argumentative moves and the patterns of social interactions.

In a very recent study, Traphagan, Chiang, et al. (2010) compared a three-dimensional virtual world environment, Second Life, and a text-chat learning environment without visuals, TeachNet in terms of cognitive, social and teaching presence. This study was conducted with twelve graduate students at the age of 25 to 40 and their computer technology skills were different. The transcripts of the Second Life and TeachNet debates were coded using code classification for cognitive, social and teaching presence; and the code frequencies were counted. At the end of the study, it was found that text-based chat included more cognitive presence codes than in Second Life debates; the teams were significantly different from each other in the ways to use utterances associated with cognitive, social and teaching presences; and the groups'

collaboration style became more established with more experience with the tasks.

As for the final study on the discourse analysis of 3D virtual environments, the study carried out by deNoyelles & Kyeong-Ju Seo (2011) can be presented. The researchers attempted to compare women and men users in Second Life and they investigated in what manner women and men college students projected their virtual identities and engaged in interaction in Second Life and how this influenced their learning of course content. Participants were 21 undergraduate students at the age of 18 to 24. At the end of the study, it was found that group cohesion and learning within the community were influenced by conceptions of identity, beliefs of the nature of the virtual world and technical skills. This study is crucial as it examined the influence of gender in an academic multi user virtual setting.

In the final dimension of the studies on 3D environments, the studies focused on the discourse patterns of various 3D environments. Each of the studies had different concerns like linguistic or social and their main purpose was to determine how interaction occurred in these settings. The findings of these studies help educators, researchers and learners to better understand the nature of interaction in courses designed in virtual worlds.

To sum up, 3D virtual worlds were examined in different dimensions as transferring classroom techniques, methods and pedagogies into 3D environments, suggesting guidelines for preparing and planning courses in virtual worlds, the attitudes of teachers and students toward the use of 3D worlds in educational settings and discourse analysis of these environments in terms of social and linguistic functions. Although there were several discourse patterns explored in these environments, social presence, negotiation of

meaning and turn distribution are described in detail in the following parts within the scope of this dissertation.

2.6. Discourse Analysis and Computer Mediated Communication

In the following section, the studies on the discourse patterns of computer mediated communication environments in terms of social presence, negotiation of meaning and turn distribution were categorized into dimensions and described in detail.

2.6.1. Social Presence

Social presence is one of the most important issues focused on in research studies in recent years. It was defined by Garrison, Anderson & Archer (2000, p. 94) as "the ability of learners to project themselves socially and emotionally as 'real' people into a community of learners". This concept is quite important in educational settings as it foster critical thinking processes and group interactions; and this interactions increase academic and social results. As Garrison, Anderson & Archer (2000) mentioned, social presence was a direct contributor for the success of the educational process. From this point of views, this concept is considered to be quite important in education.

Garrison, Anderson & Archer (2000) proposed a framework for analyzing text-based chat environments called Community of Inquiry model. In this model, there were three essential elements as cognitive presence, social presence and teaching presence. In this template, the three elements, categories related to these elements and indicators were given in a table. As the cognitive presence and teaching presence were beyond the scope of this study, social presence categories and indicators were mentioned here. The categories for social presence were emotional expression, open communication and group cohesion and their indicators were emotions, risk-free expression and encouraging

collaboration respectively. In the following years, the taxonomy for social presence was modified by Rourke, Anderson, Garrison & Archer (1999) and Akayoğlu & Altun (2008). In Rourke, Anderson, Garrison & Archer's (1999) taxonomy, these categories were determined as affective, interactive and cohesive and there were some indicators for these categories as seen in the following table.

Table 1: Taxonomy for Social Presence (Rourke, Anderson, Garrison & Archer, 1999)

Category	Indicator
Affective	• Expression of emoticons
	• Use of humor
	• Self-disclosure
Interactive	• Continuing a thread
	• Quoting from others' messages
	• Referring explicitly to others' messages
	• Asking questions
	• Complimenting, expressing appreciation
	• Expressing agreement
Cohesive	• Vocatives
	• Addresses or refers to the group using inclusive pronouns
	• Phatics, salutations

Akayoğlu & Altun (2008) used the same taxonomy and categories; however, they added five new indicators as link sharing, gratitude, pre-sequential leave taking, leave taking and reply leave taking.

The studies on social presence actually categorized into three dimensions as implementing Community of Inquiry model into several environments and relationships among cognitive, teaching and social presence (Burgess, Slate, Rojas-LeBouef & LaPrairie, 2010; Garrison, Cleveland-Innes & Fung, 2010; Ke, 2010; Shea, Hayes, Vickers, Gozza-Cohen, Uzuner, Mehta, Valchova & Rangan, 2010; Traphagan, Chiang, Chang, Wattanawaha, Lee, Mayrath, Woo, Yoon, Jee & Resta, 2010), findings factors affecting level of social presence and associating social presence with satisfaction (Tu, 2002; Tung & Deng, 2007; Homer, Plass & Blake, 2008; Kim, Kwon & Cho, 2011, Bulu, 2011) and

discourse analysis for social presence functions in different settings (Rourke, Anderson, Garrison and Archer, 2001; Na Ubon and Kimble, 2004; Hauber, Regenbrect, Hills, Cockburn and Billinghurst, 2005; Goertzen & Kristjansson, 2007; Lomicka & Lord, 2007; Nippard and Murphy, 2007; 000Altun & Stevens, 2009; Reysen, Lloyd, Katzarska-Miller, Lemker & Foss, 2010).

2.6.1.1. Implementing Community of Inquiry Model

In the first dimension of the studies related to social presence, researchers focused on the relationships among cognitive presence, teaching presence and social presence, which were called as Community of Inquiry by Garrison, Anderson & Archer (2000). Although this term was coined in 2000, most studies on this framework were carried out in 2010.

Burgess, Slate, Rojas-LeBouef & LaPrairie (2010) decided to measure learning in Second Life and chose Community of Inquiry model as the framework as the measurement tool. It was a non-experimental quantitative study and 10 graduate students participated in this study. Community of Inquiry model was used to observe the existence of cognitive, social and teaching skills. At the end of the study, it was found that all presence types occurred in the data observed and the attitude survey results indicated that the occurrence frequency was high. This study proved that Community of Inquiry model quite applicable for measuring learning in multi user virtual environments.

Garrison, Cleveland-Innes & Fung (2010) also tried to find out the relationships among cognitive, teaching and social presence. Community of Inquiry survey was used by the researchers. The data were collected in two different classes. In this study, the effectiveness of Community of Inquiry model for evaluating presence types and at the end of the study, this framework was found to be a

useful theoretical tool to understand the relationships among teaching, social and cognitive presences.

Ke (2010) also examined the nature and interactions of teaching, cognitive and social presence and he carried out this study with online instructors and adult students. The data of this study were collected by means of interviews, artifact analysis of course sites, content analysis of online discussion transcripts and learning experience survey. The potential relationship between teaching presence and the other two presences was examined in detail. In the conclusion part of the study, it was mentioned that adult students with a stronger sense of community tended to have a higher level of learning satisfaction. Moreover, a high social presence of online instructors was important for reinforcing learning satisfaction of adult students.

Shea, Hayes, Vickers, Gozza-Cohen, Uzuner, Mehta, Valchova & Rangan (2010) examined all aspects of Community of Inquiry and attempted to extend the nature, development and relationships between the constructs of presences. There were two groups in this study and both groups were online classes. The content of the courses were designed by content experts and multimedia instructional designed; but the instructors of the courses were not course designers. In each group, 5 modules were created and these modules included several learning activities, such as discussions, individual and group assignments. In the first group 490 posts were sent and in the second group there were 454 posts sent by the students. At the end of the content analysis, it was found that social presence indicators increased in the first group although they decreased in the second group. There was an inconsistency between two groups. Only affective indicators decreased in time in the first group; however, all three indicators decreased at the end of the course in the second group. The researchers suggested that social presence required further investigation and clarification.

Finally, Traphagan, Chiang, Chang, Wattanawaha, Lee, Mayrath, Woo, Yoon, Jee & Resta (2010) compared two settings, a 3D environment called Second Life and TechNet which was a text-based chat environment without any visuals using Community of Inquiry framework. Actually, in this study, the effects of visual elements on indicators of teaching, social and cognitive presences were examined. The study was carried out in an online graduate course and students were asked to complete the activities with their friends collaboratively in online environments. The students used Second Life once and TechNet once. During the data analysis, code frequencies were counted. As the findings of the study, it was mentioned that cognitive presence codes occurred predominantly; and the occurrences of cognitive presence codes were more frequent in TechNet than in Second Life. It was also found that the groups' collaboration style became more established with more experience with the tasks.

In the first group of studies on social presence, the Community of Inquiry framework was used for the content analysis of data collected in different settings; moreover, surveys and questionnaires were used in order to determine the nature and interactions of online classes in terms of social, teaching and cognitive presences. In these studies, teaching, cognitive and social presences were taken together and analyzed for these three presences; however, in this dissertation, social presence was studies in detail.

2.6.1.2. Factors Affecting Social Presence

In the second group of the studies on social presence, researchers attempted to figure out the factors affecting social presence and associated social presence with satisfaction.

Tu (2002) claimed that online privacy affected social presence and tried to investigate the relationship between online privacy, social presence and text-

based CMC, such as e-mail, bulletin boards and real-time discussion. As for the participants of the study, 51 students participated in the study and the course was offered in two different formats as televised and face-to-face. The same instructor taught in these two formats using the same course content, lectures, assignments and class requirements. The results of the study indicated that the correlation between social presence and privacy was insignificant; however, the participants perceived text-based CMC systems with high social presence. However, it was also claimed that in some situations the levels of social presence had impacts on privacy.

Tung & Deng (2007) examined the effects of dynamic and static emoticons on children's social presence, in other words, on their satisfaction levels. The participants were all sixth graders and there were 173 children participating into the study. A questionnaire developed by the researchers was implemented in the study and it was on perceived social presence and children's intrinsic motivation. At the end of the study, it was found that dynamic emoticons were found to be more motivational than static emoticons. It was also claimed that dynamic emoticons made human-to-computer interaction more sociable and motivated the children more than the static emoticons.

In another study, the effect of video on social presence was examined by Homer, Plass & Blake (2008). Two courses were designed, one was with video and the other one was without video. In the former one, the slides used in the presentations included videos; however, in the latter one the slides included just narration and there was no video. This study was carried out at a university with undergraduate students. In the courses, after viewing the presentation, the participants were asked to complete a questionnaire on the social presence. At the end of the study, it was found that there was no effect of video or visual preference on either learning outcomes or social presence. This study was

considered to be crucial as it helped to better understand the role of video for learning and social presence.

In a very recent study, Kim, Kwon & Cho (2011) studied on the relationship between demographic and other variables and social presence and learning satisfaction. The effects of gender, online learning experience, work status, media integration and instructor's quality of teaching on social presence and learning satisfaction were examined in detail. An online survey was conducted with 81 participants and their ages ranged from 23 to 58. At the end of the study, it was found that media integration quality instruction and interactivity were good predictors of social presence and media integration and quality instruction predicted learning satisfaction. However, it was also mentioned that there was no correlation between gender, online learning experience and work status and social presence and learning satisfaction.

Bulu (2011) also studied on place presence, co-presence and social presence and tried find out which of these presence types affected the satisfaction of the students more. A total of 46 students studying at the Department of Computer Education and Instructional Technology in Turkey participated in the study. The researcher collected data through questionnaire and analyzed the data in order to find out the correlation among these presence types. At the end of the study, she found that although social presence affected the satisfaction of the students most, place presence and co-presence were also important for the satisfaction. It was found that immersive tendencies of the students were related to the students' place presence and co-presence, not to their social presence.

In the second dimension of the studies on social presence, the researchers attempted to find out what kind of factors affected social presence and learning satisfaction of the learners. The factors affecting social presence were important

for educational settings as they might motivate learners more and help the instructors to improve their learning environments.

2.6.1.3. Discourse Analysis for Social Presence

In the final dimension of the studies on social presence, the researchers analyzed the discourse patterns of a variety of settings in terms of social presence, which was similar to the purpose of this dissertation. The numbers of studies in this dimension was very limited and more research studies should be conducted.

Rourke, Anderson, Garrison and Archer (2001) analyzed an asynchronous text-based computer conferencing platform and defined the codes for a content analysis of a data in terms of social presence. These codes were used later in analyzing the discourse of the data collected in terms of social presence. Because of this reason, this study could be considered as a milestone for the studies on social presence. In this study, the three categories of affective, interactive and cohesive were determined, along with 12 indicators of these categories. Although the frequencies of these categories were determined, the main purpose of this study was to evaluate efficacy of an asynchronous CMC tool for analyzing social presence.

Na Ubon and Kimble (2004) analyzed an asynchronous platform, bulletin boards. A content analysis was applied to the transcripts in order to measure the degree of social presence from the perspective of tutors and students as determined by the social presence elements of students′ and tutors′ perspectives, affective responses, cohesive responses and interactive responses. There were four modules in this online course; and as a result of this study it was found out that affective responses were most used in the first module, which indicated that students needed the highest level of affective responses at the building stage of

a community. The participants started to discover each other and establish social connections with the other members. In the second and the third module, cohesive responses were frequently used. In general, emotion was the most frequently used social presence indicator in all modules.

Along with the developments in rendering technology, these studies have also been conducted in not only text-based CMC environments but also in three-dimensional virtual environments. Hauber, Regenbrect, Hills, Cockburn and Billinghurst (2005) tried to discover differences among the social presence levels in desktop two-dimensional videoconferencing, desktop three-dimensional videoconferencing and face-to-face communication in a real environment. They showed an increase in the level of social presence from two and three-dimensional mediated to real face-to-face communication. The results suggested that social presence could be strongly felt by participants in computer-mediated communication.

Goertzen & Kristjansson (2007) explored social presence through the lens of Systemic Functional Linguistics and conducted discourse analysis for the data collected in asynchronous platform. The purpose of this research was to examine asynchronous dialogue and reflective reports generated by participants in the target language community for essential interpersonal elements associated with social presence. Two types of discourse were analyzed. Students discussed within groups in order to complete the assignment and they also discuss between groups as commentaries for the assignments. Both of these posts were recorded and analyzed. As a result of the study, it was found that one or more interpersonal elements were present in the majority of postings on the discussion pages. Moreover, the use and distribution of these items indicated that the interpersonal elements associated with social presence were a part of the text-based collaboration in the process of knowledge construction. It was also claimed that social interaction was quite important for effective

knowledge construction in online environments; but socio-emotional relationships among participants was also crucial for text-based construction of knowledge.

Lomicka & Lord (2007) studied on how social presence in communities of language teachers developed. They studies with teachers grouping them into three groups and teachers kept journals alone, in pairs and in groups and researchers attempted to determine how different types of electronic discussions affected social presence of the teachers. After the discourse analysis of the data, it was observed that expression of feeling, vulnerability, self-constructive comments, complements, encouragement, asking questions, advice/opinion, agreement, salutations and the use of names appeared more frequently than the other indicators of social presence. In this study, the groups were also compared in terms of social presence; and it was found that there was no interaction in the first group and the affective domain was visible to some extent; the highest frequency of interaction observed in the second group and the participants focused more on complementing, encouraging and agreement; and the participants concentrated on asking questions and giving advice and opinions. This study revealed the discourse patterns used in asynchronous text-based environment in terms of social presence.

Nippard and Murphy (2007) examined social presence in a web-based synchronous secondary classroom. They used Elluminate Live, a synchronous platform, to collect data for three months in six courses including social sciences, science, art, music, technology and mathematics. Certain features of Elluminate were taken as the criteria for evaluation. Direct messaging, which is text based, and audio chat were compared in terms of social presence. They found that teachers and students relied on different tools for providing affective, interactive and cohesive responses. While teachers preferred audio chat, students preferred text messaging. Moreover, another result of the study was

that social presence occurred more in the context of digression, and not during the actual delivery of the course.

A detailed discourse analysis study on social presence functions was conducted by Akayoğlu, Altun & Stevens (2009). The researchers were members of an online community called Webheads, which started in 1998. As weekly meetings, the members of this group meet in a text-based online platform and talk about the recent developments. The chat logs of these meetings were automatically recorded; and the researchers attempted to find out discourse patterns in terms of social presence. At the end of the study, they found that the most frequently used functions were vocatives, expression of emoticons and asking questions; and the least frequently used functions were referring to others' messages, quoting from others' messages and continuing a thread. The research question of this study is quite similar to the questions posed in this dissertation; however, in their study, the researchers used only text-based environment while the data were collected in a 3D virtual world in this study.

Reysen, Lloyd, Katzarska-Miller, Lemker & Foss (2010) collected data in online fan groups and analyzed the data in terms of social presence. The posts sent by the fans in online forums were taken into consideration. The members of the forums were categorized as high status members and low status members. High status members posted more than 500 messages, while low status members posted fewer than 300 messages. It was found in the study that low status members used more intimacy and immediacy social presence indicators such as praise for the group, self-disclosure, friendly and positive affective language, first person singular pronouns and present tense verbs. However, high status members used more articles, larger words and discrepancy words. Moreover, low status members might strategically use social presence indicators for ingratiating themselves to the group.

As it could be seen in literature, social presence is a quite important concept for learner satisfaction and motivation in educational settings and studies were carried out in order to determine social presence related concepts and discourse patterns for social presence. However, the number of studies attempting to reveal discourse patterns in 3D environments was limited and there was a need for studies on investigating how interaction occurred in these environments in terms of social presence.

2.6.2. Negotiation of Meaning Functions

Negotiation of meaning was defined by Pica (1994) as "the modification and restructuring of interaction that occurs when learners and their interlocutors anticipate, perceive, or experience difficulties in message comprehensibility" (494). As it can be understood from this definition, it has mostly been associated with the comprehensibility of the message, which is a crucial factor in language learning. While learners are interacting with their interlocutors, they sometimes need to modify and reconstruct the message in order to send comprehensible message to the interlocutor, in other words they negotiate the meaning as the sender and the receiver of the message might have different background knowledge or their social background, ages, genders, cultural background or language proficiency levels might differ. As Pica (1994) summarized, the learners and their interlocutors use some strategies during this negotiation and while overcoming the difficulty such as "repeating a message verbatim, adjusting its syntax, changing its work, or modifying its form and meaning in a host of other ways". These strategies are also mentioned as communication strategies and these are studied under this title. Negotiation of meaning, however, is only one of the communication strategies that learners use. Therefore, we cannot claim that the studies on communication strategies focus solely on the negotiation of meaning.

As negotiation of meaning is closely related to the comprehensibility, it is one of the crucial terms in language learning and teaching. Learners request for clarification or elaboration in order to receive comprehensible input and comprehensible input was proved to be one of the most important factors described by Krashen (1985). Thus, determining the patterns of negotiation of meaning used by the learners through these studies is very crucial for language learning. Through analyzing the data obtained from the interaction among the L2 learners could be used for examining linguistic and cognitive features of the L2 learning process. Should the classroom activities and materials be designed in the light of the findings of these studies, it might be really beneficial for the L2 learner when they come across a difficulty in understanding the meaning of a message and need to ask for clarification.

The significance and the role of negotiation of meaning were mentioned by Warschauer (1998). As he stated in his paper, there were three dimensions of negotiation of meaning and interaction as input perspective, output perspective and socio-cultural perspective. In his paper, he examined these perspectives and the relationships between computer assisted language learning and these perspectives in detail. According to him, comprehension was necessary for acquisition to take place; and negotiation of meaning leads to interactional modifications which were considered as beneficial for the acquisition.

Rapaport (2003) also wrote about the role of negotiation of meaning, particularly in first language acquisition. He explained how negotiation of meaning fixed the misunderstandings in a conversation referring to Bruner's ideas about negotiation of meaning. According to him, the negotiation of meaning was quite crucial for understanding and first language acquisition. He particularly interested in first language acquisition rather than second language acquisition in this article.

In the studies on negotiation of meaning, the general attempt has been to provide classifications or to modify the current classifications and taxonomies. While creating a new taxonomy, they usually used the previous taxonomies, and analyzed the data whether the previous codes were observed or not or whether there were newly observed codes or not. These codes were shaped according to the participants and the environment in which the data were obtained. In recent years, the most common issue in the studies of negotiation of meaning is the analysis of online environments in order to determine the patterns of these environments in terms of negotiation of meaning; and the studies could be categorized into two groups. In previous years, the functions of negotiation of meaning functions were observed between groups comparing the features of the groups and settings (Sotillo, 2000; Leahy, 2001; Biesenbach-Lucas, & Weasenforth, 2002; Oliver, 2002; Schweinhorst, 2004; Jepson, 2005; Patterson & Trabaldo, 2006); however, in recent years, the data collected within a classroom setting, in face-to-face or virtual classes and the researchers (Bitchener, 2004; Arjava, Salovaara, Hakkinen & Jarvela, 2007; Akayoğlu & Altun, 2009; Kaur, 2011; Kibler, 2011; Knapp, 2011) attempted to find out the patterns of negotiation of meaning within a group of students without comparing different groups. The recent dimension in the studies on negotiation of meaning is going towards a tendency of analyzing a group of learners in order to determine the patterns of negotiation of meaning functions used in a setting rather than comparing two modes of communication or two different groups.

2.6.2.1. Negotiation of Meaning Functions between Groups

Sotillo (2000) compared synchronous and asynchronous mode of communication in terms of negotiation of meaning. This study was another sample for comparison studies in the field of negotiation of meaning; however, she compared the modes of communication instead of two different groups.

There were 25 students of advanced ESL writing class and two instructors. At the end of the study, she found out that asynchronous mode had more complex syntax when compared to the synchronous one; and in synchronous mode, the communication was similar to face-to-face talk. Sentences were composed of a few words or phrases and they were much simpler.

Leahy (2001) conducted a research project using e-mail as the communication mode. The main purpose of her study was to discover negotiation of meaning patterns in a subject specific task. There were two groups as the participants of the study and they were 24 students studying at Faculty of Law in Germany and Britain. The mean ages of the students were 20 in Britain and 23 in Germany. The students searched on the Internet and decided the topics to be discussed in an asynchronous environment. While the British students were correcting their German partners' mistakes in e-mail messages, the researcher collected data and focused on the negotiation of meaning functions used by the students. She pointed out some advantages of e-mail exchanges with native speakers, which were considered as the superiority of online platforms on traditional classrooms. These platforms were thought to allow students to communicate on different levels and to help each other through peer-tutoring, that is, language corrections, exchanges of idioms, personal conversations, which allow for changes of register and use of slang expressions.

In another study, Biesenbach-Lucas and Weasenforth (2002) compared native speakers and non-native speakers in terms of negotiation of meaning. The researchers held electronic office four consultations using e-mail messages. There were American and international students as the participants of the study. During the study, 42 e-mail messages were sent to the course instructor. At the end of the study, it was observed that non-native speakers used less or no negotiation of meaning functions when compared to the native speakers; and

the researchers claimed that this might cause a disadvantageous issue for the non-native learners who would like to be successful in the course.

Oliver (2002) conducted conversational analysis of the interactions among the children aged 8 to 13 years. In this study, a comparison between native speakers of English and non-native speakers of English was made and there were 192 participants, half of whom were native speakers and half of whom were non-native speakers. The variables used in this study were being native/non-native, language proficiency, age and gender and their effects on the negotiation of meaning strategies used by the children. At the end of the study, it was claimed that negotiation of meaning strategies were influenced by the variables being native/non-native and proficiency levels. When the pairs were composed of two non-native speakers, the negotiation of meaning was used more often than the situation in which a native speaker was talking to another native speaker of English. Moreover, no significant difference was found in negotiation of meaning strategies used by the participants in terms of age and gender.

In his study, Schweinhorst (2004) compared two groups of students from two different countries as Leahy did in 2001. The objective of that study was to provide a detailed description of topic initiation and negotiation in a MOO environment and to examine whether the MOO environment can provide more equal negotiation than face-to-face topic negotiation. His participants met totally online and he compared the findings of his study with studies in literature. They used a text-based synchronous environment for meetings which were held once a week and for an hour. At the end of the study, it was found that there were balanced topic initiations between native and non-native speakers when compared to the findings of the studies in previous research. More proficient learners asked fewer questions compared to the less proficient learners. Wh- questions were asked more than yes/no questions. Throughout the project, no significant change was observed in negotiation of meaning strategy

use of the learners. This study showed how proficient and less proficient learners differed in terms of negotiation of meaning strategy use.

Jepson (2005) made another comparison as Sotillo (2000) and compared text-based and voice-based chat rooms in terms of negotiation of meaning functions. His main research questions were (a) which types of repair moves occurred in text and voice chats and (b) what the differences, if any, between the repair moves in text chats and voice chats when time is held constant were. At the end of the study, it was found that there were repair moves in both of the communication modes. However, some negotiation of meaning functions as comprehension checks, questions and self corrections were not observed in the data and he claimed that some functions were specific to native speakers and non-native speakers did not use those functions in general. Another finding of this study was that the repair work in voice-based chats was mostly about the pronunciation of the words.

As for the final study on comparing two groups or two different modes of communication in terms of negotiation of meaning, Patterson and Trabaldo (2006) carried out a study comparing two modes of communication, synchronous and asynchronous. They were groups in this study. In one of the groups, there were 50 Spanish students studying at a university in the USA and in the other group, there were 50 university students studying at a university in Argentina. As a result of the study, they found that the negotiation of meaning functions observed more frequently in synchronous communication than in asynchronous communication. They also used a questionnaire and it was found that the users preferred synchronous communication to asynchronous communication. However, there were some disadvantages of synchronous communication found by the researchers such as the need for both participants to be online at the same time and to have Internet access available at times

which may be difficult for some learners. At the end of the study, they created the taxonomy for negotiation of meaning using the data obtained in the study.

2.6.2.2. Negotiation of Meaning Functions within a Group

In recent years, as mentioned above, researchers focused on one group in detail without comparing it to any other groups. Their main purpose was to analyze a group in detail and to discover the patterns of negotiation of meaning in a group.

Bitchener (2004) investigated the extent to which successfully negotiated linguistic features were retained over a period of 12 weeks. The 30 pre-intermediate ESL learners who participated in the study were asked to repeat two different communication tasks (information gap and decision making) one week and 12 weeks after their first performance. As a result of this study it was found that vocabulary items, particularly concrete nouns in the information gap task, were negotiated more often than pronunciation and grammar items. Noticing the gap between their problematic utterances and the feedback they received from their conversational partners, the participants immediately modified close to two-thirds of these utterances, indicating that learning may have occurred. This study was on the type of negotiation for meaning functions in a classroom setting, not in an online environment.

Arjava, Salovaara, Hakkinen & Jarvela (2007) tried to discover how collaboration and the knowledge constructed in an asynchronous web-based discussion platform. Group-level analysis was made for the students' negotiation processes and communicative functions were determined. The general objective was to understand the nature of interaction in terms of negotiation of meaning. One of the important findings of the study was that although different groups work at the same tasks, the groups and individuals'

activity and meaning negotiations might differ extensively. However, there were still some challenges in this study as mentioned by the researchers. First of all, it was quite a complex issue to investigate the cognitive and social factors, motivational and emotional aspects and the features of the learning context.

Akayoğlu & Altun (2008) used the taxonomy created by Patterson and Trabaldo (2006) for the conversation analysis of the data in terms of negotiation of meaning. There native and non-native speakers participating into the study. Discussion sessions were held for the students and 8 sessions were conducted. The main purpose of the study was to discover the least and the most frequently used negotiation of meaning functions. At the end of the study, it was found that the most frequently used functions were reply conformation, confirmation and elaboration and the least frequently used ones were vocabulary check, vocabulary request and reply vocabulary. The participants were advanced learners of English and native speakers so that the least frequently used functions were mostly related to the vocabulary.

Kaur (2011) focused on self-repair practices of speakers who were using English as a Lingua Franca (ELF). The researcher analyzed 15-hour of audio recording which was naturally occurred in ELF conversations of international graduate students. The participants were all graduate students and speakers of ELF. There were 22 participants and they were from 13 different lingua-cultural backgrounds. At the end of the study, he pointed out that there were many types of self-repair practices in order to make utterances explicit and improve communicative clarity; and self-repair constitutes a powerful self-regulating mechanism that allows the speaker to not only make corrections when linguistic and factual errors occur but to also make talk more specific, explicit and clear.

Unlike the contemporary researchers, Kibler (2011) collected data in a face-to-face classroom. In the studies focusing on negotiation of meaning, researcher usually attempted to discover the discourse patterns in virtual environments. He analyzed in-class conversations during writing activities between teachers and Spanish-speaking adolescents and the main purpose in this study was to understand the role and the purposes of "mmhm" utterance. There were 5 students as the participants of the study and the data were drawn from two different classes. At the end of the study, it was found that students often tended to offer agreement or limited response in interactions related to language use, generating ideas, factual knowledge and conceptual issues. The findings of this study might help to make teachers aware of the patterns of classroom discourse occurring in their own classrooms.

Finally, Knapp (2011) focused on misunderstandings occurred in ELF communication in Germany. He carried out this study with 23 students from 13 different counties and asked how they negotiated the forms and overcome the linguistic difficulties, how they achieved comprehension on the pragmatic level, what kind of misunderstandings arose in ELF communication. The data were collected in regular course hours and they were supplemented by observer's notes. The data showed that although in many cases the students and the lecturer were successful in conveying the pragmatic meaning of their utterances, they sometimes did not succeed in choosing appropriate speech acts or in negotiating conventions for communicating. The researchers observed a complex interplay between culture-bound differences in what was considered as normal behavior in a specific discourse genre, ELF-specific realizations of speech acts, and innovative educational practices in the university context. The findings helped to understand the nature of ELF context in terms of appropriateness and to design ELF course design.

As mentioned at the beginning of this title, the studies on negotiation of meaning were carried out in order to understand and discover the discourse patterns of a specific group or to compare different groups in terms of negotiation of meaning. In recent years, researchers preferred to analyze the data obtained from one group in detail instead of comparing two different groups or two different communication modes. As the contexts are quite important in these studies, more studies should be carried out in order to generalize the findings of the studies. This dissertation also focused on a group of EFL students, attempted to find out the discourse patterns in terms of negotiation of meaning and asked how these questions negotiate the meaning when there was something misunderstood.

2.6.3. The Distribution of Turns among the Learners

Researchers analyzed the text based chat transcripts both qualitatively and quantitatively. In addition to the discourse analysis functions, these data were also analyzed in terms of the number of turns and equality of the turn distribution among the participants. The researchers (Kern, 1995; Warschauer, 1996; Chun, 1998; Fitze, 2006) mostly attempted to compare face-to-face settings and online environments in terms turn distribution and they hypothesized that online platforms provided opportunities with the participants a more balanced turn distribution. They stated that students did not have to wait for the other participants to finish writing before they began to express themselves and they started writing while other participants were writing. Thus, in text-based platforms, turn taking was not mentioned; in other words, the participants did not have to take the turn in order to write.

Kern (2005) compared a group using InterChange platform, which was an online platform for discussions, with another group participating in oral classroom discussion. The students participated in the discussions with the

same topics. At the end of the study, he concluded that students had over twice as many turns and used a much greater variety of discourse functions in the online platform. Moreover, there were some differences in terms of the distribution and direction of the turns. They were totally different in these settings. In online platform, the communication was mostly based on student to student interaction; however, in face-to-face setting, the communication was mostly based on teacher to student interaction. In total, the students produced 85% and 88% of the total number of sentenced while they produced only 37% and 60% of the total utterances in the oral discussions. To sum up, it could be claimed that online platforms encouraged the students to participate more equally. In classroom settings, some students and teachers might dominate the discussion and some students never participated in the discussions.

Warschauer (1998) started his paper by mentioning that one supposed benefit of online environments was the opportunity they provided for the equal participation of the students. He tested this claim comparing a face-to-face environment with an online platform. In this study, the students conducted face-to-face and electronic discussions and the turns of each participant were calculated. Daedalus Interchange software was used for the data collection. At the end of the study, it was found that there was a more equal turn distribution among the students and there was no dominancy of any group of students in electronic discussions. Some quiet students in face-to-face discussions were much more active in electronic discussions. This finding was supportive for the claim that electronic platforms encouraged the shy students to participate in the discussions. Moreover, in electronic discussions, students used more formal and more complex structures while writing and this could be one of the advantages of electronic environments over face-to-face platforms. He concluded that these studies might be helpful for teachers to decide when, how and for what purposes they could use both environments.

Chun (1998) also studied on the turns produced in text based CMC environments in terms of their numbers and lengths. She mentioned the dominance of student to student interaction in these environments as Kern (1995) did. However, the syntactic complexity of the turns was totally different for each student. Some students produced a long paragraph composed of more than one sentence while some students produced simple sentences in each turn. She could not associate this finding with any of the characteristics of the participants as the data were too limited to make generalizations; and she suggested further research with larger groups. She concluded her paper mentioning the importance of CMC environments as they provided excellent opportunities for learners to interact with each other and they were great platforms to collect data about the interaction styles.

As one of the important studies carried out in recent years, Fitze (2006) compared face-to-face environments with electronic conferences. The participants of the study were all advanced learners of English as a second language. He summarized the benefits of written electronic conferences as the data collected in these environments displayed a greater lexical range, the students participating into the study produced discourse demonstrating interactive competence, the students were better able to use and practice a wider range of vocabulary and there was a balance of participation. When these features were taken into account, he claimed that written electronic conferences were more beneficial for the students when compared to the face-to-face settings. However, he stated that the equality of the participation should be investigated in more detail in order to find out what kind of variables were effective in maintaining the equality of the participation.

As for the final remarks on this issue, it could be said that the studies on measuring the turn distribution of the participants were quite limited in number. All of the researchers conducting studies on this issue suggested that there was

a need for further research on this issue in order to make generalizations, to claim that the Internet environments provided opportunities for more balanced participation and to find out which factors were effective in maintaining a more balanced participation.

In this dissertation, there was no attempt to compare face-to-face environments with electronic platforms. The course carried out in a 3D environment was analyzed in terms of the distribution of the turns and it was tested whether this platform was appropriate for maintaining equal turn distribution among the students. Thus, this dissertation might be helpful for making generalizations.

2.7. Conclusion

In this chapter, the history of CALL was presented, then, 3D environments were introduced with their advantages and disadvantages, and finally, the literature related to the research questions of this dissertation was reviewed. At the end of the literature review, it was seen that there was a need for more studies on these issues and they should be associated with the recent Web 2.0 tools. In the following chapter, the research methods, data collection tools and procedures and the details of the study were presented.

CHAPTER III

METHOD

3.1. Research Design

This study follows a mixed-methods approach including both qualitative and quantitative data analyses. The frequencies of the social presence functions, negotiation of meaning functions and student talk comprised the quantitative data; they were presented in percentages and number of occurrence, and assigning statements uttered by the participants to different codes required a qualitative approach as the researcher decided which statement should be assigned to which code.

3.2. Research Questions

The following research questions were asked in this study:

1. What are the frequencies of social presence functions observed in conversations taking place in task based activities designed in virtual classroom in Second Life – affective responses, interactive responses and cohesive responses?
    a. What are the frequencies of affective responses observed in conversations taking place in task based activities designed in virtual classroom in Second Life?
    b. What are the frequencies of interactive responses observed in conversations taking place in task based activities designed in virtual classroom in Second Life?

c. What are the frequencies of cohesive responses observed in conversations taking place in task based activities designed in virtual classroom in Second Life?

2. What are the frequencies of negotiation of meaning functions observed in conversations taking place in task based activities designed in virtual classroom in Second Life?
    a. Which type of negotiation of meaning function is most frequently used in conversations taking place in task based activities designed in virtual classroom in Second Life?
    b. Which type of negotiation of meaning function is least frequently used in conversations taking place in task based activities designed in virtual classroom in Second Life?
3. What is the distribution of student talk in conversations taking place in task based activities designed in virtual classroom in Second Life?
    a. Is the student talk distributed equally in each session?
    b. In which type of activities was the student talk distribution more equal?

3.3. Participants

In the study, 54 freshman students, enrolled in at the Department of Foreign Language Education Middle East Technical University, participated the study. Of the participants, 40 were female students and 14 were male students. Their ages ranged from 18 to 20. They were enrolled in section 1 and section 4 of the FLE 135 Advanced Reading and Writing I course in the Fall Term of 2009-2010 Educational Year. The students were randomly chosen among the freshman students. Every year 120 students register for the Department and they are divided into four sections regardless of their language proficiency, gender, age or any other variables. Students chosen for two sections were taken

as the participants of the study. The first group attended classes in the morning session and the second group attended in the afternoon session. The same instructor taught the course for these two sections. The instructor of the other two sections was different and they were not included in the study. At the beginning of the term, they were not familiar with the Second Life environment. Moreover, they had no idea what kind of tool Second Life was and what it was used for. However, they explored many places and they even built houses as a requirement for the tasks during the data collection procedure of the study. They were not given any specific instruction for the use of Second Life, but for the basic tools like flying, typing messages, teleporting and building simple objects for 10 minutes at the beginning of the term.

3.4. Data Collection Procedure

The data were collected in FLE 135 Advanced Reading and Writing I course at the Department of Foreign Language Education, Middle East Technical University. At the beginning of the term, the syllabus (Appendix A) was given to the students and the details of the syllabus were explained briefly. After that, they were also given instructions as a handout (Appendix B) about how what kind of tools they would use throughout the course. The first reading activity and all writing activities in the syllabus were carried out in Second Life; and the students published their paragraphs on their blog pages. Some blog samples created by the students were also presented in Appendix C. The students were also asked to write at least two comments for their friends' blogs in order to make them read their friends' blogs. Finally, at the end of the each course, students were asked to save their chat logs in Second Life and send them to the course instructor. These provided the data to be analyzed in terms of social presence, negotiation of meaning and turn distribution.

3.4.1. Tasks

In order to collect data for this study, a virtual classroom was allocated and students were asked to teleport into this classroom for the tasks assigned during the course. In the following figure, a screenshot of this classroom is seen.

Figure 4: Classroom B - The Place Allocated for the Course

As it can be seen in the figure, the classroom was empty at the beginning of the course; however, some materials or objects were placed throughout the course in this area.

3.4.1.1. Reading Text: (*The Gift of Magi* by O. Henry.) The students came to class having read the aforementioned short story and they discuss the following questions in Second Life. As for the discussion part, they created groups of 5 and they used text-based chat. Each group was responsible for a different

question. At the end of their discussion for 20 minutes, all the students came together and the speaker of each group presented what they had discussed. The questions were as follows:

a. What do you think about the story in general?
b. What do you think about the characters in this story?
c. Have you seen such a love around you? Is it possible?
d. Do you really need to buy a gift to show love?

3.4.1.2. Classification Paragraph: In this session, the students were asked to interview with the people in Second Life. Some places were determined as landmarks before this session as it is not a good idea to let the students go anywhere they like.

Figure 5: A Screenshot from the Classroom Discussion

They interviewed with the users of SL whom they met in this platform; and they asked for what purposes they were using SL. After they collected information, they classified the users according to their purposes and they wrote classification paragraph at the end of the course. The places were the same with the previous task. They visited the places mentioned in the second task and they interviewed with people wandering in those places.

The classroom was designed with cushions and students came together after having interviewed with the other users in Second Life and discussed about why Second Life can be used.

3.4.1.3. Process Analysis Paragraph: Before this session, the researcher allocated a virtual classroom for the course, which is called *Classroom B* (see Figure 3) Students had the right to build houses in that place.

Figure 6: A Screenshot Taken While Students were Working on a Task

Firstly, they created groups of 5 and then they started building a small house with a base, four walls and a roof as it can be seen in Figure 6 above. They communicated on Second Life environment while working on this task. At the end of this task, they were asked to write what they did step by step on their blogs which requires the students to write process analysis paragraph.

3.4.1.4. Narrative Paragraph: In this activity, the students were divided into groups of 3 and they were given some prompts (place, characters, time and action) on page http://fle135.pbworks.com/Narrative and they were asked to write a story using the prompts given in Table 2.

Table 2: Prompts for Narrative Paragraph Activity

Character	**Setting**
1. a new mother	1. near a National Forest
2. a photographer	2. a wedding reception
3. a recent high school graduate	3. a celebration party
4. a restaurant owner or manager	4. an expensive restaurant
5. an alien from outer space	5. a shopping mall
6. a homeless child	6. a city park
7. a 93-year-old woman	7. the porch of an old farmhouse
8. an environmentalist	8. a polluted stream
9. a college student	9. a college library
10. a jazz musician	10. a concert hall
Time	**Situation/Challenge**
1. during a forest fire	1. an important decision needs to be made
2. after a fight	2. a secret needs to be confessed to someone else
3. the night of high school graduation	3. someone's pride has been injured
4. after a big meal	4. a death has occurred
5. sometime in December	5. someone has found or lost something
6. late at night	6. someone has accused someone else of doing something wrong
7. after a big thunderstorm has passed	7. reminiscing on how things have changed
8. in early spring	8. someone feels like giving up
9. first week of the school year	9. something embarrassing has just happened
10. during a concert	10. someone has just reached an important goal

Firstly, they discussed the event in SL environment. They organized the story in terms of time, place, characters and actions; and they started to write about the events. At the end of the course they wrote narrative paragraphs to their blogs.

3.4.1.5. Compare and Contrast Paragraph: At the beginning of this session, students came together in Classroom B and there was a board on which there were some places that they can click on and teleport. There were four groups and in each group there were 7 students. Each group had two places to visit and after they visited these places, they discussed about the similarities and differences between the two assigned places in Second Life. Just after their discussion, they wrote a compare and contrast paragraph on their blogs. The places were determined beforehand as in previous tasks and they are listed in Table 3.

Table 3: Landmarks for Compare and Contrast Paragraph

I. Pair	ICT Library: Information Communi, Info Island (53, 202, 33) The Baroque Period: 1600-1750, Utwig (71, 75, 30)
II. Pair	Novatech Main Store, Gallifrey (139, 160, 561) Center for Adv. Technology in Ed, Eduisland (169, 26, 21)
III. Pair	Edunation II – The Sandbox, Edunation II (150,220,21) IBM CODESTATION, (125, 30, 43)
IV. Pair	Novatech Main Store, Gallifrey (139, 160, 561) Randall Renoir's Place, Edunation (95, 231, 28)

3.4.1.6. Argumentative Paragraph: As for the final task in Second Life, notecards were used. There were 8 different topics to discuss on. Students were divided into 8 groups and each group was responsible for a topic to discuss. After they discuss the topic, they decide their side in the argument and they wrote some supporting sentences for their argument. After they completed their discussion, they organized their ideas and wrote an argumentative paragraph about the topics on their blogs. The following topics were assigned to the students:

a. Some people believe that university students should be required to attend classes. Others believe that going to classes should be optional for students. Which point of view do you agree with? Use specific reasons and details to explain your answer.
b. Some people think that they can learn better by themselves than with a teacher. Others think that it is always better to have a teacher. Which do you prefer?
c. Some people prefer to cook at home. Other people prefer to eat out. Which one do you prefer?
d. It is better for children to grow up in the countryside than in a big city. Do you agree or disagree?
e. Some people spend their entire lives in one place. Others move a number of times throughout their lives, looking for a better job, house, community, or even climate. Which do you prefer: staying in one place or moving in search of another place?
f. Some people prefer to get up early in the morning and start the day's work. Others prefer to get up later in the day and work until late at night. Which do you prefer?
g. What do you want most in a friend someone who is intelligent, or someone who has a sense of humor, or someone who is reliable? Which one of these characteristics is most important to you?
h. Which would you choose: a well-paid job with long hours that would give you little time with family and friends or a lower-payed job with shorter hours that would give you more time with family and friends?

As a built-in feature of Second Life, chat logs, both local and personal ones, are recorded on computers. In order to collect data, students sent their chat logs to

fle135@hotmail.com e-mail address after each session. They were categorized according to their dates and placed in different folders. As SL has many visual elements, the screen was also recorded through the researcher's point of view. In order not to interrupt the course, a new account was created with a name "Observer Elton" and the course was recorded from his point of view. He always sat in the corner of the classroom and watched the sessions. While recording the screen, software called Camtasia can be chosen.

3.5. Data Analysis

The chat logs were sent to the researcher after each session and they were in html format. Each e-mail message was copied and pasted into a notepad file with an extension of .txt; and these chat logs were uploaded to Qualitative Research Data Analysis Computer Software, Hyper Research 2.6.1. Then, the coding taxonomies were determined and they were added to the tool for the coding procedure.

3.5.1. Social Presence Functions

As for the first research question, the taxonomy for social presence functions was used. The coding categories were firstly determined by Garrison et al. (2000) as *emotional expression, open communication* and *group cohesion*; and later Rourke, Anderson, Garrison and Archer (2001) modified these categories as *affective responses*, *interactive responses* and *cohesive responses*. In this study, Rourke, Anderson, Garrison and Archer's taxonomy was applied and modified at the end of the study. These categories are explained briefly in the following part.

Affective Responses: As it is defined by Nippard and Murphy (2007), this category is mostly related to the affective elements such as emotions, feelings,

mood, closeness, warmth, affiliation, attraction and openness. In text based CMC environments these can be observed as well through emoticons, humor and jokes. In affective responses, there were three indicators such as expression of emoticons, use of humor and self-disclosure. These are all related to the feelings and the example extracts from the data can be found in the following table.

Table 4: Social Presence Functions - Affective Category

Category	Indicator	Example
Affective	• Expression of emoticons	T. Fyanucci: what will we do now B. Yexil: **:)** S. Silverfall (2): ok i get it now tugce **:)** (Session #5)
	• Use of humor	S. Shelter: you are great person S. Shelter: :))) D. Eiren: **but not as great as u;)** (Session #6)
	• Self-disclosure	D. Eiren: but don't you think that if there is such a promission lazy students will not ever go to the lessons … Y. Sahara: **D. Eiren I don't understand you.** (Session #3)

Interactive Responses: This category includes the statements which include the response statements to the other members of the community. These reply messages are observed as the interaction; and because of this reason, these are called as interactive responses. Moreover, complementing, expressing appreciation or agreement and asking questions are also counted in this category. The indicators presented in these responses were continuing a thread, quoting from others' messages, referring explicitly to others' messages, asking questions, complementing and expressing appreciation, expressing agreement and referring to visual phenomena.

The last indicator was not given in the taxonomy was not proposed by Rourke, Anderson, Garrison and Archer (2001); however, this indicator was specific to the 3D environments. In some parts of the conversations of the students, they needed to refer to the physical attributes as well, which was not usual for text-

based environments. For example in the following example, one of the students asked her friend to stand up virtually.

N. SecretSpy: **zeynep stand up please?**
(Session #4)

Table 5: Social Presence Functions - Interactive Category

Category	Indicator	Example
Interactive	• Continuing a thread	G. Silvercloud: while people were wandering around of the city park A. Smithson: **A few minutes later some noices broke this silence,and then there happened a chaos** (Session #6)
	• Quoting from others' messages	X: She was alone Y: **What do you mean when you said "She was alone"?**(Anonymous)
	• Referring explicitly to others' messages	U. Brune: **but they are poor** … A. Deed: yes **they are poor** but they love each other (Session #1)
	• Asking questions	U. Brune: sacrifiying must be A. Deed: yes i agree with you A. Breadbin: **is it necessary?** (Session #1)
	• Complimenting, expressing appreciation	S. Shelter: a crime after a meal,dinner meal D. Eiren: ok:) D. Eiren: **nice idea welldone** (Session #6)
	• Expressing agreement	P. Avon: every hour we can find a bus … T. Fyanucci: **yes you are right** (Session #7)
	• Referring to visual phenomena	N. SecretSpy: **zeynep stand up please?** (Session #4)

Cohesive Responses: The final category is strongly related to building and sustaining a sense of group commitment. The use of these statements indicated that there was an idea of being a member of a community and these statements could help the users to feel that they were members of a group. In this category, salutations, greetings, leaving the floor, addressing someone with his/her name, using inclusive personal pronouns, phatics and vocatives are placed.

Table 6: Social Presence Functions - Cohesive Category

Category	Indicator	Example
Cohesive	• Vocatives	C. Batista: **Büşra** do you need help (Session #3)
	• Addresses or refers to the group using inclusive pronouns	B. Bergan: we can start describing the party hall (Session #5)
	• Phatics, salutations	A. Smithson: **welcome Andrey** U. Renfort: **welcome andrey** :D (Session #8)

3.5.2. Negotiation of Meaning Functions

In data analysis for the second research question, the following taxonomy for negotiation of meaning was used. The taxonomy mentioned here was adapted by Akayoğlu and Altun (2008). It was first developed and adapted by Patterson and Trabaldo (2006). Trabaldo and Patterson (2006) compiled this taxonomy for negotiation of meaning from various sources, including Sotillo's (2000), Oliver's (2002), Jepson's (2005), and Patterson's (2001) taxonomies.

According to the taxonomy prepared by Akayoğlu and Altun (2008), there are 14 functions mentioned; and these are *clarification request, comprehension check, confirmation, confirmation check, correction, elaboration, elaboration request, reply clarification, reply comprehension, reply confirmation, reply elaboration, reply vocabulary, vocabulary check* and *vocabulary request.* In the following part, these functions are presented with their explanations and example extracts from the data.

1. Clarification Request: This function is used for requesting clarification for an ambiguous statement, which may cause misunderstanding. The listener uses this function when there is something ambiguous or confusing.

U. Brune: **I couldn't understand the task**
(Session #5)

In this example, the participant could not understand the task and asking the lecturer in order to paraphrase or retell the task in order to better understand. This function is mostly followed by reply clarification.

2. Comprehension Check: In a conversation, the speaker sometimes asks the other person whether s/he understood what was said or written and the speaker generally expect the person that s/he has understood. Jepson (2005) stated that this function is not very commonly observed when the participants of the conversation are non-native speakers of the target language; and it is mostly used by native speakers.

C. Genna: we can only free from 3 lessons in a turn
…
C. Genna: term sorry
C. Genna: **understand?**
(Session #10)

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3. Confirmation: In a conversation, the participants sometimes need to confirm what has been said or written before him in order to indicate that s/he is also following the conversation and participating; and there is no need for any confirmation check before this function is used.

S. Aquila: not only sacrifiying
U. Brune: yes S. you are right
(Session #1)

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4. Confirmation Check: This function is used for asking for confirmation of a previously made statement to be sure s/he has understood correctly. The speaker needs to be confirmed by the listener. For example, in the following example, the speaker stated that she wrote and she was not sure whether her

message was seen by the other participants or not and needed a confirmation check.

D. Eiren: i write:)
D. Eiren: **ok?**
D. Eiren: i have already started
S. Shelter: ok
(Session #6)

5. Correction: This means both correction of the other users' messages and self-correction. There are some typing mistakes as the users write fast in chat environments and they sometimes prefer to correct it as in the example below. This function is called as correction.

A. Deed: what can we write ant other?
A. Deed: **any***
(Session #5)

6. Elaboration: This function is used for elaborating the meaning of a previous statement no matter whether the previous statement belongs to him/her. As mentioned here, this elaboration is sometimes related to the others' messages and sometimes it is related to the speaker's own message. In the following example, the participant asked what the dilemma was in the discussion and then she wanted to elaborate her question and wrote that her question was that dilemma.

R. Wikifoo: but what is the dilemma??
R. Wikifoo: my question is this
R. Wikifoo: dilemma
R. Wikifoo: ????
(Session #6)

7. Elaboration Request: Sometimes, the listener cannot understand what the speaker means and asks for the speaker to elaborate his/her utterances for better understanding. This function is called elaboration request and this function is

mostly followed by reply elaboration. In the following extract, G. Silvercloud wanted R. Wikifoo to elaborate how he could try.

R. Wikifoo: yes.. try please
E. Admiral: nurgul where are you
G. Silvercloud: **how ?**
(Session #4)

---

8. Reply Clarification: This function occurs as a result of clarification request. When the listener asks the speaker to clarify his/her utterances, the speaker replies using reply clarification and usually paraphrases and makes his/her previous utterances in order to make it clearer.

A. Clarence: how will it be harmful I dont understand
D. Eiren: **online computer education is very harmful for our eyes**
(Session #8)

---

9. Reply Comprehension: As mentioned above, the speaker sometimes checks whether his/her statements are understood or not and the listeners replies these checks using reply comprehension. This function appears as short answers like "yes", "ok" or the listener might state that the statement is understood.

R. Wikifoo: what a dramatic situation
R. Wikifoo: u see??*
S. Lennie: **yes**
(Session #6)

---

10. Reply Confirmation: When someone request confirmation, the listeners usually confirms the speaker's utterances using expressions like "yes", "OK", "you are right". The difference between confirmation and reply confirmation is that reply confirmation functions are used as response to confirmation check. However, confirmation functions appear alone in the text.

E. Zifer: B.Bergan you are in our grup aren't you
B. Bergan: **yes**
(Session #1)

11. Reply Elaboration: In previous functions, there is a function called elaboration request which is usually uttered by the listeners in the conversation. If the speaker wants to elaborate upon this request, s/he uses the function called reply elaboration in order to make his/her statements clearer. The difference between elaboration and reply elaboration is similar to difference between reply confirmation and confirmation which is mentioned in previous function.

M. Feila: A. Deed can you tell me making roof
A. Deed: **you can select pyramid**
(Session #3)

12. Reply Vocabulary: This function is used when someone wants to utter a word or phrase as a result of vocabulary request. For example, in the following extract, A. Smithson asks what suspicious means and S. Metaller provides the translation of this word in Turkish. This Turkish translation was provided as a result of vocabulary request.

A. Smithson: suspicious what exactly does mean
F. Erin: :)
S. Metaller: **Şüphelenmek**
(Session #1)

13. Vocabulary Check: While someone is speaking, s/he also wants to be sure whether the other participants know the meaning of a vocabulary or not and checks this using vocabulary check function. In the following extract, the speaker wanted to see whether the other users know what homeless meant or not.

U. Brune: **do you know what the homeless means?**
(Session #5)

14. Vocabulary Request: In some situations, the participants of the conversation may not know the meaning of the word used in target language and requests the vocabulary word or phrase in the TL. This function is usually followed by reply vocabulary.

T. Fyanucci: **what ct stands for by the way sorry**
(Session #2)

3.5.3. Turn Distribution of the Students.

While analyzing the data for the third question, chat logs were counted and the frequencies of talk per student were determined. The number of words was taken into consideration in this analysis as the number of turns will not be the indicator of talk distribution. Some students wrote just "Yes" to confirm the other students; however, some students wrote two or more sentences in just one turn. After these chat logs were analyzed in terms of talk distribution, it was checked whether this distribution among the students is equal or not using Gini coefficient.

Some students contributed to the discussions more and some students contributed less. However, an analysis was conducted in order to see whether this turn distribution among the students was equal or unequal. Gini Coefficient is used to see a distribution is equal or not; and its value ranges from 0 to 1, in which 0 means perfectly equal and 1 means totally unequal. Thus, it is interpreted as below 0.5 means equal and above 0.5 means unequal. However, this analysis is mostly used to compare to different distributions in terms of equality rather than analyzing one set of data in terms of equality.

In order to calculate the Gini Coefficient, the following formula was implemented for the data of each session separately.

First of all, the words written by the students were counted and ordered from smallest to the largest. Then, as it can be seen in the following formula, a set of operations were conducted.

E.g.: There are 6 students and they participated in the study. The numbers they uttered were 88, 98, 76, 120, 102 and 68. These numbers are ordered from smallest to the largest as

68

76

88

98

102

120

After that, the cumulative column is computed summing down the column. Thus, the second value is 68 + 76 = 144; and the third value is 68 + 76 + 88 = 232.

68	68
76	144
88	232
98	330
102	432
120	552

The last value in the cumulative column, 552, is T, the total of the column; and all but the last value of the cumulative column are summed to give Sigma,

68 + 144 + 232 + 330 + 432 = 1206.

The formula for calculating Gini Coefficient is 1 - (2 / T * Sigma + 1)/n, which means, the Gini is 1 – (2/552*1206+1)/6 = 0.105172, which means equal.

The formula set of operations conducted in order to determine whether the distribution of talk was equal or not; the Gini Coefficients were ordered in order to see in which type of activities the student talk distribution was more equal than the others, which was the second part of third research question.

3.6. Intercoder Agreement Method

After the coding procedure, the reliability of the coding was calculated by means of Cohen's Kappa. Cohen's Kappa was calculated for negotiation of meaning and social presence functions separately. Firstly, two experts in the field were consulted; and then, randomly chosen 620 turns out of 5357 turns from each session were assigned to the experts for recoding. They were informed about the taxonomies used in this study. The results showed that the Cohen's Kappa value was .81 and .83 for social presence and negotiation of meaning respectively. According to the Landis and Koch (1977) the reliability level more than .81 is interpreted as almost perfect agreement.

3.7. Conclusion

In this chapter, the characteristics of the participants, instruments and tasks were presented in detail. After that, research design, data collection and analysis procedures, and the taxonomies were described depending on the research questions. In the following chapter, the findings of the data analysis are presented with charts and tables.

CHAPTER IV

FINDINGS

4.1. Introduction

There are three research questions in this dissertation. These research questions are the turn distribution of the students and the social presence and negotiation of meaning functions observed in text based computer mediated communication during the task based activities in a course in a 3D world environment. During the data analysis procedure, the frequencies and the types of these functions were coded and listed. In the following section of this dissertation, the findings of this analysis are presented and illustrated with figures and tables. There are three sections in this chapter and these sections are organized in accordance with the research questions.

4.2. What are the frequencies of social presence functions observed?

The social presence functions are categorized as affective responses, interactive responses and cohesive responses by Rourke, Anderson, Garrison and Archer (2001); and they were defined as follows:

Affective responses: The statements coded as affective responses include affective elements like emotions, feelings, mood, closeness, warmth, affiliation, attraction and openness. In computer mediated communication, the use of emoticons, the use of humors and self disclosure are coded as affective responses.

Interactive responses: As it can be understood from the word "interactive", there should be an interaction between at least two people and these statements are uttered

as reply to the other participant. Asking questions, expressing agreement, continuing a thread, complementing or expressing appreciation, referring explicitly to the others' messages and quoting from others' messages can be taken as interactive responses.

Cohesive responses: The purpose of these functions is to sustain and build a sense of community. The members of a group should feel a sense of being a member of that community and this can be achieved through vocatives, that is, calling someone with his/her name, addressing or referring to the group using inclusive pronouns and phatics and salutations. These statements help the member to build and sustain the sense of community.

The first research question of this study was which types of social presence functions were observed in the SCMC during the course tasks in a 3D world and it has three sub questions. These sub questions were related to the categories of social presence as affirmative responses, interactive responses and cohesive responses. Before presenting the findings of the study in categories, the analysis of the data as a whole is presented in Table 7.

At the end of the analysis, it was found that all the functions presented by Rourke, Anderson, Garrison and Archer (2001) were observed in the data. However, the category quoting from others' messages was not observed even once. The reason for the lack of this function can be explained as the participants had the chance to scroll up the chat board and to see the previous messages. When a participant needs to refer to the others' messages, all participants can check the messages. When this feature is taken into consideration, it is not surprising to see this finding.

Table 7: The Frequencies of Social Presence Observed

	SESSION #											
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**Total**	**%**
Expression of emotions	40	92	9	26	29	45	68	103	22	103	**537**	**18.8**
Vocatives	39	7	44	109	24	22	47	66	19	63	**440**	**15.4**
Asking questions	59	79	18	48	41	35	19	28	25	83	**435**	**15.2**
Expressing agreement	46	3	2	3	10	13	51	58	34	71	**291**	**10.2**
Addresses or refers to the group using inclusive pronouns	0	9	13	27	35	44	26	20	22	64	**260**	**9.1**
Referring to visual phenomena	36	5	44	97	6	1	8	6	5	44	**252**	**8.8**
Continuing a thread	6	0	0	2	40	18	20	4	20	33	**143**	**5.0**
Ask for help	3	36	6	28	11	15	2	1	1	12	**115**	**4.0**
Use of humor	7	6	5	13	11	12	13	14	8	24	**113**	**4.0**
Complementing / Expressing appreciation	8	35	6	13	4	19	11	4	0	6	**106**	**3.7**
Self disclosure	11	41	4	6	2	5	0	2	3	10	**84**	**2.9**
Phatics and salutations	3	44	0	3	3	1	2	9	0	10	**75**	**2.6**
Referring explicitly to the others' messages	2	0	0	0	0	0	0	0	0	3	**5**	**0.2**
Quoting from others' messages	0	0	0	0	0	0	0	0	0	0	**0**	**0**
Total	**260**	**357**	**151**	**375**	**216**	**230**	**267**	**315**	**159**	**526**	**2856**	**100**

In addition to these categories, one more category was added to the taxonomy. It can be claimed that this category is specific for 3D worlds. The participants used some statements that refer to the physical activities and real world movements like “where are you”, “your clothes looks great”. These statements cannot be observed in only text based computer mediated communication as they are related to the visual elements. This function is called “referring to visual phenomena”. This category was not mentioned in literature before; because these social presence functions were mostly observed in classroom setting or in only text-based computer mediated communication platforms. When 3D graphics were added to the features of the platform, this new category was also observed. As there was no study on the social presence functions in 3D worlds in literature, this finding can be claimed to be novelty of this dissertation in literature. Moreover, this finding cannot be compared with any of the studies in literature.

As it can be seen in Table 7, the most frequently used three social presence functions were ordered as expression of emotions, vocatives and asking questions with of 18.8%, 15.4% and 15.2% respectively. The most frequently used functions were also from three different categories. The least frequently used social presence functions were quoting from others’ messages, referring explicitly to the others’ messages and phatics and salutations with percentages of 0.0%, 0.2% and 2.6% respectively. All functions were observed except for the quoting from others’ messages.

Interestingly, the most frequently used social presence functions were not only from one category but also from different categories as affective, cohesive and interactive categories. In previous chapter, the importance of social presence was mentioned and it was stated that the use social presence functions fostered critical thinking processes and group interactions. Garrison, Anderson and

Archer (1994) also claimed that it was direct contributor for the success of academic processes. As a result this might be an indicator of the fact that all categories seemed equally important and needed for a successful classroom environment.

In this study, the most frequently used function, expression of emoticons, belongs to the affective category. This finding was parallel with the findings of the study carried out by Akayoğlu, Altun & Stevens (2009). In their study, they found that expression of emoticons was the second most frequently used function. As the communication media in both studies were text-based communication, it was not a surprising finding. They collected the data in only text-based environment while the data in this study were collected in a 3D environment. The participants used text-based communication; however, there was also graphics to support the communication. As a result of this finding, it was found that the use of only text-based communication and the use of text-based communication with graphics did not cause any difference in terms using expression of emoticons. The environment used in this study, Second Life, also allows its users to communicate through voice-based chat and it could be hypothesized that voice-based chat might cause differences as there is no need to use emoticons in order to express feelings such as laughing, being confused or smiling. Thus, there is a need for further studies on this issue.

The second most frequently used function which was vocatives was not a surprising finding in this study. In a previous study (Akayoğlu, Altun & Stevens, 2009), it was found to be the most frequently used social presence function. There were many participants in sessions so the use of vocatives was almost a must. This was found to be the second most frequently used function; as there were avatars in this environment, in some cases, it was clear who was talking to whom and there was no need to use names while talking. This could

be stated as the difference between only text-based platforms and text-based platforms supported with graphics, which are called as 3D environments. The visually supported environments helped the participants to address their friends. For example, if two students were talking in a separate place, there is no need for them to use their names to address; however, in only text-based computer mediated communication platforms, the participants should call their friends with their names in order not to be misunderstood.

The third most frequently used function was asking questions, which was quite understandable because of the type of the tasks. There were discussion questions as the classroom activities and these caused many question forms in the study. This finding was also in parallel with the previous studies.

As for the least frequently used functions, the functions of quoting from others' messages, referring explicitly to the others' messages and phatics and salutations were found respectively. The functions of quoting from others' messages and referring explicitly to the others' messages could be understood because of the medium of communication. As the participants communicated through text-based chat, there is no need to refer to the previous messages; the chat logs were not deleted and anyone could scroll up the board to see the previous messages. However, as one of the least frequently used functions, the function of phatics and salutation was different from the previous studies. There was an obvious reason for this which was that the participants were in the same classroom in this study and the participants did not need to greet other participants in this environment. The students logged into this platform just for the activities and they did not meet for the first time in this 3D world. This finding would be different if the participants logged in from physically different settings.

In literature, Na Ubon and Kimble (2004) analyzed the logs of bulletin boards, which is an asynchronous tool and they found that the affective responses were used more than cohesive and interactive responses. Although it was beyond the scope of this study, if it is closely looked at the relationship among the affective, cohesive and interactive responses, it could be claimed that the occurrence of affective cohesive and interactive responses was equal and there was no superiority of any responses over the others.

In another study, Lomicka & Lord (2007) analyzed the data collected in asynchronous environment and found that expression of feelings, vulnerability, self-constructive comments, complements, encouragement, asking questions, advice/opinion, agreement, salutations and the use of names were the most frequently used social presence functions. The most frequently used functions were similar to some extent. Although the names of the categories were stated in different words, the use of emotions, asking questions and vocatives, that is the use of names, were among the most frequently used categories in this study as well.

There were some studies which focused on Community of Inquiry model and analyzed the data in terms of cognitive, social and teaching presences. Burgess, Slate, Rojas-LeBouef & Laprairie (2010) implemented Community of Inquiry model in Second Life and they found that all categories were observed in the data. They concluded that this model can be used for measuring learning in multi-user virtual environments. In this study, only one category, quoting from others' messages was not observed but the rest of them were found in the data. Thus, it can be claimed that the finding of this study was in parallel with the findings of the study carried out by Burgess, Slate, Rojas-LeBouef & Laprairie (2010).

Similarly, Traphagan, Chiang, Chang, Wattanawaha, Lee, Mayrath, Woo, Yoon, Lee & Resta (2010) used Community of Inquiry model and they collected data in two different online settings, Second Life and TechNet. They found the superiority of cognitive presence over teaching and social presence in terms of their occurrence in the data. In terms of social presence, all categories were observed, even the category "quoting from others' messages", which was not found in this study.

In the sub questions of the first research question, the most and the least frequently used affective responses, interactive responses and cohesive responses were asked separately; which of the affective responses were used the most and the least frequently used; which of the interactive responses were the most and the least frequently used; which of the cohesive responses were the most and the least frequently used.

4.2.1. Affective Responses

Table 8: Affective Responses Observed

	#	%
Expression of emotions	537	18.8
Use of humor	113	4.0
Self disclosure	84	2.9

As shown in Table 8, it was seen that there are only three categories under the affective responses and these functions were ordered from the most frequently used one to the least frequently used one as expression of emotions, use of humor and self disclosure. The participants used emoticons and statements about their emotions very frequently and this function was also the most frequently used one among all social presence functions.

4.2.2. Interactive Responses

Table 9: Interactive Responses Observed

	#	%
Asking questions	435	15.2
Expressing agreement	291	10.2
Referring to visual phenomena	252	8.8
Continuing a thread	143	5.0
Ask for help	115	4.0
Complementing/Expressing appreciation	106	3.7
Referring explicitly to others' messages	5	0.2
Quoting from others' messages	0	0

When the Table 9 was examined, it can be seen that there are eight categories coded as interactive responses and these are asking questions, expressing agreement, referring to visual phenomena, continuing a thread, ask for help, complementing and expressing appreciation, referring explicitly to the others' messages and quoting from others' messages. The most frequently used ones are asking questions, expressing agreement and referring to visual phenomena with percentages of 15.2%, 10.2% and 8.8% respectively; and the rest of the functions which were complementing and expressing appreciation and referring explicitly to the others' messages and quoting from others' messages ordered as the least frequently used functions with percentages of 3.7%, 0.2%, and 0% respectively.

4.2.3. Cohesive Responses

Table 10: Cohesive Responses Observed

	#	%
Vocatives	440	15.4
Addresses or refers to the group with inclusive pronoun	260	9.1
Phatics and Salutation	75	2.6

There were three types of cohesive responses in the data analyzed and they were vocatives, addresses or refers to the group with inclusive pronoun and phatics and salutations. Vocatives were the most frequently used cohesive

response with a percentage of 15.4% and it occurred 440 times in the data analyzed; moreover, it was the second most frequently used social presence function among the other functions. “Vocatives” were followed by “addresses or refers to the groups with inclusive pronoun” with a percentage of 10 and phatics and salutations with a percentage of 2.6%. The last two social presence functions were almost not available in the data; thereby, if these two functions were omitted, phatics and salutations can be said to be the least frequently used functions among the other social presence functions.

In terms of social presence functions, these tables can be interpreted as there was an equal distribution among the social presence functions in terms of the most and the least frequently used ones. Based on the findings here, it could not be claimed that any of the categories observed as the least or the most frequently used category. All categories were found to be observed more or less in the data.

4.3. What kind of negotiation of meaning functions were observed?

The taxonomy prepared for the analysis of negotiation of meaning has been modified for several times; some codes were added or removed from the taxonomy in previous studies. The second research question is what types of negotiation of meaning functions were used in this study; and the most frequently used and the least frequently used negotiation of meaning functions were asked as the sub questions of this research questions. In order to analyze the data, the taxonomy prepared by Akayoğlu & Altun (2008) was used; and 1126 negotiation of meaning functions were found and the following table was obtained at the end of the analysis.

Table 11: Negotiation of Meaning Functions Observed

	SESSIONS											
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**Total**	**%**
Confirmation	40	5	1	2	19	28	64	40	27	51	**277**	**24.6**
Elaboration Request	15	22	5	11	30	35	20	18	21	24	**201**	**17.9**
Clarification Request	19	21	2	11	19	33	10	8	8	27	**158**	**14.0**
Elaboration	13	24	0	2	9	9	16	2	15	8	**98**	**8.7**
Reply Elaboration	7	14	1	1	10	15	14	4	13	17	**96**	**8.5**
Confirmation Check	7	5	0	12	6	16	0	9	5	18	**78**	**6.9**
Reply clarification	9	10	0	3	8	15	6	1	2	16	**70**	**6.2**
Reply Confirmation	7	4	0	8	2	12	0	9	4	17	**63**	**5.6**
Correction	4	18	1	0	13	4	7	1	4	6	**58**	**5.2**
Vocabulary Request	0	8	0	0	0	1	0	0	0	1	**10**	**0.9**
Comprehension Check	1	3	0	0	1	1	0	1	0	1	**8**	**0.7**
Reply Vocabulary	0	4	0	0	0	0	0	0	0	1	**5**	**0.4**
Reply Comprehension	0	1	0	0	1	1	0	0	0	0	**3**	**0.3**
Vocabulary Check	0	0	0	0	1	0	0	0	0	0	**1**	**0.1**
Total	**122**	**139**	**10**	**50**	**119**	**170**	**137**	**93**	**99**	**187**	**1126**	**100**

The functions seen in Table 11 which were confirmation, elaboration request, clarification request, elaboration, reply elaboration, confirmation check, reply clarification, reply confirmation, correction, vocabulary request, comprehension check, reply vocabulary, reply comprehension and vocabulary check were observed in the analysis of the chat logs. None of the functions was omitted and no new functions were added, either.

Determining the functions observed in the data, the sub questions were answered, which were related to the most and the least frequently used functions. The most frequently used functions were presented in Table 12 below.

Table 12: The Most Frequently Observed Negotiation of Meaning Functions

	#	%
Confirmation	277	24.6
Elaboration request	201	17.9
Clarification request	158	14.0

The most frequently used functions were confirmation, elaboration request and clarification request with percentages of 24.6%, 17.9% and 14.0% respectively.

After determining the most frequently used functions, the least frequently used ones were determined and they are listed in Table 13 below.

Table 13: The Least Frequently Observed Negotiation of Meaning Functions

	#	%
Reply vocabulary	5	0.4
Reply comprehension	3	0.3
Vocabulary check	1	0.1

The least frequently used functions in terms of negotiation of meaning were reply vocabulary, reply comprehension and vocabulary check with the percentage of 0.4%, 0.3% and 0.1%. Vocabulary check was only once all throughout the sessions.

In terms of the frequencies of negotiation of meaning functions, there were more studies carried out than the ones on social presence; so a comparison among the findings of the studies could be made in this part.

As for the most frequently used negotiation of meaning functions, Sotillo (2000) found comprehension questions and requests for explanation and clarification; Jepson (2005) found clarification requests; Patterson & Trabaldo (2006) found confirmation check, elicit clarification and state elaboration; Akayoğlu & Altun (2008) found reply confirmation, confirmation and elaboration; and Kibler (2011) found agreement and limited responses. When compared to the findings of this study, it could be claimed that the findings of this study were in parallel with the findings of the studies carried out by all aforementioned researchers. The participants of these studies mostly used clarification, elaboration and confirmation related functions. There were discussions in all these studies and in order not to be misunderstood, the participants needed to use clarification related functions and elaborations; and in order to state that they agreed with each other, they needed to use confirmation functions. The participants needed to express that they were listening and a part of the discussion and used confirmation utterances. Briefly, in platforms in which only text-based communication and text-based communication in 3D worlds, the most frequently used negotiation of meaning functions were similar.

However, there are some studies in which the researchers found different findings. For example, Bitchener (2004) found that vocabulary items were observed more than the other functions. This is contradicting with the findings of this study; because, the vocabulary related items were among the least frequently used functions in this study. The difference might be caused by the setting the study was carried out in. Bitchener (2004) used in-classroom setting

and face-to-face environment; but, the participants of this study used the Internet environment and they had the chance to use online dictionaries. Moreover, Kaur (2011) studied on self-repair practices and found that self-repair practices were quite common in the conversations of non-native speakers. However, in this study, the frequency of correction practices was only %5.2 in this study and it was not very common as Kaur (2011) claimed. These points were the differences between the findings of this study and the studies in literature.

As for the least frequently used functions, reply vocabulary, reply comprehension and vocabulary check functions were found. When previous studies were examined, it could be seen that Jepson (2005) found comprehension check, questions and self correction repair moves; Patterson and Trabaldo (2006) found comprehension check, reply comprehension and vocabulary related functions; and Akayoğlu & Altun (2008) found vocabulary check, vocabulary request and reply vocabulary as the least frequently used functions. When the findings of this study were compared with the previous studies, it could be claimed that the findings were consistent with the literature. The participants did not need to use vocabulary related functions. They might either not prefer to use unknown words or they used online dictionaries instead of asking the meaning of a word. In both only text-based platforms and in text-based platforms supported with graphics, the least frequently used functions were observed to be similar at the end of this study.

4.4. What is the distribution of student talk in conversations taking place in tasks?

The final research question of this dissertation was on the distribution of student talk taking place in tasks carried out for the course in a 3D world. In order to determine the student talk ratio, all data was copied on a word

processor and the words that students uttered were counted one by one. At first, the number of turns was going to be taken into account; however, it would not be a good idea to count the number of the following turns as equal:

E.g.

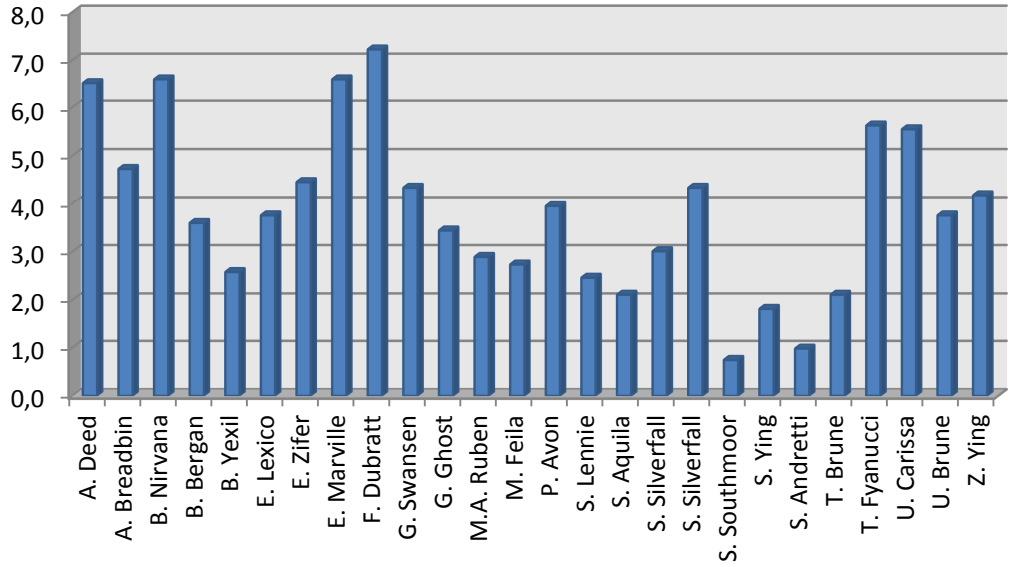
"F. Dubratt: I think the story is great. I have a good time reading it. I'm sorry for them but they love each other." (Session #1)

"P. Avon: yes" (Session #1)

The turns above cannot be considered as equal contribution; thus, the number of words was taken as the criteria. After counting the number of the words, they were turned into the percentages; and the following graphic charts were obtained for each session. These charts give an idea of the turn distribution; however, there was a need for statistical analysis in order to claim that there was an equal or unequal distribution. For this purpose, Gini Coeeficient was calculated and the charts were presented with the relevant Gini Coefficient in the following part. According to the Gini Coeefficient, the closer the result is to 1, the more unequal the distribution is. Thus, it can be concluded that lower than 0,5 could be an indicator of an almost equal turn distribution.

When the charts were examined, it can be seen that all students somehow participated into the discussions. However, Gini Coefficient, which was told in detail in previous part of this dissertation, was calculated in order to see the equality of student talk distribution.

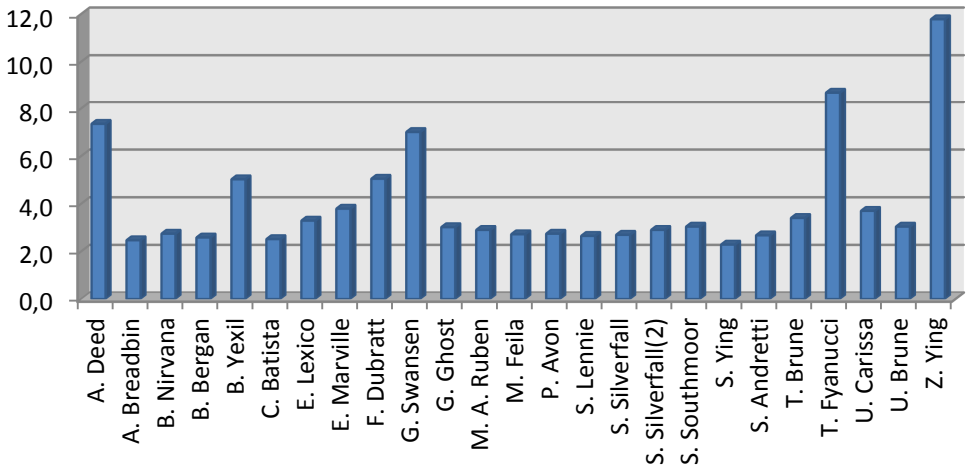
Session 1



Gini Coefficient: 0.25229

Figure 7: Turn Distribution in Session 1

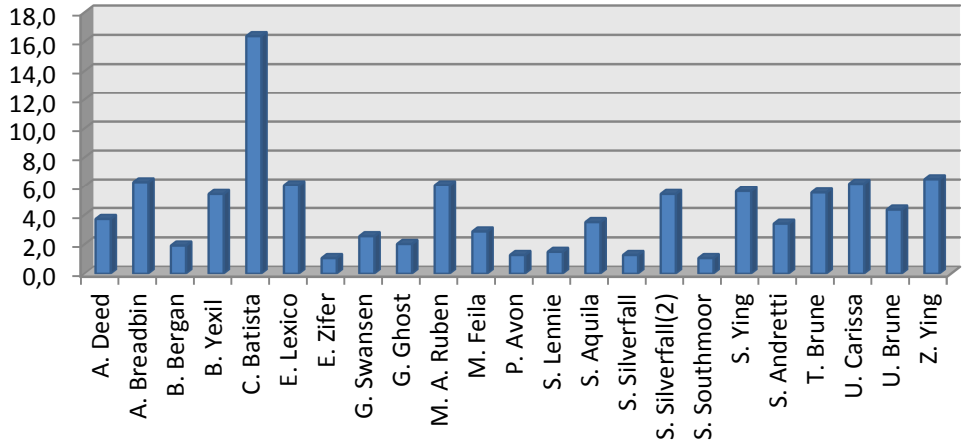
Session 2



Gini Coefficient: 0.258042

Figure 8: Turn Distribution in Session 2

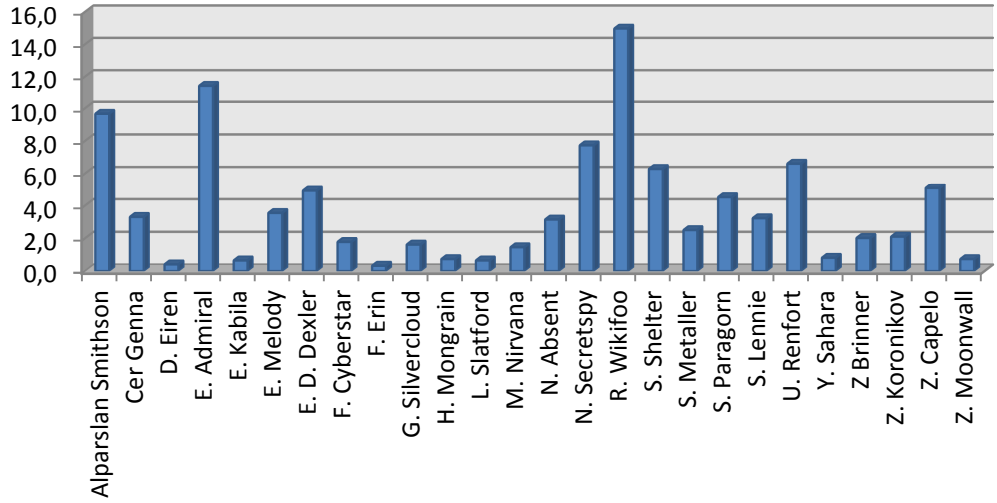
Session 3



Gini Coefficient: 0.353377

Figure 9: Turn Distribution in Session 3

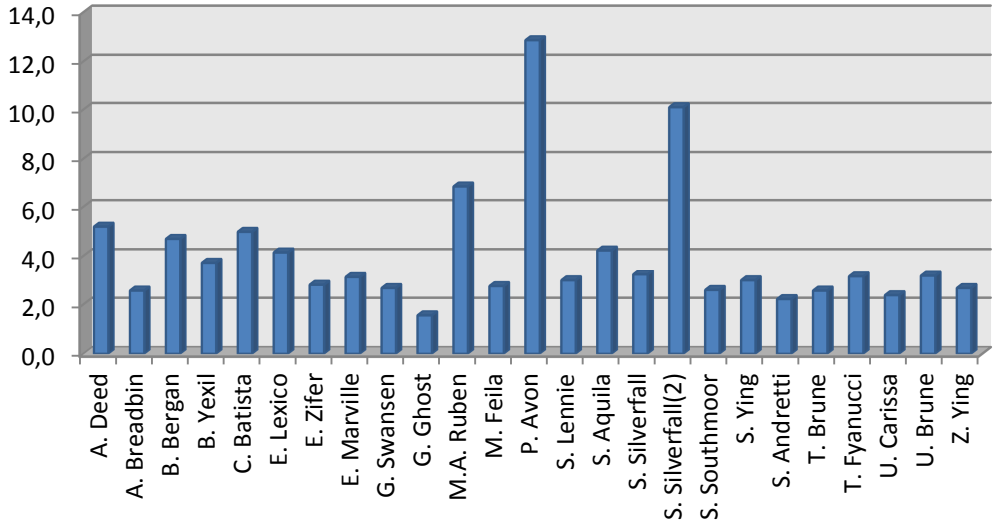
Session 4



Gini Coefficient: 0.487994

Figure 10: Turn Distribution in Session 4

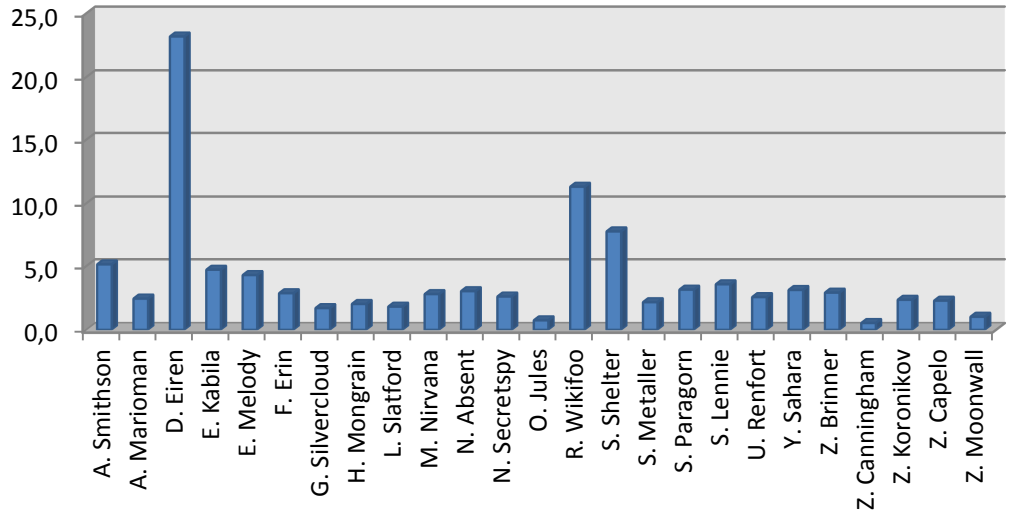
Session 5



Gini Coefficient: 0.277765

Figure 11: Turn Distribution in Session 5

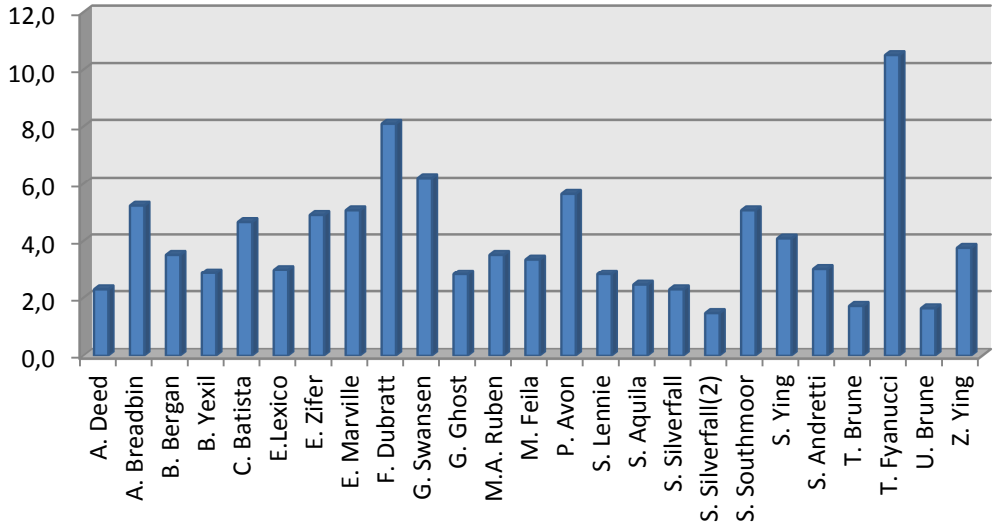
Session 6



Gini Coefficient: 0.43427

Figure 12: Turn Distribution in Session 6

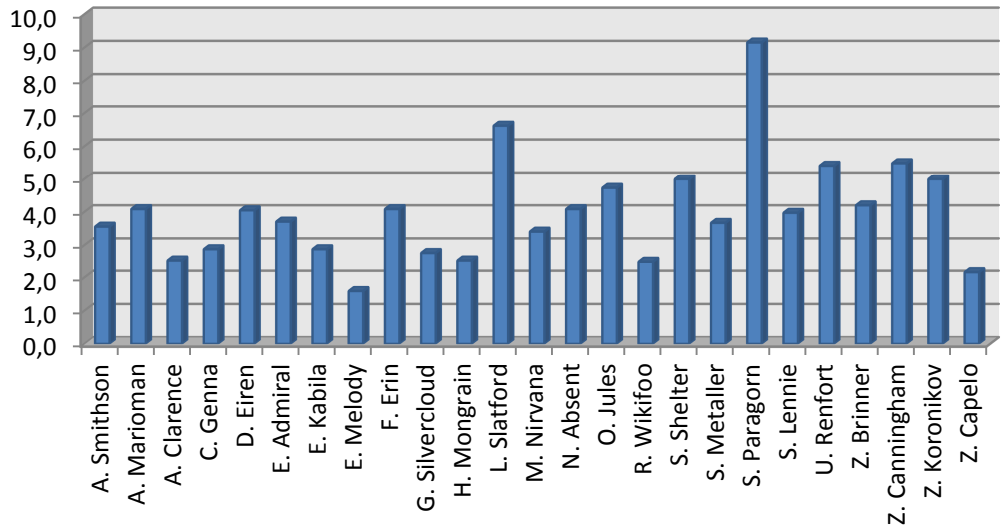
Session 7



Gini Coefficient: 0.266034

Figure 13: Turn Distribution in Session 7

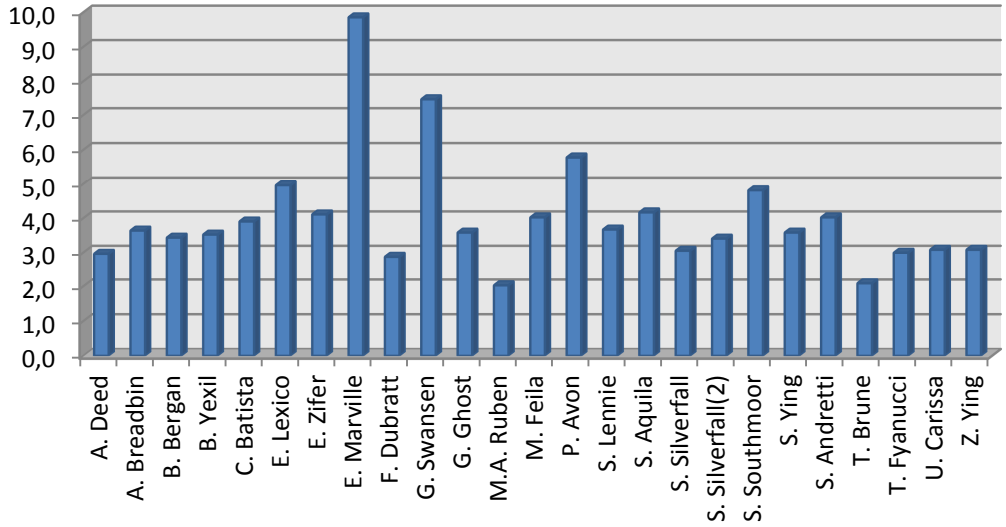
Session 8



Gini Coefficent: 0.203298

Figure 14: Turn Distribution in Session 8

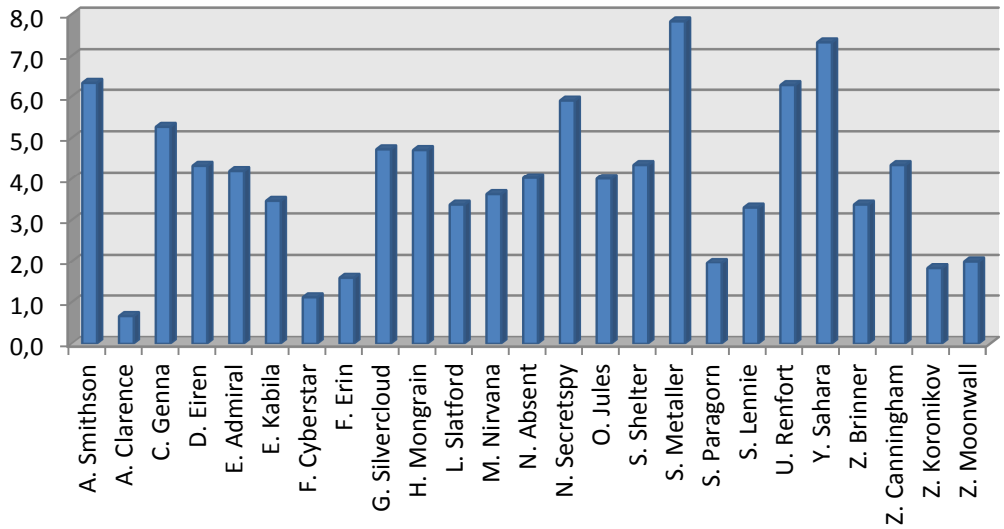
Session 9



Gini Coefficient: 0.189912

Figure 15: Turn Distribution in Session 9

Session 10



Gini Coefficient: 0.255939

Figure 16: Turn Distribution in Session 10

At the end of this analysis, the following Gini Coefficients were obtained and it can be interpreted as the turn distribution of the students in each session was equal.

Table 14: Task Types and Gini Coefficients for Each Session

Session #	Type of Task	Gini Coefficient
1	Talking about a story (Discussion)	0.25229
2	Interview with other SL users	0.258042
3	Building a house	0.353377
4	Building a house	0.487994
5	Writing a collaborative story	0.277765
6	Writing a collaborative story	0.43427
7	Compare & Contrast Topic (Discussion)	0.266034
8	Compare & Contrast Topic (Discussion)	0.203298
9	Argumentative Topic (Discussion)	0.189912
10	Argumentative Topic (Discussion)	0.255939

According to the Table 14, it can be seen that all sessions exhibited an equal turn distribution. In many studies in literature, it was claimed that an equal turn distribution could be observed in online classes when compared to the ones in face-to-face settings; however, this was tested in a very limited studies. In this research question, this hypothesis was tested not by comparing face-to-face settings and online classrooms but in only online classrooms.

Kern (2005), Warschauer (1998), Chun (1998) and Fitze (2006) carried out studies on this issue and all of these researchers found that there was a more equal turn distribution among the participants when compared to the face-to-face settings. Thus, the findings of this study supported the previous studies on this issue. In aforementioned studies, the student to student interaction was also compared with the teacher to student interaction and was found to be more in online classes; however, there was no teacher to student interaction in this study. The teacher gave the instructions to the students at the beginning of the tasks and left the students alone in group work activities.

In this study, it was also asked whether the tasks affected the turn distribution; so the sessions were compared in terms of task types. Although there is a need for more studies on this issue, it could present a clue for further studies. When the Gini Coefficients were ordered from the most equal session to the most unequal session, it could be seen that the inequality was the top in the session in which students built a house, which was a task designed for process analysis paragraph. This activity required students to get familiar with the tools in Second Life. The students built the objects and it could be claimed that some students dominated the session in some parts; however, this could not be accepted as unequal sessions. In discussion sessions, in which students only discussed the topics using text-based communication board, the students seemed to contribute equally. As there were no similar studies on this issue, this finding could not be compared with the studies in literature.

4.5. Conclusion

In this chapter, the findings of the study were presented by means of charts and tables. This chapter was organized according to the research questions and in each section of this chapter, the relevant findings were given. In the following chapter of this dissertation, the discussion of the findings is made and the findings are compared with the studies in literature. In addition to the discussion, some recommendations, suggestions are made in the light of the findings of this dissertation.

CHAPTER V

CONCLUSION

5.1. Introduction

In this chapter, the findings of the study, implications for practice and suggestions were presented briefly to summarize the whole dissertation. Until this chapter, the background of the study, the studies within the scope of the study, methodology and research design, findings and discussions were presented in detail. This chapter would serve as the brief review of the study.

5.2. Overview of the Study

This purpose of this study was to determine the discourse patterns of text-based chat logs recorded in a 3D virtual world, Second Life, in terms of social presence, negotiation of meaning and turn distribution of the students. There were some studies examining these functions before this dissertation; however, the data were collected in face-to-face classrooms or only text-based environments and mostly the comparison of these settings was studied so far. There have been many innovations and developments in the field of computer assisted language learning; and 3D virtual worlds are among the recent technologies. Chapelle (2004, p.595) stated that "a sociocultural perspective toward interaction research emphasizes the need for teachers and researchers to better understand the context of interaction of second language learners and accordingly there is a need for 'ethnographic and discourse-analytic methods' with their emphasis on the broader context in which the learning takes place". As she mentioned, the environments in which the learning takes place needs to

be analyzed in terms of different perspectives in order to shed light on the further research and guide the teachers and students who are willing to design language courses in 3D worlds.

For this purpose, the classroom activities were designed for a course titled "Advanced Reading and Writing" at Middle East Technical University for freshman students at the Department of Foreign Language Education in a 3D world, Second Life. While students were completing the tasks, they were asked to communicate using the text-based communication board in this world. During the tasks, the researcher recorded the sessions and chat logs throughout the semester in 10 sessions. After the data collection procedure, the data were transferred to a word processor and analyzed in terms of social presence and negotiation of meaning functions and turn distribution of the students.

At the end of the study, the following conclusions were drawn within the scope of the study:

- The categories of social presence determined by Rourke, Anderson, Garrison and Archer (2001) were all observed in the data. According to them, there were three categories as affective, cohesive and interactive categories of social presence; and these were all observed in the data, but "quoting from others' messages". This function was not observed in the data as the students were able to scroll up and down the chat board and could see the previous messages; and they did not need to quote the messages of the other participants.
- At the end of the analysis, a new code was added to the taxonomy, called "referring to physical phenomena". Previous studies were mostly carried out in face-to-face classrooms or text-based communication platforms; however, the data for this study were collected in a text-based platform supported with 3D graphics. As the additional code, the

participants used some utterances referring to the physical movements like “Where are you?” or “Could you please stand up?”. These statements could not be seen in only text-based environments. This could be considered as one of the differences of this study from the previous studies.

- The most frequently used social presence functions were found to be expression of emoticons, vocatives and asking questions. This finding was in parallel with the literature. The students needed to use emoticons to express themselves, to call their friends using their names and to ask questions in discussions. As in previous studies, the similar findings were reached, it could be stated that the findings of this study supported the studies in literature.
- The least frequently used social presence functions were quoting from others’ messages, referring explicitly to the others’ messages and phatics and salutations. The first two least social presence functions were similar to the previous studies and could be understood as the participants could see the previous chat messages while discussing and they did not feel the need to quote or refer to the others’ messages. However, the third least frequently used function, phatics and salutations, was not very common in previous studies. The reason for this was the fact that students were all in the same classroom setting and they logged into the Second Life platform just for completing tasks. Thus, they did not greet their friends when they first logged into the environment. Although, this finding was contradicting with the literature, the reason for this was clear.
- When the differences between only text-based environments and text-based environments supported with graphics were examined, it could be stated that there were not much difference between them. Yet, there was one and important difference which was referring to the physical

phenomena. As there were graphics and avatars in this environment, the participants uttered some statements related to the physical movements as in real life.

- The other function observed in this dissertation was negotiation of meaning in terms of its occurring frequency. The most frequently used negotiation of meaning functions were confirmation, elaboration request and clarification request respectively. This finding was consistent with the findings of the previous studies in literature.
- The least frequently used negotiation of meaning functions were reply vocabulary, reply comprehension and vocabulary check. As it can be seen, the least frequently used functions were related to vocabulary items. The participants in an online environment did not feel the need to talk about the vocabulary items as they had the chance to check the unknown words online.
- When the differences and similarities were taken into account, it could easily be claimed that there were no difference between the findings of the studies in literature and the findings of this dissertation. The most frequently and the least frequently used functions were almost similar and 3D graphics did not change the way the participants negotiate the meaning.
- As for the final research question, the equality of the turn distribution of the students in this environment was tested. Gini Coefficient was calculated in order to see the equality of the turn distribution and it was found that the students contributed to the discussions equally and none of the student groups dominated the discussions. All students participated in discussions equally. In previous studies, the researchers always stated that online platforms provided opportunities for equal distribution; but, this was tested in few studies. This hypothesis was tested in this dissertation.

- As for the final remark, it was asked whether the type of tasks affected the turn distribution. In sessions, in which students were asked to build houses using the tools in Second Life, the inequality was higher. This might be because the students who were better in using technology might dominate the talk in some cases. In spite of this inequality of the sessions, they were still considered as equal.

At the end of this dissertation, the discourse patterns in terms of social presence and negotiation of meaning functions and turn distribution were determined. The findings of this study might be helpful for researchers, educators, teachers and learners planning to take part in an online course in 3D virtual worlds.

5.3. Implications for English Language Teaching and Learning

In contexts in which English is taught and spoken as a foreign language, it is difficult for learners to practice English outside the classroom environments. As a response to this problem, teachers might use some online tools in their classrooms or suggest some online environments in which the learners could practice their target language. Second Life is one of these suggested or used tools. However, it is important that the characteristics and features of these tools and environments should be known for the teachers and learners. The discourse analysis studies for determining the patterns of the Internet environments would be helpful to better understand the flow of interaction. Teachers, educators and learners might benefit from the findings and implications of this study while using and suggesting these environments.

Secondly, social presence, which was one of the foci of this dissertation, was associated with the academic success of the classroom in literature. If social presence functions are used in the classroom, the students in that classroom are expected to be successful. Thus, the platforms on the Internet should be

examined in terms of social presence whether they provide opportunities for learners to use social presence functions. In this study, it was found that all categories of social presence were used during the course designed in Second Life and it could be hypothesized that Second Life could be used for successful courses and it could increase the possibility to be successful.

The negotiation of meaning was also closely associated with the comprehensible input and communication strategies; and the importance of negotiation of meaning in language learning was mentioned in literature by Pica (1994) Warschauer (1998) and Rapaport (2003). Comprehensible input and using communication strategies are quite crucial for language learners; and these environments on the Internet should provide opportunities for learners to make the interaction meaningful using negotiation of meaning functions. In this study, it was questioned whether all negotiation of meaning functions were used frequently by the learners in Second Life and the discourse pattern used in a 3D virtual world was determined. This might give clues for educators and teachers designing courses or planning to design courses in Second Life. In the light of the findings of this study, it could be stated that teachers might use this environment in order to encourage their students to use negotiation of meaning functions in order to make the interaction meaningful. Moreover, teachers might focus on specific negotiation of meaning functions which were the most frequently used ones. In other words, an instruction about the negotiation of meaning functions should be provided before exposing students to this environment.

As for the third research question, the turn distribution was examined in this study. At the end of the study, it was seen that there was an equal turn distribution among the students and none of the student groups dominated the discussion as in face-to-face classroom setting. In many studies in literature, it

was always stated that online platforms create opportunities for equal student contribution; however, this was tested in few studies. In this study, this hypothesis was tested and found that students contribute to the discussions almost equally in all sessions. Therefore, it could be stated that these environments could be used in order to create opportunities for all students to contribute to the classroom activities. In face-to-face classrooms, some students in the first rows are usually more active and some shy students cannot find a chance to utter even one word; however, according to the findings of this study, it was seen that these environments might help teachers and educators to provide opportunities for an equal turn distribution.

Finally, it was asked whether the task types were effective in determining the equality of the turn distribution. Although the data were too limited for this question, it could be claimed that in activities which required technical skills, some students might dominate the sessions. Although the turn distribution was equal again, the inequality of turn distribution was higher than one in other tasks. Teachers should be careful while designing activities if they want to create an environment for equal turn distribution. The activities should not include too much technical skills or the students should be informed when activities requiring technical skills.

To sum up, the findings of this study might be crucial for teachers and learners while designing and using 3D virtual worlds for language learning. This study helped to determine the discourse patterns of 3D virtual worlds in terms of social presence and negotiation of meaning functions and turn distribution. As they provide opportunities for learners to use social presence and negotiation of meaning functions and to take part in discussions with equal turn distribution, 3D virtual worlds could be suggested for online and blended courses.

5.4. Recommendations for Further Research

One of the limitations of this study was that the students were physically in the same classroom because of the technical problems students encountered at dormitories and at homes. Therefore, another study could be designed with totally online participants. The participants can log in from different places; and different findings can be reached at the end of that study. The findings of that study might be compared with the findings of this study; and this reveals the effect of being in the same classroom.

In Second Life, voice-based chat is also offered to the users in addition to the text-based chat. As the participants in this study were in the same classroom, it would have created a noise in the classroom; however, another study can be designed using voice-based chat and the findings of that study could be compared with the findings of this study in order to see the discourse patterns of voice-based chat environment in Second Life.

The participants of this study were non-native speakers of English in an ELF context. Native speakers of English can be invited for the study and same tasks can be done with these participants. The negotiation of meaning and social presence functions might change at the end of that study. The findings of this study could be compared with a study designed with native speakers of English.

In this study, the discourse patterns of negotiation of meaning and social presence functions were determined; however, some other functions could be analyzed in order to better understand the flow of interaction, such as coherence, syntax of the sentences or question types. These studies might be helpful for understanding the interaction and discourse of these environments.

Finally, examining the attitudes of students might be recommended for further research as it was beyond the scope of this study. The students could be interviewed; and at the end of the qualitative analysis of the interviews, the attitudes of students towards the use of 3D environments in language classes might be determined.

5.5. Limitations of the Study

This study was carried out in Second Life environment which provides opportunities to communicate both text-based CMC and voice-based CMC. However, voice-based CMC was not used in this study as for the data collection tool. In order to better understand the discourse patterns, voice-based CMC should also be investigated.

As the students did not have access to the Second Life environment at dormitories or at homes, the researchers used Second Life environment in classroom setting and all students were in the same classroom physically during the data collection procedure. The rationale for using distance education is to remove the obstacles in terms of physical settings and time constraints; however, this might also give clues about the virtual classes in Second Life.

5.6. Conclusion

In this chapter, the review of the study was presented; after that, the limitations of the study, the implications for practice and recommendations for further research were discussed in detail. At the end of the study, the discourse patterns of a text-based communication in a 3D virtual world in terms of negotiation of meaning and social presence functions and turn distribution were determined.

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APPENDICES

Appendix A - FLE 135 Advanced Reading and Writing I Course Syllabus

FLE 135 – Advanced Reading & Writing I

Description of the Course:

This course presents a wide range of authentic reading materials including newspapers, journals, reviews and academic texts in order to comprehend contrasting viewpoints and to predict and identify main ideas and to decode intersentential clues. It also aims to equip students with intensive and extensive reading habits. Critical thinking skills such as synthesizing information or analyzing a problem as well as reacting on the basis of evaluation are fostered. Such sub-skills of reading are employed by the students' in their writings. Students also analyze and produce different types of writings (e.g. expository paragraph, descriptive paragraph, narrative paragraph, etc.); build up writing skills emphasizing the organization, coherence, and cohesion and such sub-skills as summarizing, outlining, and paraphrasing at paragraph level. The use of spelling and punctuation conventions as well as non-alphabetic symbol use will be practiced as well.

Goals:

Students should be able to;

- Demonstrate comprehension of the information presented in the course through written tests.
- Read and comprehend a variety of reading materials.

- Have developed their vocabulary at both the receptive and productive levels.
- Read for specific purposes.
- Write clear, effective sentences and paragraphs.
- Utilize critical thinking skills.
- Summarize and paraphrase specific reading selections.

Requirements and Assignments:

Attendance

More than 12-hours of non-attendance will result in failure. If you are absent, it is your responsibility to contact a classmate to get class notes and assignments.

Blog entries

Students will write a blog entry every week to their blogs. Moreover, students are to write at least two comments a week to their friends' blogs. These blogs and comments will be checked every Friday. Thus, you should publish your blog entries and make your comments by Thursday night. At the end of term, students should have written 13 blog entries.

Writing assignments

In addition to blog entries and comments, students will also be responsible for writing assignments; and students will publish these assignments on their own blogs. At the end of the term, students should have completed 7 writing assignments.

Note: Each blog entry (free writing + written assignments) is 5 points.

Reading Passages

Reading passages will be given a week before and students are expected to come to class having read the assigned passages. There will be some classroom discussions both face to face and online. There will be some discussion sessions at Tapped In about the reading passages. The schedule for these sessions will be announced later.

Evaluation:

Grading will be as follows:

Participation in classroom discussions	10%
Blog Entries – Comments + Writing Assignments	50 %
After School Activities	10 %
Second Life Sessions	20 %

Plagiarism:

Plagiarism is representing someone else's writing as your own. If you copy from any source without reference, you will receive zero (0) for that assignment.

Weeks	Topics
Week 1	Introduction Introduction to Blogs (Creating blogs, publishing entries, adding comments, etc.)
Week 2	Paragraph, Unity, Coherence, Thesis Statement, Topic Sentence, Supporting Sentence Introduction to Second Life, Tapped In
Week 3	Paragraph Types: Descriptive-Writing Assignment I
Week 4	Sentence Types and Sentence Problems Reading Passage Samples of Descriptive Paragraph (Students' assignments)
Week 5	Paragraph Types: Classification – Writing Assignment II
Week 6	Punctuations: semi colon

	Reading Passage Samples of Classification Paragraph (Students' assignments)
Week 7	Paragraph Types: Process Analysis– Writing Assignment III
Week 8	Punctuations: colon Reading Passage: Samples of Explanation Paragraph (Students' assignments)
Week 9	Paragraph Types: Narrative – Writing Assignment IV
Week 10	Holiday
Week 11	Paragraph Types: Illustration – Writing Assignment V
Week 12	Punctuations: Capital Letters Punctuations: Apostrophes Reading Passage: Samples of Narrative Paragraph (Students' assignments)
Week 13	Paragraph Types: Compare and Contrast – Writing Assignment VI
Week 14	Paragraph Types: Argument – Writing Assignment VII
Week 15	Samples of Compare and Contrast & Argumentative Paragraphs (Students' assignments) Evaluation of the course

Appendix B – Handout for the Course

FLE 135 ADVANCED READING AND WRITING I

Tools You Should Know:

Second Life: Second Life is a 3D Virtual world that you can join through an avatar. We will have this class in this environment at least one hour a week and they will be recorded and stored to be used in the future. http://www.secondlife.com

Blogger: Each student will have a blog address and you should use your name and surname while creating a blog address. Your address will be "yournameandsurname.blogspot.com". In order to create a blog you should visit http://www.blogger.com. Moreover, we have a classroom blog and its address is http://fle135.blogspot.com. You should visit this page regularly for the weekly tasks and announcements related to the course.

Tasks for the Week I:

1. You will create an account for Second Life.
2. You will find my name (Sedat Usher) in this environment and add as your friend.
3. You will create a blog address and you should use your name and surname while getting a blog address. Please do not use nicknames like crazygirl, lonelystar, etc.
4. You will write an introduction paragraph which introduces you and your expectations from this course. At the end of your blog entry, please add your SL name, Tapped In username.
5. Add our class MSN address (fle135@hotmail.com) to your MSN list and send me your blog address via e-mail.

Appendix C – Sample Blog Entries

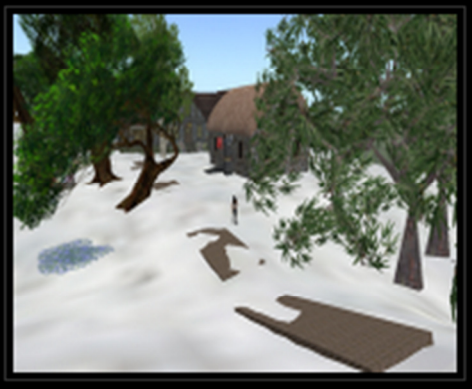
23 KASIM 2009 PAZARTESI

MY SECOND CARELESSNESS

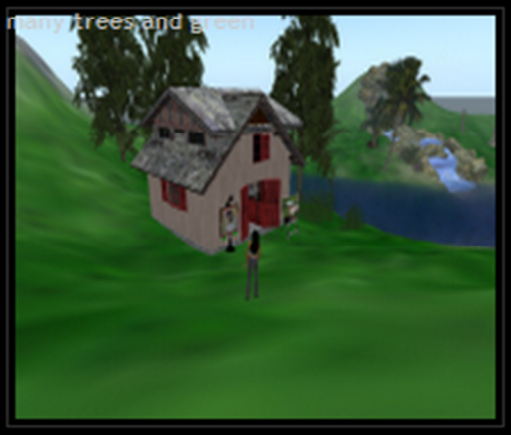
One of my friends in high school studies in METU. We studied together in high school for four years.Unfortunately, we couldn't come together since we came in Ankara. So she insisted on my coming her house consistently. At last, I accepted her offer not to break her heart and because we couldn't come together for a long time and I went to her house at a weekend. I stayed in her house for a day.We had a great time together. But, I left from her house to go to my dormitory because I had some homeworks to do.Also I would stop off the market to buy some needs.I knew that I would be asked my student identification card at the entrance to come in the campus.Because my hands would be full of bags after I came in the market,I took my student identification card out of my wallet before I enter into the market and I put it in the pocket of my coat.When I came at the entrance, I controlled my pocket but it wasn't in it.In the meantime,the charged person at the entrance said to me that he knew me and I could come in without showing my student identification card.Of course, I got irritated more this situation.Besides, I felt like stupid. Because that was the second time I had lost it. In the first time, I found it but this time I couldn't. Moreover, I couldn't mention my parents about it.I don't think that I will be able to mention them about it later, too.I don't want to hear from them how stupid I am.And I know that I will be more careful with my belongings especially with my student identification card. Otherwise I will jump into sea.

GÖNDEREN SINEM ZAMAN: 10:49 3 YORUM

7 ARALIK 2009 PAZARTESI



THE TWO DIFFERENT WORLD!
Today I went Imagination Island and Music Academy Online in Second Life.
In Music Academy Online there were really beautiful houses which are built really tastefully.They were so many trees and green



areas in there that as if it is not belong to this planet.The places in which the houses are located are have many natural beatuies.When I was wandering around I saw a small waterfall beside a big lake or sea which was flowing speedily.There were big variety of flower species around the houses and there were so many fruit and palm trees everywhere.But in Imagination Island it was almost the opposite there were snow everywhere and it was as if no life in here.The houses in there were not tasteful as in the Music Academy Online because they were designed according to the weather conditions mostly the builders thought of the temperature I think.And also there were no fruit trees or flowers there in contrast to the Music Academy Island the only kind of tree in Imagination Island was pine trees which were durable in bad weathers.
In conclusion altough there were mostly differences between this two areas they are resembling each other in terms of vast areas in both of them there were really big blanks between two houses in both places.And in both areas there were seas but while the sea in Imagination Island was a frozen and dull one the sea in Music Academy Island was a flooding one.

23 Aralık 2009 Çarşamba

Euthanesia..

All people should have some rights but euthanesia. People have right to life and euthanesia harms to this right. Everybody is freedom to use right to life until death. Some say "Medical costs are very high." How much money can be equal to a life, then? There are many solutions to this problem for example loan, government help, borrowing.. etc. I don't think anybody abstains from money in this situation if he or she has a casuist. Some say "The family suffers." Children are the most important thigs in their parents' lifes. Maybe they worry but deciding to their children's death is like an aspersion made them. If he/she is ill, no parents want to die their children. The others say "The patients have no chance of recovery." There are many example of this. Eveytime there is hope. For example, my dude's brother has a problem which is related to his heart. He underwent an operation. Doctors sait that there was no hope, he would die. But in the end, he gained his consciousness an he is still alive. All people must die when the time comes not with die to right. There is always a salvation, only problem is to wait. In conclusion, people shouldn't have the right to die.

Gönderen sinestezik kelebek zaman: 10:16 1 yorum

18 Ocak 2010 Pazartesi

Eating at home or eating out?

I always prefer eating at home to eating out. And I think everybody should, too. If you ask why, just read what I'm going to write.
When we cook at home, it feels like a huge success to us, it makes us happy without reason. Because we are the one who cooked that meal! We feel proud of ourselves, right? Can you tell me, do you feel like this when you eat out? No.
When we cook at home, we know what ingredients are put in the meal and we try to use fresh vegetables, meats, better oil. But who can assure us that when we eat out, we are eating foods as healthy as ours? Nobody.
Some people who are in favour of the idea that eating out is better suggest that it is better because there must be a something different in our lives at some time. What I want to Tell them is this: Why are you looking for that change outside? Can't we just create our own change? We can call our friends, try new tastes, or make a special dinner for somebody else on by ourselves.. Isn't it enough? I thinkit is. :)

9 OCAK 2010 CUMARTESI

Which one do you perfer

Have a low-paid job and spend much time with your family is a key for a happy life.People only be happy when they share their time with other people especially with their family so being with family is more important than much money.Moreover without our family and friends we can not spend money with pleasure and money becomes meaningless.A father who always comes from work tired only think sleeping thus he does not spend much time with his children and wife.In such situations family becomes unhappy.And also people usually don not want to be keen on job so much.On the other hand there are other people who love money so much.But so much money does not mean so much happy because there are lots of people who do not earn much money but have a happy life. In the addition to this lots of people have high life standarts but always in a torments,ghastly life. And also if they have to work hard they can not give absolutely their love and interest to their family.That is to say people can be happy with low paid job(it must be enough).And much money does not mean a happy life.

28 ARALIK 2009 PAZARTESI

DOWNLOADING MP3

Nowadays everyone says that downloading musics without paying any money should be banned; but, noone doesn't wonder why people download musics in this way.People say that if you get someone's belonging without permission, this is called theft;but,I think it is not.Firstly because the prices of music albums is so high.So everyone can not afford to buy them paying high money.If prices are avaliable for many people,there is no need for downloading them without paying any money.Secondly today the singers are so selfish.You can ask how?They gain money from selling their songs and the more they gain the more they want.They don't consider other people who want to listen but can not afford to buy them with high prices.Finally their aim is some different.They want to become a rich person by doing this job.So if someone download a music without paying any money,the singer who sings this song says that my song is stolen.Because she/he thinks the rights about this song belong to himself/herself.

In conclusion,people who defend banning downloading music without paying any money should think why many people use this way.

Appendix D – Curriculum Vitae

CURRICULUM VITAE

PERSONAL INFORMATION

Surname, Name: AKAYOĞLU, Sedat
Nationality: Turkish (TC)
Date and Place of Birth: January 26th, 1981 – Bolu
Marital Status: Married
Phone: +90 505 675 31 82
email: sakayoglu@gmail.com

EDUCATION

Degree	Institution	Year of Graduation
MS	Abant İzzet Baysal University Department of English Language Teaching	2006
BS	Hacettepe University Department of English Language and Literature	2002
High School	Bolu İzzet Baysal Anatolian High School	1998

WORK EXPERIENCE

Year	Place	Enrollment
2007- Present	Middle East Technical University Department of Foreign Language Education	Research Assistant
2004-2007	Abant İzzet Baysal University Department of Foreign Language Education	Research Assistant
2002-2004	Bolu Anatolian High School of Fine Arts	English Teacher

FOREIGN LANGUAGES

Advanced English, Intermediate German

PUBLICATIONS

Akayoğlu, S., Altun, A., & Stevens, V. (2009). Social presence in synchronous text based computer-mediated communication. *Eurasian Journal of Educational Research, 34*, 1-16.

Akayoğlu, S., & Altun, A. (2008). The functions of negotiation of meaning in text-based CMC. In R. V. Marriott & P. L. Torres (Eds.), *Research on E-learning Methodologies for Language Acquisition* (pp. 302-312). New York: Information Science Reference.

Erice, D., Akayoğlu, S. (2008). "Eğitim ile ilgili blogların içerik analizi". Proceeding. Yabancı Dil Bölümleri ve Yüksekokullarının Yabancı Dil Öğretimindeki Sorunları Kurultayı. Muğla University: Muğla.

Akayoğlu, S. (2008). "Çevrimiçi öğretmen eğitim programı". Proceeding. Yabancı Dil Bölümleri ve Yüksekokullarının Yabancı Dil Öğretimindeki Sorunları Kurultayı. Muğla University: Muğla.

Akayoğlu, S . (2007). "Dokeos: Çevrimiçi Sınıf Yaratılması ve Yürütülmesi". Proceeding. Gazi University, Türkiye'de Yabancı Diller Eğitimi Kongresi.

Akayoğlu, S . (2007). "Tapped In: Yabancı Dil Öğretmenleri için Buluşma Noktası". Proceeding. Gazi University, Türkiye'de Yabancı Diller Eğitimi Kongresi.

Akayoğlu, S . (2007). "Wiki Aracılığı ile Ortak Yazma Çalışmaları". Proceeding. Gazi University, Türkiye'de Yabancı Diller Eğitimi Kongresi.

Akayoğlu, S. (2006). The functions of negotiation of meaning in text-based synchronous computer mediated communication. Unpublished MA Thesis. Abant İzzet Baysal University Institute of Social Sciences English Language Teaching Program, Bolu, Turkey.

Appendix E – Turkish Summary

YABANCI DİL OLARAK İLERİ SEVİYEDE İNGİLİZCE ÖĞRENENLERİN SECOND LIFE ORTAMINDAKİ METNE DAYALI BİLGİSAYAR DESTEKLİ İLETİŞİMLERİNİN ANALİZİ

Bu çalışmanın amacı Türkiye'de öğrenim gören ileri seviyede İngilizce bilgisine sahip öğrencilerin Second Life ortamındaki bilgisayar yoluyla metin tabanlı iletişimlerinden elde edilen verilen sosyal buradalık, anlam söyleşmesi ve söz hakkı dağılımı açısından çözümlemesini yapıp bu ortamın bu bahsi geçen konulardaki söylem kalıplarını ortaya çıkarmaktır. Bu konular alan yazında araştırılan temel konular arasında yer almaktadır ve bugüne kadar bu kalıplar yüz yüze sınıf ortamları, eş zamanlı ve farklı zamanlarda düzenlenen çevrimiçi konferanslarda, ana dili İngilizce olan ve olmayan gruplarla birçok kez araştırılmıştır. Bu yapılan çalışmaların çoğunda, bu kalıplar katılımcıların ve araştırma yapılan ortamların özellikleri açısından karşılaştırılmıştır. Ancak bu çalışmada İngilizce'nin yabancı dil olarak öğretildiği bir ortamda elde edilen veriler, o grubun özelliklerini ortaya çıkarmak amacıyla analiz edilmiştir.

Öğretim teknikleri ve yöntemleri, dönemin teknolojik gelişmelerinden her zaman etkilenmiştir. Daha önceki dönemlerde de teyplerin, televizyonların, görüntü ve ses araçlarının kullanımı bir devrim olarak düşünülmüş ve bunlara paralel olarak yeni yöntem ve teknikler önerilmiştir. Günümüz dünyasında ise hızla değişen ve gelişen teknoloji şüphesiz internettir. Her geçen gün her alanda daha çok gelişiyor ve insanların hayatının vazgeçilmez bir parçası haline geliyor. Bu gelişmelerin sonucu olarak ise, internet ve bilgisayarlar eğitimcilerin göz ardı edemeyeceği bir hal aldı. Bir süre bilgisayarların ve internetin etkililiği incelenmiştir. Ancak Kern (2006)'da dediği gibi bu araçların etkililiği kimin, ne zaman, nasıl ve nasıl bir ortamda kullandığına göre değişim göstermektedir. Bazı durumlarda etkili bulunduğu söylenen herhangi bir araç

başka bir ortamda veya başka bir öğretmenle etkili bulunamamaktadır. Bu nedenle bu çalışmada üç boyutlu ortamların etkiliği değil, bu ortamda gerçekleşen iletişimde yer alan söylem kalıplarını ortaya çıkarmak amaçlanmıştır.

Çalışmanın veri toplama süreci Second Life ortamında tamamlanmıştır. Second Life, dünyanın her yerinden kullanıcıları olan ve kullanıcıların bir avatar vasıtasıyla yer aldıkları üç boyutlu bir ortamdır. Linden Lab firması tarafından 2003 yılında hizmete sunulmuştur. Kullanıcıların bu ortamda bina yaratmaları ve tasarlamaları, diğer kullanıcılar ile iletişimde bulunması mümkündür. Yüzlerce eğitim kurumu da bu ortamı eğitim amaçlı kullanmaktadır.

Temel olarak oyunlardan ayrılan yönü, Second Life'da belli bir amaç yoktur. Bu üç boyutlu sanal ortam kullanıcıların bir araya gelmelerine ve iletişim kurmalarına olanak sağlayan bir ortamdır. Ücretsiz olarak yer alınabileceği gibi, yer satın almak, bazı araçlara sahip olmak ve ücretli aktivitelere katılmak gibi hizmetlerden belli ücret karşılığında yararlanabilmektedir. İletişim aracı olarak metin tabanlı ve ses tabanlı iletişim mümkündür. Eğer kullanıcının bir mikrofonu varsa sesli olarak da iletişim kurabilir. Eğer kullanıcının bir mikrofonu yoksa, o durumda da yazarak iletişim kurabilir. Second Life ortamının getirdiği zorluklardan bahsetmek gerekirse, kullanılan bilgisayarın özellikleri iyi olmalıdır ve hem öğrencilerin hem de öğretmenin Second Life ile ilgili bazı terimlere aşinalığı olmalıdır. Aksi takdirde hem öğretmen hem de öğrenciler bazı sıkıntılar yaşayabilirler.

SL ortamı üzerinde son zamanlarda yapılan eğitim aktivitelerin sayısı da giderek artmaktadır. Harvard Üniversitesi Hukuk Fakültesi'nden Profesör Gene Koo, burada "Cyber One: Law in the Court of Public Opinion" başlıklı hem yüz yüze hem de çevrimiçi bir ders açmış ve Web 2.0 araçlarından blog ve wiki'yi kullanmıştır ve halen de bu dersi yürütmektedir

(http://blogs.law.harvard.edu/cyberone/). Bu örneğin dışında birçok okul ve üniversitede de SL ortamı derslere ek olarak kullanılmaktadır. Bu amaçla SL resmi sitesinde eğitimciler için bir sayfa yaratılmıştır (http://secondlifegrid.net/programs/education) ve eğitimciler arasında iletişim kurmaları için e-mail listeleri bulunmaktadır. Eğitimcilerin, SL'ı nasıl kullanacakları ve eğitimcilere yönelik uygulamalar bulunmaktadır. Aynı zamanda SL ortamını derslerinde kullanan okuların listesi için de bir wiki adresi hazırlanmıştır ve bu kurumların isimleri listelenmiştir (http://simteach.com/wiki/index.php?title=Institutions_and_Organizations_in_SL) ve SL ortamını kullanan kurumların listesi bu wiki üzerinden yayınlanmaktadır. Bu listeye göz atıldığında Harvard University, Illinois University, Stanford University, Iowa State University, Indiana University, Ohio State University, Penn State University ve Princeton University gibi birçok prestijli üniversite ve eğitim kurumunda SL'ın derslerde kullanıldığı görülmektedir ve bu uygulama gün geçtikçe hızla da artmaktadır. Bu kurumların listesinin yayınlandığı wiki sayfasına ek olarak, Stevens (2008) da SL ortamında yer alan eğitim kurumlarının sayısının 150'yi geçtiğini belirtmektedir.

Bu örneklerin dışında konferanslar, paneller ve oturumlar düzenlenmektedir. Bunlara en güzel örnek ise merkezi İspanya'da olan "Consultants-E" firmasına ait olan, eğitimcilere birçok seminer ve konferans için izin verildiği ve eğitimde SL kullanımına yönelik örneklerin sunulduğu adadır. Bu ortamda sunumlar, konferanslar ve tartışmalar düzenlenmektedir. Yüz yüze konferansların yerine geçebilecek nitelikte ve kalitede konferanslar düzenlenmektedir. Ayrıca, bu şekilde konferansın olduğu ülkeye seyahat etme, orada konaklama sorununu çözme gibi bir derdiniz olmadığı gibi katılımın maliyeti de düşürüldüğü için çok farklı ülkelerden katılımcıların olduğu bir konferans düzenlenebilmektedir.

Alanda yapılan çalışmalar incelendiğinde yapılan çalışmaların Active Worlds ve Quest Atlantis ortamlarında yapıldığı ve ortamdaki etkileşimin özelliklerini incelemek veya kullanılan dilin yapısını görmek için yapıldığı (Axelsson, Abelin & Schroeder, 2003; Dickey, 2003; Dickey, 2005; Peterson, 2006, Tüzün, 2006) veya 3D ortamların teknik özelliklerini anlatmaya, bu ortamların nasıl çalıştığını ve yürütüldüğünü anlatmaya yönelik (Hagsand, 1996; Hand, 1997; Dias, Galli, Almeida, Belo & Rebordao, 1997; Jones, 2005, Barab, Thomas, Dodge, Carteaux, & Tüzün, 2005) oldukları görülmektedir.

SL ortamı ile ilgili yapılan çalışmalara bakıldığında ise uygulamaya yönelik çalışmaların olmadığı daha çok betimsel çalışmalar olup SL ortamının özelliklerini ve sunduğu imkanları anlatmaya yönelik olduklarını görebiliriz (Erard, 2007; Kay & FitzGerald, 2006; Stevens, 2006; Stevens, 2007; Stevens, 2008). Bu çalışmalarda eğitimde SL ortamının nasıl kullanılabileceği ve genel olarak eğitimcilerin bu ortamları derslerine nasıl entegre edebilecekleri üzerine durulmaktadır.

Alan yazındaki çalışmaların özellikleri dikkate alındığında, bu ortamlarda gerçekleşen iletişimin analizinin yapılması ve bu ortamlarda var olan kalıpların ortaya çıkarılmasının bir ihtiyaç olduğu açıktır. Bu nedenle bu çalışmada, üç boyutlu bir ortam olan Second Life ortamında gerçekleşen diyaloglardaki sosyal buradalık, anlam söyleşmesi ve öğrencilere söz hakkı dağılımı açısından ne tür kalıpların yer aldığını araştırmak amaçlanmıştır.

Sosyal buradalık ile ilgili yapılan çalışmalar, Garrison, Anderson & Archer (2000) tarafından geliştirilen sorgulama grubu modelinin uygulanması (Garrison, Cleveland-Innes & Fung, 2010; Ke, 2010; Traphagan, Chiang, Chang, Wattanawaha, Lee, Mayrath, Woo, Yoon, Jee & Resta, 2010), sosyal buradalık seviyesini etkileyen faktörler ve sosyal buradalığın doyumla ilişkisi (Tu, 2002; Tung & Deng, 2007; Homer, Plass & Blake, 2008; Kim, Kwon &

Cho, 2011, Bulu, 2011) ve farklı ortamların sosyal buradalık açısından söylem analizinin yapılması (Rourke, Anderson, Garrison and Archer, 2001; Goertzen & Kristjansson, 2007; Akayoğlu, Altun & Stevens, 2009; Reysen, Lloyd, Katzarska-Miller, Lemker & Foss, 2010) olarak üç grupta toplanabilir. İlk iki grupta yer alan çalışmaların sayısı yeterli olmakla birlikte, son boyutta yapılan çalışmaların sayısı oldukça azdır. Dahası, yapılan çalışmaların çok azı çevrimiçi ortamlarda yürütülmüştür ve çalışmalarda da bahsedildiği gibi bu alanda daha fazla çalışmalara ihtiyaç vardır.

Anlam söyleşmesi ile ilgili yürütülen çalışmaları dikkate aldığımızda ise bu çalışmaları farklı ortamlarda ve farklı grupları anlam söyleşmesi açısından karşılaştıran çalışmalar (Sotillo, 2000; Leahy, 2001; Biesenbach-Lucas & Weasenforth, 2002; Oliver, 2002; Schweinhorst, 2004; Jepson, 2005; Patterson & Trabaldo, 2006) ve belli bir grubu kendi içinde anlam söyleşmesi açısından inceleyen çalışmalar (Bitchener, 2004; Arjava, Salovaara, Hakkinen & Jarvela, 2007; Akayoğlu & Altun, 2009; Kaur, 2011; Kibler, 2011; Knapp, 2011) olarak iki grupta toplayabiliriz. Son zamanlarda yürütülen çalışmalara baktığımızda ikinci boyutta yer alan çalışmalara odaklanıldığını görebiliriz. Bu çalışma da ikinci boyutta yer almaktadır ve bu tarz çalışmalar eğitimcilere, araştırmacılara, öğretmenlere ve öğrencilere bu ortamları daha iyi anlamaları açısından yardımcı olabilecek niteliktedir.

Araştırmanın son araştırma sorusu öğrencilere düşen söz hakkının eşit olup olmadığı ile ilgilidir. Alan yazında sürekli olarak çevrimiçi ortamların öğrencilere eşit söz hakkı verdiği savunulmuştur ama çok az çalışmada (Kern, 1995; Warschauer, 1996; Chun, 1998; Fitze, 2006) bu söz hakkı dağılımının eşit olup olmadığı araştırılmıştır. Bu araştırma sorusu alanda sürekli ifade edilen öğrencilerin eşit olarak derse katıldıkları hipotezini araştırıp bu konuda bir genelleme yapılmasına olanak sağlayacaktır.

Çalışmanın belirlenen araştırma soruları aşağıdaki gibidir:

1. Second Life ortamında sanal sınıflarda yürütülen görev tabanlı aktiviteler esnasında gerçekleşen diyaloglarda gözlemlenen sosyal buradalık işlevlerinin sıklığı nedir?

a. Second Life ortamında sanal sınıflarda yürütülen görev tabanlı aktiviteler esnasında gerçekleşen diyaloglarda gözlemlenen duygusal sosyal buradalık işlevlerinin sıklığı nedir?

b. Second Life ortamında sanal sınıflarda yürütülen görev tabanlı aktiviteler esnasında gerçekleşen diyaloglarda gözlemlenen etkileşimsel sosyal buradalık işlevlerinin sıklığı nedir?

c. Second Life ortamında sanal sınıflarda yürütülen görev tabanlı aktiviteler esnasında gerçekleşen diyaloglarda gözlemlenen birleştirici sosyal buradalık işlevlerinin sıklığı nedir?

2. Second Life ortamında sanal sınıflarda yürütülen görev tabanlı aktiviteler esnasında gerçekleşen diyaloglarda gözlemlenen anlam söyleşmesi işlevlerinin sıklığı nedir?

a. Second Life ortamında sanal sınıflarda yürütülen görev tabanlı aktiviteler esnasında gerçekleşen diyaloglarda en çok hangi anlam söyleşmesi işlevleri gözlemlenmektedir?

b. Second Life ortamında sanal sınıflarda yürütülen görev tabanlı aktiviteler esnasında gerçekleşen diyaloglarda en az hangi anlam söyleşmesi işlevleri gözlemlenmektedir?

3. Second Life ortamında sanal sınıflarda yürütülen görev tabanlı aktiviteler esnasında gerçekleşen diyaloglarda öğrencilerin söz hakkı dağılımı nasıl gerçekleşmiştir?

a. Öğrencilerin konuşmaları her oturumda eşit olarak mı dağılmıştır?

b. Hangi tür aktivitelerde öğrencilerin söz hakkı dağılımı daha eşittir?

Bu betimsel nitelikli çalışmada üç boyutlu bir ortam olan Second Life ortamındaki bilgisayar yoluyla metin tabanlı iletişimin sosyal buradalık işlevleri, anlam söyleşmesi işlevleri ve öğrencilere söz hakkı dağılımı açısından söylem kalıplarının belirlenmesi amaçlanırken içerik çözümleme türlerinden söylem çözümlemesi yöntemi kullanılarak nitel ve nicel veriler elde edilmiş; bu veriler çerçevesinde söz konusu söylem kalıplarına ilişkin belirlemelere ulaşılmıştır.

Veri toplama sürecinde, Orta Doğu Teknik Üniversitesi Yabancı Diller Eğitimi Bölümü'nde öğrenim gören 40 kız, 14 erkek öğrenci toplamda ise rasgele seçilen 54 birinci sınıf öğrencisi çalışmaya katılmıştır. Bölüme her yıl 120 öğrenci yerleştirilmektedir. Bu öğrenciler ise dört gruba ayrılıp 30 kişi olarak ayrılmaktadırlar. Bu çalışmaya bu dört grubun sadece iki grubunda kayıtlı olan öğrenciler katılmıştır. Katılımcı sayısının 60 olmamasının nedeni ise farklı sebeplerle başka gruplara kaydolan öğrenciler ve dönem esnasında kaydını sildiren iki öğrenci olmuştur. Katılımcıların yaşları 18 ile 20 arasında değişmektedir. Çalışmanın verileri 2009-2010 akademik yılının Güz döneminde toplanmıştır. Dönem başında, İleri Okuma ve Yazma I dersini alan bu öğrencilere Second Life ortamı tanıtılmış ve dönem boyunca bazı okuma ve yazma etkinlikleri bu ortamda yapılmıştır. Ders süresince ekran görüntüleri kaydedilmiş ve öğrencilerden sohbet kayıtlarını bilgisayarlarına kaydetmeleri

istenmiştir. Her dersin sonunda da, öğrenciler sohbet kayıtlarını dersin öğretim elemanına e-posta yoluyla göndermişlerdir.

Ders boyunca yürütülen aktiviteler ise aşağıdaki gibi gruplandırılmıştır:

a. *Okuma Parçası (The Gift of Magi* by O. Henry): Öğrenciler derse gelmeden önce O. Henry tarafından yazılan *The Gift of Magi* adlı kısa hikayeyi okuyup geldiler ve beşer kişilik gruplar oluşturarak Second Life ortamında hikaye ile ilgili bazı sorular üzerinde tartıştılar. Her grup farklı bir sorudan sorumluydu. 20 dakikalık tartışma sonunda, tüm öğrenciler bir araya geldiler ve her grubun sözcüsü olan öğrenci ne tartıştıklarından bahsetti.
b. *Sınıflandırma Paragrafı:* Bu oturumda öğrenciler Second Life ortamında karşılaştıkları insanlarla görüşme yaptılar. Bu aktivite sırasında öğrencilerin sakıncalı yerlere gidip sakıncalı kişilerle görüşmesini engellemek için gidebilecekleri yerlerin listesi daha önceden hazırlanmıştı. Öğrenciler, bu ortamda buldukları kişilere Second Life'ı neden kullandıklarını sordu ve sonunda bir araya gelerek Second Life kullanıcılarını sınıflandırarak bir paragraf yazdılar. Bu sınıflandırmayı yaparken yine bu ortamda gruplar oluşturarak tartışarak belli sonuçlara vardılar.
c. *Süreç Analizi Paragrafı:* Bu aktivite öncesinde Classroom B adıyla bir alan tasarlandı ve öğrencilere bu ortamda nasıl bina inşa edilebileceği gösterildi. Daha sonrasında öğrenciler bu ortamda gruplar oluşturarak bina inşa etmeye başladılar. Bina inşa ederken de metin tabanlı iletişim yoluyla konuştular. Aktivite sonunda öğrencilerden bloglarına hangi aşamalardan geçtiklerini ve Second Life'da nasıl bina yapıldığını adım adım anlatmaları istendi. Bu şekilde öğrenciler de süreç analizi paragrafı yazdılar.

d. *Anlatımcı Paragraf:* Bu aktivitede öğrencilere hikaye yazmaları için bazı ipuçları verilmiştir ve öğrencilerin bir araya gelerek bir hikaye yazmaları istenmiştir. Öğrenciler kendi grupları içinde verilen ipuçlarını da kullanarak bir hikaye yazmışlardır. Bu tartışma sırasında da metin tabanlı iletişim aracını kullanmışlardır.
e. *Karşılaştırma Paragrafı:* Öğretmen tarafından Second Life ortamında bazı yerler ders öncesinde belirlenmiştir. Öğrenciler bu yerlerden iki tanesini seçerek oraya gitmişlerdir ve orada fotoğraf çekerek iki alanı önce sözlü olarak arkadaşlarına daha sonra ise paragraf olarak bloglarına yazmışlardır.
f. *Tartışmacı Paragraf:* Son aktivite olarak öğrencilere tartışmaları için bazı konular verilmiştir. Bu konuların dağıtımında Second Life'ın not kartları kullanılmıştır. Öğrenciler aldıkları not kartlarına göre gruplara ayrılmış ve gruptaki arkadaşları ile tartışmaya açık konular üzerinde konuşmuşlardır. Daha sonrasında ise bu tartıştıklarını blog sayfalarına yazarak yayınlamışlardır.

Second Life'in bir özelliği olarak tüm konuşma kayıtları tutulmaktadır. Bu şekilde kaydedilen kayıtlar öğrenciler tarafından öğretmenin e-posta adresine gönderilmiş ve öğretmen tarafından da bu kayıtlar organize edilerek analiz edilmek üzere hazırlanmıştır. Ayrıca öğretmen de aktivitelerde faal olarak yer aldığı için dersin ekran görüntüsünü kaydetmek için farklı bir avatar yaratılarak başka bir bilgisayardan ders kaydedilmiştir.

Veriler toplandıktan sonra, sohbet kayıtları bir kelime işlemci programına aktarılmış ve Qualitative Research Data Analysis Computer Software, Hyper Research 2.6.1 kullanılarak çözümlenmiştir. Veri analizi aşamasında, anlam söyleşmesi için Akayoğlu & Altun (2008) tarafından uyarlanan sınıflandırma; sosyal buradalık içinse Rourke, Anderson, Garrison ve Archer'ın (2001)'de

hazırladıkları sınıflandırma kullanılmıştır. Son olarak da her öğrencinin kullandığı kelimeler sayılmış ve öğrencilerin söz hakkı dağılımının eşitliği Gini katsayısı kullanılarak ölçülmüştür.

Rourke, Anderson, Garrison ve Archer'ın (2001) hazırladığı sınıflandırmada yer alan kategoriler aşağıda kısaca açıklanmıştır.

1. *İsim ile hitap etme:* Bu kategoride yer alan ifadeler grup içindeki tartışmalar esnasında katılımcıların birbirlerine isimleri ile hitap ettikleri ifadelerdir.
2. *Duyguların ifade edilmesi:* Metin tabanlı gerçekleşen iletişim ortamlarında, katılımcılar duygusal anlamda kendilerini ifade etmek için bazı ikonlar kullanırlar. Bu kategoride o ifadeler yer almaktadır.
3. *Soru sorma:* Katılımcılar, bazen tartışma konuları ile ilgili bazen de aktivitelerle ilgili sorular sormaktadır. Bu kategoride yer olan ifadeler soru kalıplarıdır.
4. *Selamlama:* Metne dayalı iletişim ortamlarında katılımcılar ortama ilk girdiklerinde arkadaşlarına selamlama belirten bir ifade yazmaktadırlar. Bu selamlama amaçlı kullanılan ifadeler genellikle katılımcıların mekan olarak farklı oldukları zamanlarda sıklıkla görülür.
5. *İltifat etme:* Öğrencilerin, diğer öğrencilerin yaptıkları bir iş için ya da söyledikleri bir söz için takdir etmelerini ve beğenmelerini içerir.
6. *Şaka yapma:* Tartışmalar ve diğer aktiviteler esnasında öğrencilerin birbirlerine yaptıkları şakalardan ve esprilerden bahsederken kullanılan ifadelerdir.
7. *Kendinden bahsetme:* Katılımcının kendisi ile ilgili bir bilgi vermesi veya bir şey söylemesidir.
8. *Aynı fikirde olduğunu ifade etme:* Katılımcıların, diğer katılımcıların söylediği bir söze katıldığını, aynı fikirde olduğunu belirttiği ifadelerdir.

9. *Gruptan 'biz' diye bahsetme:* Grup halinde yapılan tartışmalarda ve aktivitelerde katılımcıların gruptan "biz" diye bahsetmeleridir. Bu grup kavramını katılımcıların benimsediğini gösterir.
10. *Mesaja devam etme:* Daha önce başka bir katılımcının söylediklerine katılmalarını anlatır.
11. *Diğer mesajlardan alıntı yapma:* Başka bir öğrencinin söylediği bir sözü aynen yazması ve diğer bir katılımcının sözünü kullanmasıdır.
12. *Diğerlerinin mesajlarına gönderme yapma:* Başka bir katılımcının söylediği sözü aynen almadan sadece gönderme yapıldığı durumlardır.

Anlam söyleşmesi için Akayoğlu & Altun (2008) tarafından hazırlanan sınıflandırmada ise aşağıdaki kategoriler yer almaktadır.

1. *Açıklama isteği:* Bir katılımcı diğerinden söylediğini netleştirmesini, daha açıklayıcı hale getirmesini ister.
2. *Karşı tarafın anlayıp anlamadığını kontrol etme:* Bir katılımcı söylediğinin diğer arkadaşları tarafından anlaşılıp anlaşılmadığını kontrol eder.
3. *Onaylama:* Daha önce söylenenin onaylanması için kullanılan ifadelerdir.
4. *Onaylamayı kontrol etme:* Bir katılımcının karşı taraftan onaylamasını beklediği zaman kullandığı ifadelerdir.
5. *Düzeltme:* Katılımcının daha önce kendi ya da arkadaşının söylediği bir ifadeyi düzeltmek için kullanılır.
6. *Detaylandırma:* Herhangi bir talep gelmeden katılımcının daha önce söylediği sözleri daha detaylı hale getirmesidir.
7. *Detaylandırma isteği:* Katılımcının, bir önce söylenen bir sözü açıklanmasını istediği ifadelerdir.

8. *Açıklama isteğine cevap verme:* Katılımcılardan birinin açıklama isteğine, başka birinin karşılık vererek açıklama yaptığı ifadelerdir.
9. *Anlayıp anlamadığını kontrole cevap verme:* Bir katılımcı söylediğinin anlaşılıp anlaşılmadığını kontrol ettiğinde, başka bir katılımcı tarafından cevap verilmesidir.
10. *Onaylamayı kontrol etmeye cevap verme:* Bir katılımcının karşı taraftan onaylama beklediği durumlarda verilen cevaplardır.
11. *Detaylandırma isteğine cevap verme:* Bir katılımcı söylenen sözün detaylandırılmasını istediğinde ona karşılık verilen ifadedir.
12. *Kelime isteğine cevap verme:* Bir katılımcı herhangi bir kelimenin anlamını sorduğunda ona verilen cevaptır.
13. *Kelime bilgisini kontrol etme:* Bir katılımcının diğer katılımcıların bir kelimeyi bilip bilmediğini kontrol ettiği ifadelerdir.
14. *Kelime bilgisi sorma:* Bir katılımcının herhangi bir kelimenin anlamını sorduğu ifadelerdir.

Araştırmanın üçüncü sorusunun analizi için Gini Katsayısı hesaplanmıştır. Bu hesaplama daha çok gelir dağılımının hesaplanmasında kullanılmıştır. İllerin gelir durumlarını hesaplarken eşit bir dağılım olup olmadığını araştırmak için kullanılan bu hesaplama daha sonraları derse katılan öğrencilerin katılımlarını ele alıp öğrenciler arasında eşit bir söz dağılımının olup olmadığını araştırmak için de kullanılmıştır. Bu çalışmada öğrencilerin her derse katılımları bir tutulmamıştır. Veriler metin tabanlı iletişim ortamında toplandığı için bazı öğrenciler bir cümleyi üç veya daha fazla satırda yazarken bazı öğrenciler birkaç cümleyi aynı söz hakkında yazmışlardır. Bunlar arasındaki bu eşitsizliği en aza indirmek için öğrencilerin söz hakkı dağılımları kelime bazında hesaplanmıştır.

Gini Katsayısı bir dağılımın eşit olup olmadığını görmek için kullanılır ve hesaplanan değer 0 ile 1 arasında değişir. Bu katsayı yorumlanırken de 0 mükemmel derecede eşit, 1 ise tamamen farklı olarak yorumlanır. Genelde de iki veya daha fazla durumu karşılaştırırken kullanıldığı için hangi durumun daha eşit veya hangi durumdaki dağılım daha az eşit diye bakılmak için hesaplanır. Bu çalışmada her oturum için Gini Katsayısını kendi içinde hesapladığımız için 0.5'in altındaki değerler için eşit, 0.5'in üzerinde bulunan değerler için ise eşit değil diye yorum yapılmıştır.

Her oturumun Gini Katsayısını hesaplamak için aşağıda görünen formül uygulanmıştır.

Öncelikle öğrenciler tarafından yazılan her kelime tek tek sayılmıştır ve en küçükten en büyüüğe doğru sıralanmıştır. Bu aşamadan sonra ise aşağıda görülen formüller uygulanmıştır. Bu hesaplama bir örnekle anlatılırsa daha net olarak anlaşılabilecektir.

Örneğin sınıfta 6 öğrenci olduğunu varsayalım ve tüm öğrenciler de çalışmaya katılmış olsun. Ders içinde kullandıkları kelimelerin sayısı da 88, 98, 76, 120, 102 ve 68 olarak sayılsın. Öncelikle bu sayıları küçükten büyüğe doğru sıralamamız gerekiyor.

68

76

88

98

102

120

Daha sonrasında, sütundaki tüm sayıları aşağıya doğru toplayarak kümülatif sütun hesaplanır. Böylece ikinci değer 68 +76 = 144, üçüncü değer ise 68+76 + 88 = 232 olarak bulunur..

68	68
76	144
88	232
98	330
102	432
120	552

Kümülatif sütundaki en son değer 552'dir ve bu değeri T değeri olarak alırız ve kümülatif sütundaki son değere de Sigma diyoruz.

68 + 144 + 232 + 330 + 432 = 1206.

Gini Katsayısını hesaplamanın formülü 1 - (2 / T * Sigma + 1)/n olarak kullanılır ve bizim örneğimizdeki duruma göre Gini 1 – (2/552*1206+1)/6 = 0.105172 olarak bulunur. Bu da 0.5 değerinin altında bir değer olduğu için de öğrenciler arasındaki dağılım da eşit olarak düşünülür.

Bu çalışmada Gini Katsayısı oturumlar içinde eşit bir dağılımın olup olmadığını görmek için kullanılmıştır. Buna ek olarak da hangi tarzda aktivite kullanıldığında öğrenciler arasında söz dağılımının daha eşit olduğunu hesaplamak için de yine oturumlardaki Gini Katsayısına bakılmıştır.

Analiz işlemi bittikten sonra kodlamanın güvenirliği için alanda iki uzmana başvurulmuştur. Onların yaptığı kodlamaları dikkate alarak Cohen's Kappa hesaplanmış ve sosyal buradalık ile ilgili analiz için Cohen's Kappa değeri .81, anlam söyleşmesi için ise .83 bulunmuştur. Landis ve Koch (1977) göre .81 ve üzeri Cohen's Kappa değeri mükemmel uzlaşmayı ifade eder.

Çalışmanın sonunda elde edilen bulgular ise şu şekildedir:

Rourke, Anderson, Garrison ve Archer (2001) tarafından hazırlanan sınıflandırmada verilen sosyal buradalık işlevleri, "başkasının mesajlarından alıntı yapma" dışında hepsi görülmüştür. "Başkasının mesajlarından alıntı yapma" işlevi görülmemesinin nedeni metin tabanlı bir iletişim olduğu için öğrencilerin daha önce yazılan mesajları görebilmesi olabilir. Bir öğrenci başka bir öğrencinin mesajından bahsettiği zaman diğer öğrenciler ekrandaki yazıyı yukarı kaydırıp önceki kayıtları görebilmektedir. Metin tabanlı iletişimin geçerli olduğu bir ortamda bu sonuç beklenmedik bir sonuç değildir.

Rourke, Anderson, Garrispon ve Archer'ın (2001) sunduğu kategorilere bir kategori daha eklenmiştir. Bu kategori üç boyutlu ortamlarda görülebilecek bir kategoridir. Öğrenciler metin tabanlı iletişimde görülmeyecek bir işlev kullanmışlardır. Bu da üç boyutlu ortamda avatarların hareketlerine gönderme yapmaktadır ve bu çalışmada bu işlev "görsel olaya gönderim yapma" olarak adlandırılmıştır. Görsel öğelerin mevcut olduğu bir ortamda bu sonuç da beklenebilir. Alan yazında bununla ilgili bir çalışma yoktur ve bu çalışmanın alan yazınına bir katkısı olarak düşünülebilir.

Aşağıdaki tabloda da görüldüğü gibi en çok sıklıkta kullanılan üç sosyal buradalık kategorisi "duyguların ifade edilmesi", "isimle hitap etme" ve "soru sorma" olarak sıralanmıştır. "Duyguların ifade edilmesi" ile ilgili ifadeler 537 kez tekrarlanırken, "isimle hitap etme" ifadeleri 440 ve "soru sorma" ifadeleri de 291 kez tekrarlanmıştır. Bu sosyal buradalık kategorilerinin yüzdeleri ise sırasıyla %18.8, %15.4 ve %15.2 olarak belirlenmiştir. Bu sonuç alan yazındaki çalışmaların sonuçları ile örtüşmektedir.

Tablo 1: Gözlemlenen Sosyal Buradalık Kategorileri

Kategorinin Adı	Sayı (N)	Yüzde (%)
Duyguların ifade edilmesi	537	18.8
İsim ile hitap etme	440	15.4
Soru sorma	435	15.2
Aynı fikirde olduğunu ifade etme	291	10.2
Gruptan 'biz' diye bahsetme	260	9.1
Görsel olaya gönderim yapma	252	8.8
Mesaja devam etme	143	5.0
Yardım isteme	115	4.0
Şaka yapma	113	4.0
İltifat etme	106	3.7
Kendinden bahsetme	84	2.9
Selamlama	75	2.6
Diğerlerinin mesajlarına açıktan gönderme yapma	5	0.2
Diğer mesajlardan alıntı yapma	0	0

En az sıklıkta kullanılan sosyal buradalık kategorileri "diğerlerinin mesajlarından alıntı yapma", "diğerlerin mesajlarına açıktan gönderme yapma" ve "selamlama" olarak sıralanmıştır. İlk bahsedilen işlev verilerin hiçbirinde görülmemektedir. Tablo 1'de de görüldüğü gibi "diğerlerinin mesajlarından alıntı yapma" hiç görülmemiştir; "diğerlerinin mesajlarına açıktan gönderme yapma" 2 kez; "selamlama" ise yalnızca 3 kez gözlemlenmiştir. Bu kategorilerin yüzdeleri ise sırasıyla %0, %0.2 ve %2.6 olarak belirlenmiştir. Alanda yapılan çalışmalarda selamlama kategorisi daha fazla görülürken bu çalışmada bu kategori neredeyse hiç görülmemiştir. Bunun nedeni olarak ise öğrencilerin fiziksel olarak aynı sınıfta olmaları ve dersin belirli bölümlerinde

Second Life ortamı kullanılmıştır. Bu nedenle de öğrenciler sınıf içinde görüştükleri diğer öğrencilere bu ortamda tekrar selam verme gereği duymamışlardır.

Araştırmanın ikinci araştırma sorusu verilerde gözlemlenen anlam söyleşmesi işlevleri ile ilgilidir. Birinci alt sorusu en çok görülen anlam söyleşmesi işlevleri, ikinci alt sorusu ise en az görülen anlam söyleşmesi işlevleridir. Araştırma sonunda elde edilen veriler Tablo 2'de verilmiştir.

Tablo 2'de de görüldüğü gibi anlam söyleşmesi açısından en sık kullanılan kategoriler "onaylama", "detaylandırma isteği" ve "açıklık getirme isteği" olarak belirlenmiştir. Bu kategorilerin yüzdelerine bakılacak olursa da "onaylama" için %24.6; "detaylandırma isteği" için %17.9; ve "açıklık getirme isteği" için ise %14.0'dır. Bu kategoriler sırası ile 277, 201 ve 158 kez görülmüştür. En sık görülen işlev açısından bulunan sonuç şaşırtıcı değildir; çünkü bazı öğrenciler tartışmaya katıldıklarını veya takip ettiklerini göstermek için daha önceki arkadaşlarının yazdıkları yorumları ve ifadeleri onaylamakla yetinmişlerdir.

Tablo 2'den de anlaşılabileceği gibi en az kullanılan anlam söyleşmesi kategorileri "kelime isteğine cevap verme", "anladığını sormaya cevap verme" ve "kelime bilgisini kontrol etme" olarak sıralanmıştır. "Kelime isteğine cevap verme" ifadeleri 5 kez, "anladığını sormaya cevap verme" 3 kez; "kelime bilgisini kontrol etme" ise 1 kez görülmüştür. Bu işlevlerin yüzdeleri ise sırasıyla %0.4, %0.3 ve %0.1'dir. Bunun nedeni öğrencilerin ileri seviyede İngilizce bilgisine sahip İngilizce Öğretmenliği Bölümü öğrencileri olması ve ihtiyaç duyduklarında herhangi bir kelimeye internet üzerinden çevrimiçi sözlük kullanarak bakabilme olanakları vardır. Bu nedenle öğrenciler kelime bilgisi konusunda diğer öğrencilerin yardımına ihtiyaç duymamışlardır.

Tablo 2: Gözlemlenen Anlam Söyleşmesi İşlevleri

Kategorinin Adı	Sayı (N)	Yüzde (%)
Onaylama	277	24.6
Detaylandırma isteği	201	17.9
Açıklama isteği	158	14.0
Detaylandırma	98	8.7
Detaylandırma isteğine cevap verme	96	8.5
Onaylamayı kontrol etme	78	6.9
Açıklama isteğine cevap verme	70	6.2
Onaylama isteğine cevap verme	63	5.6
Düzeltme	58	5.2
Kelime isteği	10	0.9
Karşı tarafın anlayıp anlamadığını kontrol etme	8	0.7
Kelime isteğine cevap verme	5	0.4
Anladığını sorrmaya cevap verme	3	0.3
Kelime bilgisini kontrol etme	1	0.1

Anlam söyleşmesi ve sosyal buradalık ile ilgili bu sonuçlar alan yazındaki çalışmalar incelendiğinde, o çalışmada bulunan bulgular ile bu çalışmada elde edilen bulguların tutarlık gösterdiği görülmektedir.

Son olarak ise öğrencilerin söz hakkı dağılımındaki eşitlik araştırılmıştır. Öğrenciler tarafından kullanılan kelimeler sayılmış ve öğrencilerin derse eşit katılıp katılmadıkları Gini Katsayısı kullanılarak ölçülmüştür. Bu çözümleme sonucunda, alan yazında da iddia edildiği gibi, öğrencilerin her oturumdaki söz hakkı dağılımları arasında bir eşitlik söz konusu olduğu görülmüştür. Üçüncü araştırma sorusunun alt sorusu olarak Second Life ortamında yürütülen aktivitelerin öğrencilerin söz hakkı dağılımına bir etkisi olup olmadığı araştırılmıştır. Tablo 3'te oturumlarda yapılan aktivitelerin özellikleri ve her

oturum için hesaplanan Gini Katsayısı verilmektedir. Sonuç olarak ise teknik bilgi gerektiren aktivitelerde bazı öğrencilerin daha fazla derse katıldığı ve bu öğrencilerin genellikle teknik konularda daha iyi olan öğrenciler olduğu saptanmıştır.

Tablo 3: Oturumlarda yürütülen aktiviteler ve Gini Katsayıları

Oturum #	Yapılan aktivite	Gini Katsayısı
1	Bir hikaye hakkında konuşma (tartışma)	0.25229
2	Diğer Second Life kullanıcıları ile görüşme	0.258042
3	Bina inşa etme	0.353377
4	Bina inşa etme	0.487994
5	Ortak bir hikaye yazma	0.277765
6	Ortak bir hikaye yazma	0.43427
7	Karşılaştırma yapma (tartışma)	0.266034
8	Karşılaştırma yapma (tartışma)	0.203298
9	Tartışma konusu üzerine konuşma (tartışma)	0.189912
10	Tartışma konusu üzerine konuşma (tartışma)	0.255939

Tablo 3'te görüldüğü gibi Gini Katsayılarının en yüksek olduğu oturumlar öğrencilerin aktivite olarak bina inşa ettikleri oturumlardır. Bu oturumlarda öğrencilerin çok az da olsa bazı teknik bilgilere ihtiyacı olmuştur ve bilgisayar kullanmada iyi olan öğrenciler derse katılmada daha aktif olarak görülmüşlerdir.

Araştırmanın sınırlılıklarından biri olarak ise Second Life ortamındaki ses tabanlı iletişimin kullanılmamış olması verilebilir. Second Life ortamında hem metin tabanlı hem de ses tabanlı iletişim mevcuttur. Ancak, öğrencilerin aynı sınıfta yer aldıklarını düşününce ses tabanlı iletişim sınıf ortamı içinde karmaşaya yol açacağı ve etkili bir iletişime engel olacağı için sadece metin tabanlı iletişim kullanılmıştır. Buna ek olarak uzaktan eğitimin genel

hedeflerinden biri fiziksel mekan olarak birbirinden uzakta olan öğrencileri diğer öğrencilerle ve öğretmenle bir araya getirmektir. Bu çalışma sırasında öğrencilerin hepsi aynı sınıfta buluşmuşlardır. Bunun nedeni ise öğrencilerin bazılarının yurtta kalması ve yurtlarda bulunan bilgisayarların Second Life programını çalıştırmaya yetecek kapasitelerinin olmamasıdır.

Bu çalışmanın İngilizce öğretimi açısından uygulamalarına göz atmak gerekirse, İngilizce'nin yabancı dil olarak öğretildiği ve kullanıldığı ortamlarda öğrencilerin okul ortamı dışında yabancı dili kullanmaları çok zordur. Buna bir çözüm olarak öğretmenler sınıflarında çevrimiçi araçları kullanmak ya da öğrencileri pratik yapabilecekleri ortama yönlendirmek isteyebilirler. Ancak bu ortamları kullanmadan veya öğrencileri oraya yönlendirmeden önce öğretmenlerin bu ortamların genel özelliklerini bilmeleri gerekir. İletişimin gelişimini ve akışını daha iyi anlamak için söylem analizi yürütülen çalışmalara da ihtiyaç vardır.

Bunlara ek olarak sosyal buradalık alan yazında genellikle akademik başarı ile ilişkilendirilmektedir. Sosyal buradalık işlevlerinin gözlemlendiği ortamlarda öğrencilerin de doğru orantılı olarak başarılı olmaları beklenir. Bu nedenle bu ortamlarda sosyal buradalık işlevlerinin analizi, bu ortamların öğrencilerin başarılı olmaları için fırsatlar sunup sunmadığını göstermesi açısından önemlidir. Bu çalışma göstermiştir ki, üç boyutlu sanal ortamlarda gerçekleşen iletişim sosyal buradalık işlevlerinin hepsini içermektedir. Bu nedenle, bu ortamlarda yürütülen derslerde öğrencilerin de başarılı olması beklenebilir.

Anlam söyleşmesi işlevleri ise genellikle bir dilin etkili bir şekilde kullanıp iletişim stratejilerinin gelişmesi açısından önemlidir. Anlam söyleşmesi işlevlerinin var olması bu ortamların öğrencilere iletişim stratejilerini geliştirmeleri açısından fırsatlar sunar.

Bu çalışmanın üçüncü araştırma sorusu ise öğrencilerin söz hakkı dağılımı ile ilgiliydi. Öğretmenler çoğu zaman tüm öğrencilerin derse aynı ölçüde katılamadığından ve bazı öğrenci gruplarının dersi yönlendirdiğinden şikayet etmektedirler. Bunun nedeni çoğu zaman sınıfların fiziksel yetersizlikleri ve zaman yetersizliğidir. Bu çalışma Second Life ortamının öğrencilere eşit söz hakkı dağılımı sağladığını göstermiştir. Bu da öğretmenlerin yakındıkları bir duruma çözüm önerisi olabilir. Üçüncü araştırma sorusunun alt sorusu ise hangi tarz aktivitelerin öğrencilerin söz hakkı dağılımında eşitliği etkilediği üzerineydi. Teknik bilgi gerektiren aktivitelerin daha çok eşitsizliğe neden olduğu görülmüştür. Bu bulgudan yola çıkarak, öğretmenlerin aktivite hazırlarken daha az teknik bilgi gerektiren aktiviteler hazırlamaları eşit bir söz hakkı dağılımına olanak sağlayacaktır. Öğretmenler bu ortamlarda ders hazırlarken bu noktaya dikkat edebilirler.

Öğretmenler için önerileri özetlemek gerekirse, bu çalışmanın bulguları üç boyutlu ortamlarda derse katılmak isteyen veya ders tasarlamak isteyen öğrencilere, eğitimcilere ve araştırmacılara yardımcı olabilir. Bu ortamları daha iyi anlayabilirler. Dahası, anlam söyleşmesinin işlevlerinin varlığı öğrenmenin kalitesi ile sosyal buradalık ise çoğunlukla öğrencilerin doyumları ile ilişkilendirilmektedir. Bu da üç boyutlu ortamların öğrencilere sunduğu fırsatları dikkate aldığımızda, bu ortamların öğrenilerin daha iyi öğrenmeleri ve doyumlarını artırmaları için ortam sunduğu söylenebileceği anlamına gelmektedir.

Bu çalışmadan yola çıkarak ileride farklı çalışmalar da yürütülebilir. Örneğin, bu çalışmada bazı fiziksel yetersizliklerden dolayı öğrenciler aynı sınıfta ders almışlardır. Katılımcıların hepsinin farklı yerlerden katıldıkları bir ortamda ders yürütülebilir ve sonuçları bu çalışmanın bulguları ile karşılaştırılabilir.

Second Life ortamında iletişim metin tabanlı olduğu gibi ses yoluyla da gerçekleştirilebilmektedir. Bu çalışmada öğrenciler aynı sınıfta bulundukları için sadece metin tabanlı iletişim kullanılmıştır. İleride yapılacak bir çalışmada ses yoluyla iletişim de kullanılabilir ve o çalışmanın sonuçları bu çalışmada elde edilen bulgularla karşılaştırılabilir.

Bu çalışmada yer alan katılımcıların tamamı İngilizce'yi yabancı dil olarak kullanan öğrencilerdi. Ana dili İngilizce olan katılımcıların da olduğu çevrimiçi bir sınıf yaratılarak ayı araştırma soruları üzerinden bir çalışma yapılabilir. Bazı kültürel farklardan dolayı sonuçları da farklı çıkabilir. Bu da anadili İngilizce olan katılımcılar ile olmayan katılımcılar arasında araştırma soruları kapsamındaki farkları ortaya çıkarabilir.

Bu çalışmada anlam söyleşmesi, sosyal buradalık işlevleri ve öğrencilerin söz haklarının dağılımı açısından söylem analizi yapılmıştır. İleride yapılacak çalışmalarda cümleler arasındaki tutarlılık, cümle içindeki öğelerin sıralanışı veya soru tipleri konularında da çalışma yapılabilir. Bu çalışmalar da bu ortamda gerçekleşen iletişimin akışını daha iyi anlamaya yardımcı olacaktır.

Appendix – F: Tez Fotokopi İzin Formu

TEZ FOTOKOPİSİ İZİN FORMU

ENSTİTÜ

Fen Bilimleri Enstitüsü	
Sosyal Bilimler Enstitüsü	X
Uygulamalı Matematik Enstitüsü	
Enformatik Enstitüsü	
Deniz Bilimleri Enstitüsü	

YAZARIN

Soyadı: Akayoğlu
Adı: Sedat
Bölümü: İngiliz Dili Öğretimi A.B.D.

TEZİN ADI (İngilizce): An Analysis of Text Based CMC of Advanced Learners of English in Second Life

TEZİN TÜRÜ : Yüksek Lisans [ ] Doktora [X]

1. Tezimin tamamından kaynak gösterilmek şartıyla fotokopi alınabilir. [ ]
2. Tezimin içindekiler sayfası, özet, indeks sayfalarından ve/ veya bir bölümünden kaynak gösterilmek şartıyla fotokopi alınabilir. [ ]
3. Tezimden bir bir (1) yıl süreyle fotokopi alınamaz. [X]

TEZİN KÜTÜPHANEYE TESLİM TARİHİ: .....