

An investigation of learner interaction in a MOO-based virtual environment

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Abstract

This study investigated how EFL learners managed their real time interaction in a computer-mediated communication (CMC) environment called *Schmooze University MOO*. Fourteen undergraduates enrolled at two universities in Tokyo took part in weekly text chat sessions over a semester. Four task types were implemented; information-gap, jigsaw, decision-making and opinion-exchange. Qualitative data such as transcripts, field notes and questionnaires were analyzed within the framework of a case study. Findings indicated that the subjects actively managed their interaction, monitored their linguistic output, supported each other and exercised autonomy. Analysis of the transcripts revealed that the subjects consistently produced coherent target language output focused on the tasks, while at the same time, overcoming the challenge of communicating effectively in a new online environment. They achieved this considerable feat in part, by utilizing features of the environment designed to facilitate interaction. Moreover, they utilized a mix of transactional and interactional discourse management strategies that have been identified in the literature on native speaker interaction in real time CMC. Transactional strategies identified in the data were addressivity, time saving and feedback. Interactional strategies were the use of pseudonyms, positive and negative politeness, greetings, leave-takings and off-task discussion. These strategies enabled the subjects to track turns, provide feedback and build the social cohesion necessary for sustained communication in online environments. The analysis showed that as the project progressed, the subjects utilized a greater number and wider range of strategies than in the earlier sessions. The majority of these appeared the result of transfer from conventional forms of communication. However, others were adaptive and appropriate to the online nature of the interaction. These strategies that have not been reported in the literature on learner-learner interaction in CMC, were use of the *to* command, split turns, suspension dots, quotation and omission. The appearance of these medium induced strategies highlights the subjects' increasingly sophisticated and successful attempts to deal with real time computer-based nature of the interaction.

Analysis of the data further revealed that when communication problems arose the subjects overcome them by utilizing communication strategies involved in negotiation of meaning. The most frequent strategies identified in the data were definition and clarification requests followed by self-, other-initiated correction and non-response. The subjects also made limited use of confirmation and comprehension checks. These strategies were more frequent in the jigsaw tasks than in the other task types. The data showed that learner-learner negotiation in this type of CMC broadly follows the model proposed for face-to-face interaction in conventional classrooms. However, analysis indicated that the interplay of proficiency levels, task, the computer-based nature of the interaction and sociocultural concerns appeared to influence the frequency of negotiation.

Declaration

In accordance with regulation 2.5 of the postgraduate assessment regulations for research degree, I hereby declare that I have composed this thesis myself, that the work it contains is my own and that it has not been submitted for any other degree or professional qualification.

Mark Peterson

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Glossary

BBS	bulletin board system
CALL	computer assisted language learning
CMC	computer mediated communication
GUI	graphical user interface
IRC	Internet relay chat
LAN	local area network
L 1	a first language
L2	a second language
MOO	multi-user object-orientated domain
NNS	non-native speaker
NS	native speaker
SLA	second language acquisition
TL	target language
VR	virtual reality

Chapter 1 CALL, CMC and language development

1.0 Introduction

In recent years, CALL researchers have taken advantage of advances in network technology to engage learners in new forms of interaction. This expanding area is essential for the applied linguist to examine in order to establish its distinctive characteristics. There is also a need to identify potential benefits and possible drawbacks of this form of interaction. A major goal of this study will be to contribute to the literature on computer-mediated communication (henceforth CMC)-based CALL, by carrying out a comprehensive critical analysis of the results of existing research in the area of learner interaction in various types of CMC where the communication is carried out in real time through the medium of typed text¹. Drawing on the results, this study further investigates the interaction of non-native speakers of English in a CALL project involving a type of real time CMC environment known as a MOO. Using data collected during this semester long project, I shall identify significant features of the subjects' task-based interaction with a focus on the important yet little researched area of interactional and transactional strategy use during discourse management. I analyze the use of communication strategies during negotiation of meaning. I investigate, by means of questionnaires, learner attitudes on studying in MOOs. I explore how my findings compare with the results of research on learner-learner interaction in this and other types of CMC environment currently utilized in CALL in order to shed light on the nature of MOO-based CMC, its relationship to other types of CMC and the potential of this form of interaction in supporting language development. In this introductory chapter, I provide an introduction to key concepts in CMC and the type of CMC utilized in this research. I explain the background to this research and how my interest in this area developed. I then provide a rationale for this study and describe its significance. The later sections contain a preliminary overview of the analytical frameworks informing this study and provide a research outline.

1.1 Computer-mediated communication

1.1.1 Types and characteristics of CMC

CMC has been defined by Herring (1996) as the:

communication that takes place between human beings via the instrumentality of computers. (p.1)

¹ The development of CALL as a research field has been examined in a number of studies including Levy, (1997).

Within this broad definition, communication using computers can be perceived as taking various forms depending on the specific information and communications technologies (ICTs) adopted. Therefore a distinction is made between various types of CMC. The literature identifies a number of features that characterize CMC. A temporal distinction is made between two types. The term asynchronous CMC is used to describe network-based interaction where there is frequently (though not always) a considerable delay between the reception and response to a message. Well-known examples of asynchronous CMC include e-mail, posting on bulletin boards, blogs and mailing lists. The other type, known as synchronous CMC, describes computer-based communication where the interaction occurs in real time. Examples of synchronous CMC include LAN-based conferencing, Internet relay chat (IRC) and instant messaging. In this type of CMC during the communication (in most contexts) there is a relatively brief delay between the posting of a message and the response. However, depending on the technical capacities of tool utilized, network conditions and the number of users there can be longer delays. A further distinction is made between examples of CMC where communication is carried out through written text such as IRC and where communication is achieved through other means as in, for example, audio during video conferencing. Herring (1999) also notes an additional feature of CMC, namely, it can be one-way or two-way. In one-way CMC other users do not see messages until they have been sent. In two-way CMC other users can view messages as they are being composed. A final distinguishing feature of CMC is that it can be one-to-one or multiparticipant (one or a few to many).

1.1.2 The type of CMC investigated in this research

Various examples of both asynchronous and synchronous CMC have been utilized in CALL research (Kern & Warschauer, 2000). However, in recent years synchronous CMC has attracted attention from researchers because it is perceived as providing users with access to a kind of:

genuinely communicative environment that is seen as necessary for acquisition. (Darhower, 2002, p.15)

The type of synchronous CMC explored in this thesis is known as a MOO (Haynes & Holmevik, 2001). The acronym MOO stands for multi-user object-orientated domain². A MOO is an online environment where users can communicate in real time through the medium of written text. In addition, users have the option of communicating anonymously through the use of pseudonyms known in the MOO environment as character names. As I will show in chapter 3,

² Explanations for all acronyms and technical terms are provided in the glossary.

this type of CMC differs from other synchronous communication environments employed in CALL, as it provides learners with access to a theme-based virtual world modeled on the real world. In MOOs learners can engage in one-way real time interaction with other users within a virtual environment incorporating many user (or administrator) created spaces known as “rooms”. The following discussion will show how my interest in MOOs was first stimulated by the promising results of a small body of CALL research focusing on learner interaction in these environments.

1.2 Background

My initial interest in the use of MOO environments in CALL was motivated by research conducted by Sanchez (1996), Schwienhorst (1997) and Hall (1998). These early studies first drew my attention to the potential of this type of CMC. The above researchers claim that MOOs provide a means to engage learners in meaning-based and motivating TL practice. In addition, they speculated on the potential benefits of implementing task-based pedagogies. Although these studies were limited in scope, they suggested that MOOs have much to offer as a CALL environment. Influenced by this body of research, I embarked on a number of exploratory projects that involved engaging small groups of undergraduate learners (based at a university in Japan), in interaction in a MOO environment called *Schmooze University* specifically designed for learners of English. Student feedback from these early studies was very positive. I observed that during interaction in the Schmooze MOO students appeared more highly motivated than in regular classes. I further noted that they increased both the quantity and quality of their written output, collaborated and took greater responsibility for their learning. In addition, they engaged in strategies involved in negotiation of meaning that are associated with language development. Encouraged by these positive findings, I embarked on a review of the literature on the use of MOOs in CALL. During this review, I became aware of new work involving MOOs conducted under the principles of tandem learning (Little et al., 1999)³. My analysis of these studies (Donaldson & Kötter, 1999; Schwienhorst, 1998 a; Von Der Emde et al, 2001) revealed that MOOs appeared to be ideal venues for tandem learning. I became aware of studies which highlighted the suitability of MOO environments for the successful implementation of task-based pedagogies (see for example Shield et al., 1999 a). Furthermore, these and other findings (Backer, 1999; Shield et al., 1999 b; Turbee, 1999) informed my review study (Peterson, 2001) which proposed a rationale for the use of MOOs in CALL. On completion of this study, I joined the tandem-learning network in an attempt to find a partner class of native speakers of English based overseas for exploratory research focusing on interaction in the *Schmooze University* MOO. This research

³ These principles are reciprocity, bilingualism and autonomy. A number of CALL projects based on this approach will be examined in chapter 3.

was to involve this group in regular task-based interaction with learners of English based at my University in Japan. However, as I will show in chapter 4, after several years no suitable partner class emerged and I was forced to seek an alternative approach. At that time, I became aware of a small body of research that had investigated the potential of learner-learner interaction as a source of language development in both conventional classroom and online CMC environments. After reviewing this literature, it emerged that learner-learner interaction appeared to offer opportunities for L2 development. For example, classroom-based research conducted by Varonis & Gass (1985) had shown that learner-learner interaction generated more repair work than interaction between learners and native speakers. A study by Van Lier & Matsuo (2000) reported similar results. Moreover, research on learner-learner task-based interaction in types of CMC such as Internet Relay Chat (IRC) had produced positive results. Research on learner-learner chat room interaction conducted by Blake (2000) found that the subjects utilized strategies associated with language development during negotiation of meaning. Later studies of learner-learner interaction in other types of real time CMC (*Blackboard* and *ParaChat*) undertaken by Lee (2001; 2002) had reported that learners made use of a variety of communication strategies in order to effectively manage their target language (TL) interaction, overcome communication problems and develop fluency. At this time, it became apparent that as with other types of real time CMC, learner-learner interaction in MOOs had yet to be fully investigated by CALL researchers⁴. My own experiences and the encouraging findings outlined in this section convinced me of the value of investigating this phenomenon. I therefore decided to make the exploration of learner-learner task-based interaction in the *Schmooze University* MOO the basis of this research.

1.3 Rationale for this study

One of my main aims in this thesis is to shed new light on the nature of learner-learner task-based interaction in MOO-based CMC. In order to achieve this goal, I shall provide a comprehensive critical analysis of research on MOOs and other types of real time CMC-based environment utilized in CALL. The findings are used to motivate the questions investigated in this research. These questions are pursued in order to establish the distinctive features of MOO-based CMC and provide a means to examine from the perspective of social interactionist views of language development, the largely unexplored area of how learners manage their task-based interaction in this type of CMC. Pursuing these questions will contribute to the literature on CMC-based CALL.

⁴ At the time of writing, I am aware of only three studies that have examined the nature of learner-learner interaction in MOO-based CMC. The results of these studies will be analyzed in chapter 3.

In addition, the results may inform pedagogy. First, by providing new data on the relationship between task type and beneficial forms of L2 interaction such as negotiation of meaning. Second, by identifying ways to maximize the potential benefits of engaging learners in task-based interaction during real time CMC.

1.3.1 Interaction, language development and CMC

SLA research stresses the central role of interaction in second language development. As Long & Robinson (1998) have observed:

a crucial site for language development is the interaction between learners and other speakers. (p.22)

Classroom and SLA research has emphasized the potential of engaging learners in interaction with native speakers and also with other learners as a means to promote the processes involved in interlanguage development (Gass, 1997; Long, 1996). The emergence of network-based CALL, that brings together diverse learner groups for real time communication through the medium of text, presents new opportunities to investigate the role of interaction in language development. However, to date only a small body of research has attempted to explore learner interaction in types of CMC where the communication occurs in real time though typed text. As I will show in the following chapters, the existing literature on the use of this type of CMC in CALL is limited in scope and its findings have been somewhat contradictory. At the present time, due to the increasing use of CMC in CALL there is a pressing need for further research to investigate the potential of these tools in fostering second language development as Conacher (2004) states:

...less research has been carried out on whether, and how, the use of such media significantly alters the way in which the linguistic and cultural performance of language learners within such new learning environments impacts upon our understanding of models of second language acquisition. (p.22)

The data recording capacities of CMC communication environments such as MOOs facilitate the collection of large corpora of learner generated data and provide a means to investigate, within the context of a new form of interaction, the following key constructs in social interactionist SLA research.

1.3.2 Learner discourse management strategies

A major focus of interest in social interactionist SLA research is the area of learner strategies. In the context of investigating conventional classroom

interaction involving learners, researchers have explored the role both direct and indirect language learning strategies play in the complex processes of SLA. The literature (see for example Cook, 1993) identifies two main types of learner strategies, direct strategies such as note taking and the indirect strategies deployed during communication problems—so called communication (or compensatory) strategies such as clarification requests. In this study, while acknowledging that the above strategies (Little, 2004, p. 132) “are not exclusive” I conceptualize two main types of language use strategy utilized to *manage* L2 interaction between learners. The first type, communication strategies, are utilized in an attempt to *resolve* communication problems. As the following section will show, these strategies have been identified in the literature as playing an important role in language development. The second type, defined in this research as discourse management strategies, are those strategies which learners utilize in order to *avoid* communication problems. This study will explore the operation of two types of discourse management strategy. The first type, transactional strategies, facilitate the transfer of information. The second type, interactional strategies, express and maintain “social relations and...attitudes” (Brown & Yule, 1983, p.1). Discourse management is an important area, as its investigation enables researchers to establish the ways in which learners maintain interaction in order to receive additional modified target language (TL) input (Larsen-Freeman & Long, 1991). In addition, the study of discourse management provides insights into the operation of communicative competence and the role of assistance in language development (Foster & Ohta, 2005).

Investigating interaction management further enables an exploration of the role of context in influencing strategy use. However, this is a challenging endeavor. Many variables have the potential to influence learner interaction in a given context. As Mariani (1994) has observed, managing discourse:

is a complex affair which calls into play not just strategic and pragmatic skills but also sociolinguistic and sociocultural conventions as well. (p.5)

As a result of this context, this study seeks to establish patterns and regularities in the data while investigating the operation and status of learner discourse management strategies in MOO-based CMC. In chapter 3, I will show that existing CALL studies on learner interaction during tandem learning in MOOs and in other types of real time CMC such as IRC (though subject to limitations) suggest that learners employ these strategies to effectively manage their interaction while attending to tasks. However, interactional and transactional strategy use during learner-learner interaction in MOO-based CMC has yet to be explored comprehensively. Therefore, investigating learner discourse management strategies constitutes a major focus of this study.

1.3.3 Learner communication strategies, negotiation and MOO-based CMC

This research will focus on a further manifestation of learner behavior during interaction, communication strategies. As was mentioned previously, these strategies have been of particular interest to researchers for a number of reasons. From the perspective of interactionist research, the strategies employed by learners and their interlocutors during communication problems are vital to explore. As Foster & Ohta state (2005, p. 406): “they orient the learner’s attention to form”. Through the investigation of communication strategy use research can enhance our understanding of how learners test hypotheses and obtain feedback on their L2. Furthermore, the use of these strategies encourages learners to take control of their learning and take risks. Exploring this area therefore offers the prospect of broadening our knowledge of the development of learner autonomy. Moreover, investigating learner strategy use during communication problems remains a central focus of interactionist research as it provides a means to investigate a key construct in this account of SLA, namely, the negotiation of meaning. In the view of interactionist researchers negotiation of meaning and particularly those forms of negotiation that involve “interactional adjustments” facilitate acquisition as they connect:

input, internal learner capacities, particularly selective attention, and output in productive ways. (Long, 1996, p. 451-452)

In addition, analyzing the use of these strategies provides opportunities to explore the operation of strategic competence (Schmidt, 1983).

In the context of investigating learner interaction in the communication environment provided by CMC, communication strategies are, as Ortega (1997) observes, a “promising research area” (p.12) given the enhanced opportunities for data collection and monitoring provided by computer-based communication tools. Moreover, in one of the few studies of learner strategy use in real time CMC, Smith (2003 b) argues that when exploring learner behaviors in network-based CALL:

communication strategy use is essential to examine, as it is the means through which learners.....overcome communicative difficulty. (p.30)

This study further explores a strand of interactionist research that claims interaction between learners may provide enhanced opportunities for language development. This approach argues that the limited proficiency of learners may stimulate more frequent learner-focused negotiation than interaction involving learners and native speakers (Shehadeh, 1999; Van Lier & Matsuo, 2000). It claims that this type of interaction may provide a less threatening environment which reduces threats to face as learners feel more comfortable than would be

the case during interaction with native speaker interactants (Varonis & Gass, 1985, p.85). Moreover, learner-learner interaction (involving learners from a variety of backgrounds) reduces teacher talk, the possibility of L1 use and the simplified registers that are characteristic of learner-native speaker (henceforth NS) interaction. Although research in this area is not conclusive, studies of learner-learner interaction in conventional classrooms have shown that this form of interaction promotes the communication strategies involved in negotiation (Iwashita, 2001; Pica et al., 1996; Swain et al., 2002). The use of CMC environments in CALL that facilitate real time interaction through the medium of text provides new opportunities to establish how negotiation may operate in the communication environment provided by this form of interaction. However, to date, only a limited number of researchers have explored this phenomenon. The results of current studies have been mixed, with some studies reporting extensive evidence for negotiation during learner-learner interaction in non MOO-based CMC (Kitade, 2000; Smith, 2003 a), while other research has been inconclusive (Abrams, 2003). Research involving tandems conducted in MOOs has reported the existence of negotiation (Schwienhorst, 2002; Von Der Emde et al., 2001) while the existing (limited) research on learner-learner interaction has noted the absence of any such evidence (Pinto, 1996). In this context, one of the main goals of this study is to establish if negotiation of meaning occurs during learner-learner interaction in MOO-based CMC and if there are differences in its nature and frequency compared to the results of research on learner-learner negotiation in other types of real time CMC. This study also attempts to identify factors that may influence the frequency of negotiation.

1.3.4 Task-based interaction in CMC-based CALL

A further important area of research that has been the focus of considerable attention is task-based learning. As I will show at a later stage of this discussion (chapter 2), proponents of task-based pedagogies argue that engaging learners in communicative tasks involving interaction in the target language (TL) can create conditions favorable for SLA (Skehan, 2002). In the case of network-based CALL, few studies have attempted to explore the relationship between tasks, strategies and language development. The results of existing studies (though subject to a number of limitations) have shown that engaging learners in tasks during interaction in examples of real time CMC where the interaction is mediated by written text may promote communication strategy use and facilitate the negotiation of meaning (Lee, 2002). Current research suggests that task type is one of the major variables influencing the frequency of negotiation and that there may be differences in strategy use during task-based interaction in various examples of CMC (Blake, 2000; Smith, 2003 b). However, to date in the context of exploring learner-learner MOO-based interaction these issues remain largely unexplored. This study is designed to fill this gap in the literature, by investigating

from the perspective of a case study the use of various task types in a MOO-based CALL project.

1.4 Contribution this research will make to the literature

This study investigates within the context of network-based CALL the operation of several constructs in social interactionist SLA research, specifically those connected with the role of strategies and task-based interaction. To date, few studies have attempted to explore the operation of these factors during learner-learner CMC-based interaction in CALL environments such as MOOs. The lack of studies on the key area of strategies and the associated concept of negotiation perhaps explains the limited impact of CMC-based CALL research on the fields of applied linguistics and SLA. Moreover, at present, few attempts have been made to explore the potential of task-based pedagogies in this form of CALL. Therefore, this study provides, through an analysis of the discourse generated by learners, new insights into the operation of these factors in the context of the novel form of CMC-based interaction provided by a MOO environment. These constructs are explored from the perspective of social interactionist views of language development. This approach to evaluating the potential of this form of interaction is grounded in the belief, articulated by Chapelle (1997) amongst others, that in order for meaningful progress to be made in CALL research there is a need to pursue many of the research questions and methods employed in SLA research. The adoption of this perspective has the advantage of broadening our understanding of the factors that may contribute to second language development in cyberspace and provides a principled basis for future research activities in the area of network-based CALL. Furthermore, it is possible that the results of this investigation may inform the development of task-based pedagogy with regard to CMC and MOO-based learning, while at the same time providing a framework for the development of new perspectives on the role of learner interaction in the complex process of second language development.

1.5 Analytical framework

As I have stated previously, my goal in this research is to carry out an analysis of the results of current studies on learner-learner real time interaction in CMC-based CALL. I shall use the results to motivate my research questions that identify and account for the discourse management and communication strategies employed by learners during task-based interaction in MOO-based CMC. My research is further concerned with exploring negotiation, collaborative interaction and learner attitudes as these issues had yet to be investigated. In addition, I identify and account for any differences in my findings compared with the results of studies on learner-learner interaction in MOOs and other types of CMC. In chapter 4, I will provide a detailed overview (and rationales) for the

methodological instruments, research questions, task types and research procedures employed in this study.

1.6 Outline of this thesis

This thesis takes the following form. Chapter 2 provides the definitions of strategy accepted in this study and then gives an overview of research on communication strategies. This chapter further describes influential interactionist accounts of language development and argues that an effective means to advance research on CMC-based CALL lies in utilizing many of the questions, constructs and methods proposed in these accounts. The following chapter analyzes the results of existing studies on learner interaction in MOOs and other types of real time CMC. Drawing on the results of this analysis, the discussion identifies a number of important areas that have yet to be fully explored. In the context of investigating MOO-based CMC, these areas are interactional and transactional strategy use during L2 discourse management, negotiation of meaning involving communication problems and the effects of task-based interaction. Chapter 4 provides a rationale for the specific questions pursued in this research and describes the methodologies employed to answer them. The next chapter describes the features of the virtual world utilized during this research, an EFL MOO known as *Schmooze University*. In chapter 6, in order to provide a context for the data analysis chapters I examine the particular communication environment provided by the Schmooze MOO. I identify potential drawbacks and benefits for learners of interaction in MOOs and discuss the role played by technical, temporal, social and interaction management factors in influencing communication in this type of real time CMC environment.

Data analysis is provided in the following 4 chapters. The analysis represents one of the first attempts to explore in the context of a case study, non-native speaker-non-native speaker (henceforth NNS) TL interaction in MOO-based CMC. In chapters 7 and 8, I examine the discourse management strategies employed by the participants. I focus on investigating interactional and transactional strategy use during collaborative interaction. In these chapters, the discourse management strategies employed by 4 of the subjects during dyad and small group interaction at an early and later stage of the project are the major focus of investigation⁵. I adopt a case study, in an order to obtain a broad understanding of the factors that influence NNS interaction management in the new communication environment provided by the MOO. This methodology offered the additional advantage of enhanced understanding of the operation of strategic competence and learner autonomy over time in MOO-based CMC.

⁵ Although the analysis in chapters 7 and 8 focuses on the strategy use of these subjects, I also examine when appropriate the behavior of other learners.

Chapter 9 analyses learner communication strategy use during task-based interaction. This phenomenon is investigated through the use of an analytical model of NNS negotiation of meaning proposed by Varonis & Gass (1985). The analysis identifies the factors that caused communication problems to arise and explores the role of communication strategies (and task type) in the process of learner-learner negotiation in MOO-based CMC. The analysis in this chapter also identifies the factors that may have influenced the frequency of negotiation. In chapter 10, I analyze the results of the post-study questionnaires that were designed to elicit learner attitudes toward studying in the Schmooze MOO.

In the final chapter, I present my conclusions and discuss the significant findings of this research. I also discuss the limitations of this study and provide directions for future research that seeks to examine the relationship between interaction, strategies, task and context in facilitating language development in MOOs and other types of network-based CALL. In addition, the final section provides insights that may guide future development work (and pedagogy) on the use of task-based learning in CALL projects involving learner interaction in MOO environments.

Chapter 2 Social interactionist research and development in CMC-based CALL

2.0 Introduction

This chapter provides an overview of the theoretical and research background that has influenced research and development work in CMC-based CALL. In the following chapter, I will analyze the literature on real time CMC as a language learning environment. I begin by describing the definition of strategies that will be adopted in this study. I then examine the emergence of interactionist accounts of second language acquisition. I investigate the research on learner strategies that stimulated interest in the role of interaction in language development. I go on to examine both psycholinguistic and sociocultural interactionist accounts of SLA and argue that an effective means to advance research in CMC-based CALL is to draw on the central questions, constructs and methods proposed in these accounts. I then analyze the existing interactionist literature on task-based learning in order to highlight areas where this body of work may support progress in CMC-based CALL.

2.1 Interactionist perspectives on SLA

The multidisciplinary field of SLA studies has been expanding rapidly as researchers have explored the processes involved in second language acquisition. Despite these efforts, understanding of the nature of second language learning remains far from complete (Ellis, 1999). Various models of second language learning have been proposed. However, it is significant that no generally accepted comprehensive theory of SLA has emerged to date (Gass, 2000). However, a number of perspectives have been developed and, amongst these, a major area has been the wide-ranging body of work that addresses the role of interaction in second language learning. This influential research stresses the role of psycholinguistic, cognitive and social factors in language development. Areas of investigation have included the role of mental processes, context, collaborative dialogue, interaction management and conversational modifications in the processes at work in SLA (Donato, 1994; Firth & Wagner, 1997; Long, 1996; Pica, 1996; Swain, 1997; Varonis & Gass, 1985; 1994). Researchers have also focused on the important role played by learner strategies during task-based interaction, as a means to understand (and ultimately facilitate) the processes at work in language processing and acquisition. Concurrent with these developments has been the use in CALL of CMC-based communication environments. As the discussion at a later stage of this chapter will demonstrate, the emergence of network-based CALL affords researchers opportunities to assess the role of interaction, strategies and tasks in fostering language development in the new communication medium provided by real time CMC. A growing body of research in SLA has from both psycholinguistic and

sociocultural perspectives focused on the role of interaction in facilitating the mental processes involved in L2 acquisition. The work of interactionist researchers stresses the importance of interpersonal interaction as the primary means by which learners obtain the input necessary for SLA to take place (Ellis, 1999). At a later stage of this discussion, I will argue that interactionist research provides a useful theoretical and methodological framework for understanding the processes that contribute to the creation of conditions that may facilitate SLA during real time CMC. In the following sections, due to the confusion surrounding the differing conceptions of learner strategy expressed in the literature, I will first provide the definitions used in this research. I then undertake an overview of the research that influenced later accounts of the role of played by interaction in SLA that have been proposed as a basis for development in CMC-based CALL.

2.2 The definitions of learner strategies used in this research

A major motivation behind the rapid expansion of SLA research has been the concern to identify and account for the strategies employed by learners during the process of second language learning. As has been noted in the literature (Cook, 1993; McDonough, 1995), the study of learner strategies provides insights into the nature of SLA that offer the prospect of influencing the development of pedagogy. Moreover, the study of strategies enables researchers to explore the variables that may influence second language development (O'Malley & Chamot, 1990). However, in the literature on learner second language development a number of differing conceptions of learner strategy have been put forward (Ellis, 1994). Various frameworks have been proposed to define, classify and account for the strategies that may play a role in second language learning. For example, Stern (1983) adopts the following definition of learner strategy:

In our view strategy is best reserved for general tendencies or overall characteristics of the approach employed by the language learner, leaving techniques as the term to refer to particular forms of observable learning behavior. (p. 405)

Stern emphasizes the distinction between strategies that are seen as broad “approaches” to learning and “techniques” that are observable forms of specific language learning behaviors. In contrast, some researchers such as Oxford (1989) conceptualize learner strategies at a basic level as related to observable behavior a view reflected in the following definition:

Language learning strategies are behaviors or actions which learners use to make language learning more successful, self-directed and enjoyable. (p. 235)

Other researches take a broader view, claiming that strategies are both mental and behavioral as may be observed in the following definition of learning strategies proposed by Weinstein & Mayer, (1986):

Learning strategies are the behaviors and thoughts that a learner engages in during learning that are intended to influence the learner's encoding process. (p.315)

These differing conceptions draw attention to the confusion in the literature. In the context of defining learner strategies, Cohen (1998) has attempted to overcome this situation by proposing a broad definition (Cohen, 1998, p.5): "second language learner strategies". This definition is useful to a degree, as it acknowledges the fact first articulated by Little (2004), that both language learning strategies and language use strategies:

are not exclusive: behaviors described as language learning strategies are also deployed in language use.....metacognitive strategies (like consciously paying attention, or planning how to go about a particular task) are implicated in language use no less than in language learning. (p.132)

However, some researchers argue that Cohen's definition is confusing and does not clarify the differing theoretical backgrounds and functions of the various types of strategy that play a mediating role in second language development (Faucette, 2001). For this reason and in order to avoid confusion, in this research I accept the definition of strategies proposed by Smith (2003 b), who in his study of learner-learner interaction in real time CMC defines strategies as the "tools and devices of conversational maintenance" (p.35). Within this definition, I differentiate between two types of language use strategy identified in the literature as playing an indirect though important role in language development (Cook, 1993). I accept the view articulated by Tarone (1980) and other interactionist researchers (Varonis & Gass, 1985) that, during difficulties involving non understandings, learners utilize a set of strategies known as communication strategies in an attempt to resolve problems. I further expand on Tarone's original definition of communication strategies to incorporate a second set of language use strategies that are employed to avoid communication problems occurring. I define these as "discourse management strategies"¹ As stated in chapter 1, these are the transactional and interactional strategies that may facilitate language development. These definitions are set out in the following table:

¹The operation of these strategies during dyad and small group-based interaction will be analyzed in chapters 7 and 8.

Table 2.1 Definitions of learner strategy proposed in this research

Strategy type	Definition
Discourse management strategies	The strategies utilized to avoid problems occurring
Communication strategies	The strategies utilized to resolve a communication problem

At a later stage of this study, in order to meet one of my research objectives, I will analyze the operation of these strategies during learner interaction in the online communication environment provided by the Schmooze MOO. In the following section, I will examine the strategy research that has influenced development work in classroom SLA research and CMC-based CALL.

2.3 Research on communication strategies

Early research on learner interaction in classroom environments focused on the strategies used by learners to overcome communication problems. This type of interaction was perceived as beneficial as it appeared to support the production of TL output. A well-known example can be found in the work of Tarone (1977) who observed strategy use during learner-learner interaction. Tarone (1980) defined “communication strategies” as:

mutual attempts of two interlocutors to agree on a meaning in situations where requisite meaning structures do not seem to be shared. (p.419)

Tarone (1980) further claimed that these communication (or compensatory) strategies can be distinguished from production and learning strategies when the following criteria are met:

1. The speaker desires to communicate to an interlocutor
2. The speaker believes that the linguistic structure desired to communicate meaning is not available to either one or both of the participants
3. The speaker can chose to avoid the problem or use an alternative

Tarone developed a taxonomy of communication strategies based on the above definition. This taxonomy contained five main categories:

Avoidance Topic avoidance
 Message abandonment

Paraphrase Approximation
 Word coinage
 Circumlocution

Transfer Literal translation
 Language switch

Appeal for assistance

Mime

Tarone argued that this taxonomy accounts for the strategies learners employ when attempting to resolve a communication problem and that the deployment of these strategies can assist the production of TL forms.

The study of communication strategies has further been conducted from a perspective that stresses the role of psycholinguistic processes in L2 strategy use. Faerch and Kasper (1983) investigated 178 face-to-face conversations between native speakers and learners of English located in Denmark and Germany. According to these researchers, analysis of recordings of the interaction indicated that the subjects employed two main types of strategy. Avoidance strategies (such as abandoning a topic) were employed to prevent communication problems from occurring. In addition, these researchers identified what they described as achievement strategies; which were used in an attempt to produce alternative solutions. These strategies included cooperative strategies such as appeals for help and also non-cooperative strategies that formed 3 sub groups, L1/L2 strategies (codeswitching), interlanguage strategies (generalization, word-coinage, paraphrase) and non-linguistic strategies such as mime. This study produced a more detailed taxonomy of strategy types than that provided by Tarone and stimulated further work on communication strategies.

One of the most influential long running research projects into communication strategies was conducted at Nijmegen University in the 1980's. This research encompassed a number of studies conducted by several authors and the results were published at various stages during the 1980's and early 1990's. The project attempted to go beyond the work outlined previously in an effort to account for and predict strategy use by investigating psychological processes rather than focusing on linguistic realization. This research investigated the relationship between strategies and variables such as task and proficiency level in order to establish the effectiveness of certain strategies. The Nijmegen researchers also attempted to produce a taxonomy that was both psychologically plausible and

also generalizable to other learning contexts. As previous work had shown that communication strategies are linked to lexis (Tarone, 1980), this research focused on this strategy type (Poulisse, 1990). As noted previously, these are the strategies learners utilize when attempting to overcome a communication problem in their L2. According to the process-based analysis of the Nijmegen researchers, communication strategies are of two types. The first type, conceptual strategies, are the strategies a learner deploys during communication in order to compensate for a problematic word through the use of conceptual knowledge. The second type, linguistic strategies, draw on linguistic knowledge in order to deal with the above situation. Conceptual strategies are perceived as being composed of two sub-strategies. Analytic strategies involve a conceptual analysis of the intended concept such as for example “a talk uh bird” for “parrot”. Holistic strategies involve the use of a concept that is similar enough to the intended one in order to convey the meaning for example the use of “table” for “desk”. Linguistic strategies involve either morphological creativity that is word coinage (“ironize” for “iron”) or strategies of transfer from the learner’s L1.

Poulisse (1990) investigated communication strategy use during the interaction of 45 Dutch learners of English who were advanced, intermediate and low level. In this study, 3 tasks followed by a 20 minute interview (with a native speaker) were undertaken. The tasks employed were as follows:

- 1) A picture description task
- 2) A description task of an abstract figure
- 3) A story telling task

In order to provide a further perspective on the interaction, video recordings were made of each learner when they undertook the tasks. These videos were used during the post-study interviews when the subjects were allowed to stop the tape at any time and make comments that were recorded. The results of this study are given below:

Table 2.2 Communication strategy use (from Poulisse, 1990, p. 117)

	Conceptual		Linguistic		
	Analytic	Holistic	Morphological	Transfer	Totals
Advanced	466	138	5	53	762
Intermediate	630	171	9	93	903
Low	707	182	7	122	1018
Totals	1803	491	19	268	2581
Percentage	69.9%	19.2%	0.7%	10.4%	

The table shows that the number of communication strategies decreased with proficiency level, and that in all tasks analytic strategies were the most frequent, while linguistic strategies (morphological creativity) were the least. Moreover, the frequency of holistic strategy use was influenced by the task, with this strategy being more frequent in the story telling task and interview than in the other task types. Transfer strategies were infrequent in the first task but frequent in the interview. Overall, the low level learners made more use of transfer strategies due to their more limited vocabulary knowledge. The results suggest that the frequency of communication strategy use was influenced by a combination of factors including proficiency level and task-type.

Although the limitations of the research described in this section have been pointed out in the literature most notably by Cook (1993), these studies nonetheless established the value of examining the strategies employed by learners during interaction as a means to generate credible hypotheses regarding the specific psychological processes involved in L2 communication strategy use and the role of interaction in language development. These early studies stimulated the development of models that explain how interaction may facilitate the processes at work during L2 acquisition (Chapelle, 2005, p. 55). In the following section, I will outline an influential interactionist model that has stimulated research in both classroom environments and more recently in CMC-based CALL.

2.4 The interaction hypothesis

Influenced by the work on strategies described above, researchers began to propose accounts of SLA that highlighted the role of interaction. For example, Krashen (1985) claimed that in order for acquisition to occur learners must have access to comprehensible input. Drawing on this work, Long investigated the effects of interaction on SLA and proposed the influential interaction hypothesis (1985; 1996) that emphasized a greater role for output in language development. Central to this hypothesis is the process that occurs during L2 communication problems known as negotiation defined by Long (1996) as:

the process in which, in an effort to communicate, learners and competent speakers provide and interpret signals of their own and their interlocutor's perceived comprehension, thus provoking adjustments to linguistic form, conversational structure, message content, or all three, until an acceptable level of understanding is achieved. (p.418)

During this process, learners employ communication strategies such as clarification, confirmation and comprehension checks. These strategies play a central role in negotiation by enabling learners to overcome communication difficulties related to vocabulary and syntax. Long (1996) claimed that the

conditions for SLA are enhanced by having learners negotiate meaning with interlocutors native or otherwise:

Negotiation for meaning, and especially negotiation work that triggers interactional adjustments by the NS or more competent interlocutor, facilitates acquisition because it connects input, internal learner capacities, particularly selective attention, and output in productive ways. (p. 451-452)

Long asserted that through negotiation learners can better comprehend the TL (as this type of interaction focuses attention precisely where a communication problem is occurring) and produce higher quality output through feedback, noticing (Schmidt, 1992), self- and other-initiated correction. This interactionist model therefore proposed a central role not only for input but also for modified output in the process of second language development. This psycholinguist account has motivated research on learner interaction in conventional classroom environments.

Research on the role played by interaction in SLA has continued, based on the hypothesis proposed by Long. From the perspective of contemporary interactionist conceptions of “input”, “modification” and “output”, Chapelle (1997) observes that L2 may be acquired:

through learners’ interaction in the target language because it provides opportunities for learners to (a) comprehend message meaning, which is believed to be necessary for learners to acquire the L2 forms that encode the message; (b) produce modified output, which requires their development of specific morphology and syntax; and (c) attend to L2 form, which helps to develop their linguistic system. (p.22)

This view of language development is derived from a number of interrelated interactionist hypotheses regarding possible ideal conditions for SLA. In a review of the psycholinguistic interactionist literature, Chapelle (1998, p. 23-25) identifies the following factors as being of particular importance in fostering L2 development:

- 1) the linguistic characteristics of target language input need to be made salient
- 2) learners should receive help in comprehending semantic and syntactic aspects of linguistic output
- 3) learners need to have opportunities to produce target language output
- 4) learners need to notice errors in their own output

- 5) learners need to correct their linguistic output
- 6) learners need to engage in target language interaction whose structure can be modified for negotiation of meaning
- 7) learners should engage in L2 tasks designed to maximize opportunities for good interaction

and claims that the above factors are of central concern in the design and evaluation of CALL activities. At a later stage of this discussion I will argue that the interaction hypothesis (and its pedagogical manifestation instructed SLA) can contribute to a credible framework for advancing development work in network-based CALL. The emergence of this model has led researchers to explore the operation of its central construct negotiation of meaning, in conventional classrooms and more recently in types of real time CMC environment.

2.5 A model for learner-learner negotiation of meaning

The concern with establishing how interaction may support SLA led researchers to develop models for conceptualizing how negotiation of meaning operates during communication problems. Of particular interest to researchers has been the negotiation that occurs between learners. It has been claimed, most notably by Varonis and Gass (1985), that due to limited L2 proficiency interaction between learners promotes higher levels of negotiation than interaction involving learners and native speakers. The most widely accepted model of learner-learner negotiation proposed by Varonis and Gass (1985), is concerned with identifying, and accounting for, the strategies that learners utilize to overcome communication problems in conventional classroom environments. This model, (which will be described in detail in chapter 9), is very influential in SLA research and has been successfully utilized to demonstrate the value of engaging learners in interaction in many classroom-based studies (Gass, 1997; Gass & Varonis, 1989; 1994). The development of network-based CALL has led researchers to explore a question which will also be a central concern of this study, namely, does this model hold in online environments such as real time CMC? As I will show in the following chapter, studies have recently begun to address the issue of negotiation in the various types of real time CMC environment currently found in CALL. Drawing on this research and at a later stage of this thesis in chapter 6, I shall examine the similarities and differences between face-to-face and computer-mediated interaction and identify the benefits (and possible drawbacks) of interaction in real time CMC. I further investigate the possibility that interaction in real time CMC may be beneficial for learners as it provides access to a supportive and stimulating learning environment where forms of TL interaction such as negotiation of meaning can occur.

Although research on negotiation represents a major strand of interactionist research, a further account of SLA that focuses on the role played by interaction has emerged from sociocultural theory. This account has influenced the development of CMC-based CALL. In contrast to the information-processing model outlined previously, this account emphasizes the social nature of cognition and language development.

2.6 The sociocultural account of SLA

An influential strand of SLA research that has been proposed as a basis for development work in CMC-based CALL (Warschauer, 2005) stresses the social context in which interaction takes place and emphasizes its relationship to cognition and ultimately second language development. In the view of this account, learning:

depends to a large extent on socially constituted collaboration between the learner and others. (Simpson, 2005, p.191)

Researchers who advocate this perspective on language learning invoke Vygotskian sociocultural theory, that views human cognitive development as transformational in nature and mediated by the use of tools (Vygotsky, 1962). According to researchers who propose this view of cognitive development, L2 acquisition occurs through a process whereby lower mental functions (such as memory, conceptual thought and problem solving) are transformed to higher-level functions through collaborative interaction involving the use of mediating tools (Lantolf, 2000; Lantolf & Appel, 1994). One of these tools is language. As Swain and Lapkin (1998) state:

Language becomes a mediating tool by first having been used to regulate behavior, including cognitive behavior. Through a gradual process of internalization, one comes to be able to use the language of others (and the mental processes that interaction has constructed) to regulate one's own cognitive functioning. (p.321)

Theorists who adopt this perspective have attempted to identify the strategies employed during collaborative dialogue. Research on learner-learner interaction has reported that learners frequently support each other actively when they interact (Swain & Lapkin, 1998). This assistance can take various forms. As Foster & Ohta (2005) have observed (when discussing the results of Ohta's 2001 study) during interaction in conventional classrooms learners provide assistance in various ways:

For example, they directly asked for, and received, assistance from each other, they continued utterances that a partner was having difficulty with,

chimed in with suggestions, and offered and accepted corrections. Assistance was also provided less explicitly, for example, when a peer waited, provided a partner with time to compose an utterance. (p.414)

Interactionist researchers who advocate sociocultural views of SLA emphasize the role of assistance during interaction. From their perspective, the peer assistance that occurs during collaborative interaction (known as scaffolding) plays an important role in language development. Scaffolding has been defined by Donato, (1994) as a communicative context where:

in social interaction a knowledgeable participant can create, by means of speech, supportive conditions in which the novice can participate, and extend current skills and knowledge to higher levels of competence. (p.40)

Through scaffolding, learners engage in collaborative dialogue in order to create L2 discourse. Moreover, sociocultural researchers further point out that learners frequently produce utterances that incorporate feedback from other learners and more knowledgeable interlocutors, and this process supports individual language development through the production of modified TL output. In this context, proponents of sociocultural approaches to SLA (Donato, 1994; Lantolf & Appel (Eds.), 1994), further invoke the concept of the zone of proximal development, (ZPD) defined by Vygotsky (1978) as:

the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers. (p.86)

to account for the beneficial effects on L2 development that are reported to occur when learners interact collaboratively (Lantolf, (Ed.) 2000). In the view of the above researchers, when learners achieve intersubjectivity that is, a shared perspective on the task (Anton & DiCamilla, 1998), they engage in forms of collaborative interaction (involving assistance and co-construction) that facilitate the creation of zones of proximal development that enable them to perform activities that they could not undertake alone. Furthermore, as Foster and Ohta (2005) point out, engaging in this form of interaction can have beneficial effects on long-term language development:

The implications of the ZPD for SLA are that what the learner can be assisted in doing is soon to be something that the learner will be able to do without help. (p.414)

Researchers who emphasize the role played by social environment on learning through interaction (Donato, 1994; Foster & Ohta, 2005; Lantolf & Appel, 1994)

have identified a number of strategies related to the above processes during interaction in conventional classroom environments. As I will show in the following chapter, these strategies have also been identified in several studies on learner interaction in types of real time CMC where the communication is carried out through the medium of text. Researchers who advocate the sociocultural account of language development argue that elements of sociocultural theory (such as ZPDs) can contribute to the creation of an evaluative framework for development work in CMC-based CALL (Salaberry, 1999). In the following sections, I will argue the need for a framework to support development in CALL. I will also make the case that the psycholinguistic and sociocultural interactionist accounts of SLA described in this chapter can in combination with relevant CMC research be utilized as a basis to advance research on learner interaction in network-based CALL.

2.7 The need for a framework to advance development in CMC-based CALL

The need for a comprehensive theoretical and methodological evaluative framework in order to guide work in CALL has been a recurring theme in the literature (Levy, 1997). Although CALL is perceived as an expanding research area in a recent publication Egbert (2005), has identified a phenomenon that appears to be hindering coherent development work in many aspects of CALL research:

We have been thinking about ideas in this chapter and book over the last several years because we have looked into the computer-assisted language learning (CALL) research and have seen something is amiss. For example, although fine studies have been conducted on some topics, the research seems to be scattered across a wide area that a specific picture of what CALL is and does has not emerged. Also, the excitement, rigor, and applicability found in other areas of education research seem to be missing in CALL. Discussing why that might be, we discovered the lack of a coherent understanding of CALL; a tendency to do specific kinds of research to the neglect of other questions, methods, and perspectives; and the logical but fallacious inclination *to test technologies rather than theories* (italics added). (p.3)

The fact that many CALL studies appear technology driven and often fail to draw on current well grounded theories of how language is acquired or indeed on relevant previous research has been noted by a number of researchers (Chapelle, 1997; Oxford, 1995). This problem is further apparent in research on CMC-based CALL, with some studies making sweeping claims often without reference to previous research and on the basis of rather limited evidence (see discussion in Huh & Hu, 2005). Although practitioners have displayed considerable ingenuity in adopting a wide range of approaches in CALL, trial and

error (the predominant approach) as a basis for development can, at best, only achieve limited results. It is my view, that rigorous principled development in CALL, and in particular areas involving the study of learner interaction such as CMC; can be effectively facilitated when it is informed by the findings and methods of interactionist SLA research.

2.8 Interactionist SLA research and CMC-based CALL

I have argued in section 2.6 that a framework designed to foster advances in research in CMC-based CALL should incorporate as a central element the research questions, constructs and methods that have used by interactionist researchers to investigate SLA. The psycholinguistic account of SLA discussed earlier appears to offer a credible basis for development work. One of the main proponents of this position, Chapelle (1997), argues that:

..if progress is to be made in CALL, it seems necessary to shift from general approaches such as those of psychology, computational linguistics, and educational technology to those specific questions and methods of researchers who investigate instructed SLA. With SLA research as a basis for investigation of CALL, the paradigm search of the next decade can be a quest for methods that complement our fundamental understanding of the language experience learners engage in through CALL activities. (p.39)

Adopting this approach as a basis for the investigation of learner interaction in the types of real time CMC employed in CALL offers a number of advantages. Although our understanding of SLA is far from complete, existing interactionist theory draws on a significant body of learner-based classroom research and provides a number of relevant extensively researched hypothesis that require investigation if CALL research is to advance. For example, the beneficial role of negotiation of meaning in fostering the acquisition of vocabulary has been established in a number of classroom-based studies (see discussion in Gass, 1997; Pica, 1994). As I have noted previously, exploring the possibility that negotiation may occur during real time CMC offers the prospect of establishing the potential of network-based interaction in CALL. Research conducted within the framework of the psycholinguistic account of SLA is now, as Chapelle (1999) points out, “sufficiently detailed to draw principles for CALL” (p.109), and offers researchers exploring learner interaction in CMC opportunities to utilize established constructs that describe the cognitive processes by which vocabulary and syntax are acquired during interaction. This enables researchers to build on the results of previous studies and expand perspectives on the role of interaction in language development.

The psycholinguistic account of SLA and its pedagogical manifestation instructed SLA provides a coherent set of constructs that identify the conditions in which ideal forms of interaction (such as those involving use of the communication strategies that result in the production of modified L2 output) may occur. I will argue at a later stage of this discussion that this feature of interactionist SLA research supports the exploration of evaluative research questions that focus on how these conditions may be created in CMC-based CALL tasks. Instructed SLA research further provides the robust methodological framework necessary to investigate the nature of learner interaction in types of CMC where the communication is carried out through typed text. Research on instructed SLA views the TL produced by learners through interaction as central for evaluating learning. As Chapelle (1997) has observed:

L2 classroom researchers found the most revealing way of documenting the processes occurring in an L2 classroom to be description of the language or discourse of the participants. (p.21)

From this perspective, utilizing discourse analysis of learner TL output provides a means of evaluating the quality of learning during interaction. Discourse analysis also appears to be a useful means to investigate the learner language generated by interaction in CMC. The data recording capacities of CMC tools facilitate this type of analysis, by providing researchers with access to a permanent rich source of learner produced data. With this data researchers can through the framework of interactionist research, engage in the essential descriptive work necessary for development in this new area by identifying the types of language produced during learner interaction in real time CMC. Guided by these results, they can further utilize discourse analysis to undertake evaluative work with the goal of drawing conclusions regarding the potential of interaction in CMC-based CALL.

A number of claims have been made regarding the appropriateness of employing psycholinguistic interactionist research as a framework for developing theory and method in CMC-based CALL. The central themes of these criticisms are articulated by Harrington & Levy (2001):

We believe that this (interactionist) approach to CALL research will be productive; however, on its own, it fails to acknowledge sufficiently the effects of the media on second language learning and use. This results in an overly narrow view of CALL and the second language learning processes that take place within it. (p.16)

These criticisms have some merit. There is value in acknowledging the limitations of making the psycholinguistic account of SLA the *sole* basis for development work in CMC-based CALL. It has been noted in the literature (Salaberry 1999),

that this body of research was initially developed to describe interaction during face-to-face communication. A different communication context is presented by real time CMC . There is evidence in the literature on CMC to suggest that learner behavior though similar in some respects to that found in face-to-face encounters may also be different and influenced by a number of context specific factors including the computer-based nature of the interaction and a variety of other variables (Warschauer, 1996; Werry, 1996)². As I will show in the following chapter, studies have suggested that the various types of real time CMC currently utilized in CALL can produce beneficial participation patterns and linguistic features not found in many conventional classroom environments. An additional factor that requires recognition is that the psycholinguistic interactionist account of SLA has a focus on how syntax and vocabulary are acquired through non-understandings. However, language learning does not only involve the acquisition of syntax and vocabulary. Recent research emphasizes the need to draw on a broader perspective for development in CMC-based CALL (Warschauer, 2005) provided by the findings of not only the relevant psycholinguistic and CMC research but also sociocultural theory.

Recent studies have indicated that constructs hypothesized as supporting SLA in sociocultural theory such as ZPD's, occur during learner interaction in types of real time CMC currently utilized in network-based CALL (Darhower, 2002). Due to the apparently complex nature of learner interaction in CMC there appears a need to draw from the sociocultural account of SLA in order to gain additional perspectives on the sociolinguistic and sociocultural factors that influence the production of L2 discourse (Thorne, 2003). A move in this direction has been proposed by Strambi and Bouvet (2003) who have argued that basing development work in CALL on a *social* interactionist approach facilitates an expanded evaluative framework that enables researchers to identify the many factors that have the potential to influence learner behavior during interaction in CMC. The basis for development in CMC-based CALL research can be strengthened if these concerns are incorporated into an evaluative framework to the extent they as Chapelle (1999) notes: "help frame CALL research questions and suggest methods for addressing these questions". (p.108)

Although all theoretical models of SLA are subject to limitations, it is my view that the major advantage of adopting an integrative interactionist account that draws on both psycholinguistic and sociocultural theory as central elements of framework for advancing CMC-based CALL lies in the fact that these accounts draw on an extensive body of existing research. Utilizing a social interactionist framework offers the prospect of producing results that may be operationlized to inform future research work. I acknowledge that there are significant theoretical

² This literature will be discussed in chapters 4, 6, 7 and 8.

differences between psycholinguistic and sociocultural accounts of SLA³. In this research, I will not attempt to resolve these differences. However, it is my view that as these accounts both share a concern with the role played by social interaction in language development there is much to be gained from an approach that draws on the constructs articulated in these accounts. Alternative theoretical frameworks have been proposed as a means to advance work in CALL (see discussion of open and closed systems in Salaberry 1999 p.106). However, although these are useful in conceptualizing CALL, at present, they offer no evaluative framework for assessing the language development of learners during participation in CMC-based CALL activities. Alternatives to the social interactionist framework suffer from the problem that has plagued CALL research since its inception, namely, the phenomenon of reinventing the wheel. As I have stated previously, if progress is to be made there is a need as Levy notes (1997:xi) for CALL researchers to build on previous relevant research. Although a number of domains have been proposed as a basis for development in CMC-based CALL (Levy, 2000), at present, it appears that the social interactionist account provides the most credible principled basis for evaluating the quality of interaction in CMC-based CALL. A major advantage of drawing on social interactionist accounts of SLA is that they provide a credible coherent framework for task development and evaluating performance.

2.9 Social interactionist task theory and progress in CMC-based CALL

A major advantage of drawing on a social interactionist framework for development in CMC-based CALL is that this body of research provides a number of hypotheses regarding the task features (and variables) that may provide an environment beneficial for acquisition. In the view of the sociocultural account of SLA, the primary requirement of tasks is that they promote collaborative interaction (Gutierrez, 2006). As stated previously, this type of interaction is perceived as facilitating the creation of ZPD's where through scaffolding learners can produce TL output through collaboration dialogue (Swain & Lapkin, 2003). From the perspective of the psycholinguistic account of SLA, engaging learners in communicative tasks is a valuable activity as such tasks provide as Foster (1998) states:

an opportunity not only to produce the target language, but also, through conversational adjustments, to manipulate and modify it. Checking and clarifying problem utterances (negotiation for meaning) ensures that task participants receive comprehensible input and generate comprehensible output, both of which have been claimed as crucial to second language acquisition. (p.1)

³ See discussion in Dunn & Lantolf, (1998).

A number of task variables have been identified as playing a central role in creating the types of interaction that may facilitate language development. In a review of the interactionist task literature Pica, Kanagy and Faldoun (1993) identify a number of particular task variables that have the potential to promote beneficial forms of interaction during tasks. Among these variables the most important are categorized as communication goal, interaction requirement, interactant relationship and outcome options. In the view of interactionist research, the orientation of tasks toward a communicative goal sets them apart from other classroom activities and provides opportunities for learners to comprehend TL output, provide feedback on production and engage in interlanguage modification (negotiation). It is claimed that interaction requirement is a useful means to evaluate the type of task being employed, and this category is based on whether or not information exchange is required or optional. From the interactionist perspective, this category is very important, as research has shown that a task that requires information exchange between learners is more likely to generate negotiation than is the case with task where exchange of information is optional (Pica et al., 1993). Interactant relationship is a further important variable that has the potential to influence the quality of learners' L2 interaction during tasks. This category is concerned with whether or not the task requires a "two-way" or "one way" exchange of information. Interactionist research predicts that when the task requires "two-way" information exchange between interactants (i.e. both members of the dyad have access to the information necessary to find a solution as opposed to only one member) the quality of the interaction in terms of interlanguage modification will be higher (Long, 1985). The final variable, outcome options, also influences the quality of the interaction as it has been claimed that tasks which have a minimum number of possible outcomes producing higher levels of negotiation than tasks with a number of possible outcomes (Pica et al., 1993)⁴.

The psycholinguistic account of SLA offers a number of advantages as an important element in a framework for the development (and use) of tasks in CMC-based CALL. The major advantage of this account lies in the fact it draws on a body of research that identifies a number of specific task features, which may be beneficial to SLA. By implementing tasks based on these features, researchers can investigate their potential during learner interaction in CMC-based CALL. In doing so, they can employ the methods that have been used in SLA research such as, for example, discourse analysis. Utilizing these methods assists in establishing the quality of the L2 interaction in CMC-based CALL environments. Such an approach supports the generalizability of results and raises the possibility of undertaking evaluative assessment. A further advantage of adopting the research questions and constructs posed in psycholinguistic accounts of task-based learning is that the relationship between theory and

⁴ I will revisit the literature on tasks in chapter 4 sections 4.4.4 through 4.4.8.

pedagogy is strengthened when practitioners (Ellis, 2003, p.34) “work with shared constructs”. Incorporating the findings of the sociocultural account of SLA into the investigation of tasks offers the prospect of expanding current conceptions of task-based learning in CALL to encompass the wide range of factors that appear to influence learner behavior in CMC. For example, sociocultural theory sheds light on the operation of sociolinguistic variables and context during task-based interaction in CMC-based CALL (Warschauer, 1998). Current research indicates that social interactionist perspectives on SLA offer a number of extensively researched hypotheses regarding the task conditions in which acquisition may occur. Due to the limited state of current research on task-based learning in CMC-based CALL, the findings of social interactionist research appear to provide a credible framework for future development work.

2.10 Social interactionist research as a framework for development in CMC-based CALL

The current literature indicates that in order for CALL to advance in a principled manner there is a need to identify essential research questions and investigate them using the most effective methods (Chapelle, 1997; Warschauer, 1998). In this chapter, I have argued based on my assessment of literature that the most effective means to support development in CMC-based CALL is to draw on many of the questions, constructs and methods that have been articulated in social interactionist SLA research. I believe this for a number of reasons.

Social interactionist accounts of SLA seek to answer the key questions that confront the field of second language education namely, how does L2 learning work? and how can it be facilitated? These questions are clearly of central importance in CALL research. Contemporary social interactionist accounts of SLA emphasize the role played by interaction in language development and propose a number of theoretically motivated constructs (such as negotiation of meaning and scaffolding) that identify the specific mental processes and learner behaviors that may lead to language development. This body of research is concerned with establishing the communication and collaborative strategies employed by learners during interaction as a means to better comprehend the processes at work during acquisition. From the interactionist perspective, in order to evaluate the quality of learning, the TL discourse produced by learners during interaction is the primary focus of analysis. Therefore discourse analysis is utilized in order to investigate the processes at work during language development. Social interactionist research provides not only a number of credible, extensively researched constructs regarding the value of interaction as a source of SLA, it also identifies the most appropriate method with which to evaluate the quality of learner interaction. As was noted in the previous section, social interactionist research further makes a number a number of specific proposals for the design and implementation of effective pedagogical tasks.

Utilizing this body of work offers the possibility of evaluating the effectiveness of specific task types in CMC-based CALL.

At a previous stage of this discussion, I observed that questions have been raised regarding the suitability of utilizing only the psycholinguistic interactionist account of SLA as a basis for development in CALL, because, this body of research has been based on the study of learners engaged in face-to-face classroom interaction (Harrington & Levy, 2001). I have argued that incorporating the sociocultural account of SLA into an evaluative framework for CMC-based CALL overcomes this criticism to a degree, as this account expands the interactionist perspective to incorporate the wider range of variables that may influence learner behavior in online CMC environments. I have further noted that this framework may also draw on relevant CMC research. As current research has yet to conclusively establish the status of the discourse produced in CMC (Ortega, 1997), it is my view that at present the social interactionist account of SLA is the most appropriate framework for development. However, in order to clarify the suitability of this approach there is a need to conduct research that establishes if the key constructs proposed in the above account such as negotiation and the prescriptions made regarding task-based learning have relevance to CMC-based CALL. I will show in the following chapter that CALL researchers have recently turned their attention to these issues in an emerging body of work that investigates learner interaction, the operation of strategies and the role of tasks in fostering language development in real time CMC-based CALL.

Chapter 3 Research on synchronous CMC as a language learning environment

3.0 Introduction

This chapter provides a critical analysis of the literature on the use in CALL of types of real time CMC where the communication is carried out through the medium of text. I begin by providing a rationale for the analysis undertaken, and then examine the findings of studies on learner-learner interaction in the various types of CMC environment that have been utilized in CALL. I then move on to analyze the results of influential studies involving learner-learner interaction that have been conducted within the framework of interactionist research. Following this analysis, I give an account of the development of MOOs and then investigate the existing literature on the use of this type of CMC in CALL. I review the results of a major study involving native speaker interaction and also research (based on the principles of tandem learning) that first drew attention to the potential of MOOs as a language learning environment. In the final section of this chapter, I analyze the results of existing studies on learner-learner interaction in MOOs that showed the potential of this type of interaction and the urgent need for further research.

3.1 Rationale for this chapter

This chapter relates to one of the main objectives of my research stated in chapter 1, namely, to contribute to the literature on learner-learner interaction in CMC-based CALL. I intend to show the need for this research by providing a comprehensive critical analysis of significant studies focusing on learner interaction in various types of CMC where the communication is carried out in real time through the use of typed text. I will then carry out a review of the literature on interaction in MOO-based CMC. Such an extensive literature review is necessary in order to identify the key issues that will be the subject of investigation at a later stage of this study. The analysis conducted in this chapter is further motivated by the need to provide evidence to support the argument I made in chapter 2, that an effective means to support progress in CMC-based CALL is to draw on the central questions, constructs and methods proposed in social interactionist accounts of SLA. In the following discussion, I will examine 4 areas that have been the focus of investigation in the research on learner-learner interaction in real time CMC-based CALL. First, researchers have attempted to establish the nature of participation patterns. Second, studies have investigated the linguistic features of chat. Third, research has explored strategy use during negotiation. Finally, the possible effect of task type on the nature and quantity of negotiation has been investigated. Although research in these areas is limited, as

I will show in the following sections, this body of work has nonetheless produced significant findings that have stimulated development work in CMC-based CALL.

3.2 Participation patterns and linguistic features of learner-learner interaction in synchronous CMC-based CALL

In the following sections, I will focus on research that has explored the possibility that participation in real time CMC may be beneficial for learners. I examine the results of 4 studies (Kelm, 1992; Chun, 1994; Darhower, 2002; Shin, 2006) that have investigated the participation patterns and linguistic features (including discourse management strategy use) of learner-learner interaction in 3 types of real time CMC environment that have been utilized in CALL.

3.2.1 Participation patterns and linguistic features of learner-learner interaction in the *Daedalus* environment

Important early research into learner participation patterns in real time CMC was undertaken by Kelm (1992). This study examined the interaction of 15 undergraduate learners of Portuguese in weekly one hour class sessions held during the course of a semester. The students utilized the *Interchange* function of the LAN-based conferencing tool called *Daedalus*. As with other LAN-based synchronous communications tools, this software enables groups of learners to compose and receive personal messages in real time. When using *Interchange* users compose their messages (at their own pace) in a separate window at the bottom of the screen while the group's responses scroll in the upper window. In a key finding, Kelm observed that computer assisted class discussions promoted increased participation among all members of the subject group (p.443). Kelm argued that the computer-based nature of the interaction in *Daedalus*, where learners can adopt pseudonyms, "speak" without interruption and take turns at will, provides a number of benefits. As may be observed in table 3.1, one of the major findings of this research was that the use of pseudonyms appeared to support more candid expression of opinions than can be found in many conventional classrooms. The anonymity afforded by online interaction reduced anxiety by reducing threats to face, such as, fear of making mistakes in front of the class. Kelm emphasized a further advantage of this form of interaction, that the subjects had time to read and contribute at their own pace. The visual saliency of text supported instances of self-correction. However, this study noted the danger of the subjects incorporating incorrect forms into their own L2 output through the use of cutting and pasting. An equalizing effect was identified, as in real time CMC it is difficult for a single individual to dominate the discussion. This feature of the interaction showed its learner-centered nature, with analysis of the transcripts confirming that 92% of all messages were produced by the subjects (p.444). This phenomenon was accompanied by a reduction in the authoritative role of the instructor. Kelm observed a possible limitation of this type of

interaction, namely, without instructor guidance there was a tendency to avoid challenging vocabulary. Responses to a post-study questionnaire identified a number of benefits of conducting class activities in *Daedalus*. The subjects claimed that their knowledge of sentence structure and usage was enhanced. Moreover, there was a consensus among the participants that their confidence had increased.

An attempt to investigate learner-learner interaction in real time CMC was conducted by Chun (1994). This influential longitudinal study (undertaken over one academic year), brought together 22 beginner undergraduate students of German as a foreign language for chat sessions using the *Interchange* function of *Daedalus*. The interaction focused on various discussion tasks. Chun investigated the possibility that discussions in this environment would facilitate the acquisition of communicative competence. Analysis of the transcripts showed that the subjects employed a number of what were described as “interactional speech acts” (p.17), in order to actively manage their target language interaction with each other and the instructor. These included the use of questions to initiate and expand on topics. When problems occurred, the learners further employed clarification requests and other strategies associated with repair (including confirmation and comprehension checks). As can be seen in table 3.1, extensive use was made of discourse management strategies such as apologies, greetings, leave-takings and statements of agreement. Chun reported that the use of the above strategies enabled the subjects to consistently produce coherent target language discourse related to the tasks. Chun examined the ratio of teacher-output to learner-output and the proportion of learner and teacher-initiated messages. This researcher noted two aspects of participation in CMC that have been echoed in the subsequent literature as being advantages of CMC-based CALL, namely, teacher domination of the interaction is reduced and this produces increases learner TL output and supports more learner-centered interaction. Chun observed that the subjects in her study took the initiative in managing their discourse to a greater degree than would be the case in conventional classrooms because in this type of CMC the instructor’s role is minimized and this situation, coupled to the student-centered nature of interaction in CMC, led her to claim that:

CACD (computer-assisted classroom discussion) provides learners with the opportunity to generate and initiate different kinds of discourse, which in turn enhances their ability to express a greater variety of functions in different contexts as well as to play a greater role in managing the discourse, e.g. they feel freer to address questions to anyone or everyone in the class, to query the teacher from time to time, to suggest new topics or steer the discussion towards things they are interested in, to request more information or confirmation of something said by somebody else, or to express thoughts or opinions that have not be explicitly solicited. (p.18)

This study was subject to a number of limitations, the most obvious being the limited duration of the chat sessions themselves. It was reported that the sessions occurred for an average of only 25 minutes. A further issue with this study was that the number of participants fell in the second semester from 22 to 8. In addition, only one task type (discussion) was implemented, leaving unexplored the possibility of investigated the potential of other task types in fostering beneficial forms of interaction. Furthermore, the lack of any follow up study undermines the claim made by Chun that the competence displayed by the participants would “gradually be transferred to the students’ spoken discourse competence as well” (p.17). Although these issues limit the generalizability of the results, this study nonetheless was important as it echoed findings reported by Kelm that showed the potential benefits of engaging learners in real time network-based interaction through the medium of written text. As Ortega (1997) observes:

Chun’s descriptive approach is important in that she not only substantiates in her analysis an increase in learner production coupled with a decrease in teacher-centered discourse, but she also identifies concrete advantages of more democratic and equitable participation in terms of potential learner development in discoursal, interactional, and functional competence. (p.5)

The results reported in this section stimulated further research that explored participation patterns and the linguistic features of learner-learner interaction in other types of real time CMC.

3.2.2 Participation patterns and linguistic features of learner-learner interaction in the *WebCT* environment

Darhower (2002) examined the interaction of 33 intermediate level Spanish learners based at a university in the United States. This project utilized *WebCT*, a communication tool that provided the subjects (who were divided into 4 groups) with simultaneous access to 4 separate chat rooms. Data was collected over 9 50-minute chat sessions. Darhower investigated the interactional features of the discourse. Analysis of the transcripts in this qualitative study was informed by Vygotskian sociocultural theory. As table 3.1 shows, Darhower found that the learners engaged in various beneficial behaviors indicative of social interaction and the operation of autonomy. These features included the creation and maintenance of intersubjectivity, off-task discussion, greetings and leave-takings, identity exploration, role-play and humor. He reported that the learners frequently created a shared context for the interaction (achieved intersubjectivity) that enabled them to explore the discussion topics in-depth. They shared opinions and engaged in debate. Darhower observed that there were occasions when intersubjectivity broke down and he attributed this phenomenon to the absence of

verbal communication cues in text chat and the presence of multiple co-occurring strands of conversation. However, for the most part, the analysis revealed that the learners were able to successfully adapt to the new communication context provided by *WebCT* in order to achieve and maintain shared states of understanding. In addition, the subjects made use of pseudonyms in order to experiment with new online identities. This feature of the interaction appeared to support enjoyment and risk-taking. These behaviors were also manifest during the off-task discussion that occurred in several of the sessions. Risk-taking was more frequent when the instructor was absent. The subjects made extensive use of greetings and leave-takings, and these were frequently elaborate and lengthy. The use of humor was prevalent and involved the use of teasing and joking. Darhower claimed that the above behaviors contributed to the creation of discourse community characterized by social cohesion. This community provided a supportive atmosphere in which the subjects could develop their L2 sociolinguistic competence (p. 268). This study identified a number of less positive findings. Instances of flaming between learners involving the use of insults and sarcasm occurred. The origins of this behavior were unclear. Darhower claimed that the anonymity afforded by the use of pseudonyms may have encouraged this phenomenon (p.271). However, he noted that in many cases, the flaming was not malicious and reflected a form of humor. A further issue identified by the analysis was use of L1. There were occasions when the participants employed their L1 as a means to maintain the discourse with faced with an unknown lexical item. The analysis indicated that this feature only occurred in a limited number of cases and was infrequent in the data as a whole.

3.2.3 Participation patterns and linguistic features of learner-learner interaction in the *MSN Instant Messenger* environment

Research undertaken by Shin (2006), explored the interaction of 16 intermediate level ESL learners based at a university in the United States. This project constituted part of an adult language class and involved interaction in *MSN Instant Messenger* a web-based chat tool. The subjects participated in a weekly one and half hour chat session for 4 months. This ethnographic case study examined the ways in which “interactional patterns” were constructed by the participants and how “interactional norms” were established. A variety of sources of data were the subject of analysis including transcripts of the learners’ interaction, field notes, formal and informal interviews. Analysis of these data sources showed that subject’s interactional patterns were a reflection of a jointly constructed context that constituted a discourse community. Shin noted that:

the participants’ joint actions in reconstructing the CMC activities were done based on what they perceived a teacher and students should do, reflecting their prior socialization experiences in language learning. (p.77)

Shin claimed that the subjects adopted clear social roles as members of a discourse community. Although a division emerged between academic and non-academic participants, the interaction was characterized by collaboration revolving around the development of interpersonal relationships based on exchange of inter-personal information. As can be seen in table 3.1, in terms of interactional norms, the analysis showed that the learners engaged in “face-work” negotiating frames and footings. They also used a number of face saving strategies including commiseration and conflict avoidance. Shin emphasized that the subjects went to great lengths to minimize the possibility of conflicts arising. The role of the teacher was also identified as an important influence on the success of the interaction. Shin claimed that for this particular subject group, the interaction was facilitated when the teacher or a more advanced learner, took responsibility for managing the chat by pre-selecting topics, opening the discussions and inviting specific learners to participate. The researcher identified a number of factors that appeared to restrict the number of productive sessions. These included variations in proficiency levels, typing skills and learner attitudes. Shin further identified a potential issue with large-scale interaction in this type of CMC. During large group activities, multiple topic strands were produced, and many of the subjects reported that they found this aspect of the interaction hampered effective communication. The most significant findings reported in this study included the difficulties that can be caused by large group interaction, the important role played by authority figures (such as the teacher or the more advanced learners) in managing the interaction, and the apparent influence of prior language socialization experiences on learner behavior. The key findings of the studies examined in this section are summarized in table 3.1.

Table 3.1 Studies of learner-learner interaction in types of synchronous CMC: Participation patterns and linguistic features

Researcher	Kelm (1992)	Chun (1994)	Darhower (2002)	Shin (2006)
Type of synchronous CMC tool investigated pedagogical and methodological approach (if specified)	<i>Daedalus</i> LAN-based communication tool, interaction formed part of a required language course Qualitative and quantitative.	<i>Daedalus</i> , task-based learning Project formed part of regular classes Qualitative and quantitative	<i>WebCT</i> ESL class Qualitative	<i>MSN Instant Messenger</i> , ESL class. Qualitative
Number and background of subjects, proficiency levels and location	15 undergraduate learners of Portuguese based at a University in America	22 undergraduate German learners beginners based at a University in the United States	33 intermediate Spanish learners and a teacher based at a University in the United States	16 intermediate adult ESL learner based at a university in the United States
Sessions and project duration	15, one-hour sessions held over 1 semester	14, 25 minute sessions over 2 semesters	9, 50 minute chat sessions	1, 1.5 hour chat session per week over 4 months

Features of learner interaction investigated	Participation patterns	“Interactional speech acts” Ratio of teacher-output verses learner-output, proportion of learner and teacher-initiated messages	The “outstanding interactional features” of chat room communication	The construction of interactional patterns and interactional norms
Research method/ analysis technique employed	Analysis of transcripts and questionnaires Researcher observation	Analysis of chat transcripts	Discourse analysis that employed a Vygotskian sociocultural theoretical framework	Ethnographic case study of chat transcripts, field notes, formal and informal interviews with participants
Main findings	Increased participation from all members of the project group High degree of learner-centered interaction, with 92% of all messages produced by the subjects Computer-mediated interaction and the use of pseudonyms appeared to reduce anxiety and enhance self confidence The subjects undertook more candid expression and the visual saliency of text facilitated the identification of TL errors	Participation in the project increased TL output and encouraged the subjects to more actively manage their interaction than would be the case in a conventional classroom Subjects initiated and expanded on topics, engaged in repairs and made extensive use of discourse management strategies Interaction in this type of CMC facilitated the development of learner-centered interaction and communicative competence	The subjects established and maintained interactivity, engaged in off-task discussion, identity exploration, role play and employed greetings, leave-takings and the use of humor to create a learner-centered discourse community This community was “governed by communicative autonomy and the use of language and discourse functions that go beyond those encountered in the typical L2 classroom” However, flaming and L1 use occurred	The subjects created a discourse community based on collaborative interaction and engaged in face-work involving face saving strategies such as commiseration and conflict avoidance Authority figures played an important role in managing the interaction. Prior language socialization experiences appear to influence learner behavior On occasion Multiple topic stands hampered effective communication Variations in proficiency levels, computer skills and attitudes limited the number of productive sessions

3.3 Interaction in types of synchronous CMC: Strategy use and the influence of task type on negotiation of meaning

Influenced by the findings of social interactionist SLA research, a small body of research has explored the above factors during interaction in various types of real time CMC. The major focus of this work has been the investigation of the communication strategies employed during the non-understandings that can trigger instances of negotiation of meaning. As noted in chapter 2, interactionist accounts of language development stress the importance of this form of interaction in creating the conditions in which acquisition may occur. In a number of studies (Blake 2000; Fernandez-Garcia & Martinez-Arbelaz 2002; Lee, 2001; 2002; Smith 2003 a; 2003 b), researchers have attempted to identify and quantify strategy use. In addition, they have attempted to account for the factors influencing strategy selection. They have further tried to examine the possible influence of task type on the incidence and type of negotiation of meaning. The following discussion will examine the results of the above studies involving the use of 5 types of real time chat tool in learner-based CALL projects.

3.3.1 Strategy use and the influence of task type on negotiation of meaning during learner-learner interaction in the *Parachat* environment

Lee (2001) examined learner-learner interaction in a Macintosh-based Internet protocol called *Parachat*. This software provides users with access to private chat rooms where they can communicate in real time. In this experimental research, 40 intermediate level undergraduate learners of Spanish were divided into 12 groups and engaged in real time discussion on various open-ended topics for an hour once a week over a semester. As may be observed in the results section of table 3.3, both positive and negative findings were reported. Analysis of the transcripts indicated that the subjects made use of a total of 298 communication strategies. These strategies have been identified in the literature on face-to-face interaction. The most frequent were requests for meaning (20% of total strategies), clarification requests (19%), comprehension checks (13 %) and self-repairs (16%). In a positive finding, Lee claimed that the use of these strategies facilitated the communication. In particular, these strategies supported the comprehension of TL input and output focusing on unknown lexis. The analysis demonstrated that the chat room provided an environment where the subjects frequently overcame communication problems by engaging in the negotiation of meaning. Lee noted that the students “focused more on negotiation of meaning than on form” (p.239). Although self-correction occurred, the learners frequently ignored their partner’s linguistic errors, preferring instead to focus on meaning. Lee speculated that this phenomenon may be a reflection of the subjects’ developmental level. A further possibility may lie in the real time nature of communication in chat rooms, where in the absence of paralinguistic cues learners appear (when messages are scrolling rapidly) to feel “the immediate

need” to respond promptly to their partners leading to avoidance strategies (p.241), such as, avoiding the discussion of challenging vocabulary, and the production of frequent misspellings and other linguistic errors (p. 240). Lee argued that the results of her study support the case for active teacher intervention in CALL projects that utilize text chat. She further suggested that the revision of transcripts coupled to guided instruction would be a useful means to improve accuracy and avoid the risk of learners incorporating incorrect forms (p.242).

3.3.2 Strategy use and the influence of task type on negotiation of meaning during learner-learner interaction in the *Open Transport* environment

Fernandez-Garcia and Martinez-Arbelaz (2002) conducted a qualitative study that explored the interaction of 28 learners of Spanish in a Macintosh-based chat tool called *Open Transport*. These researchers investigated the interaction of 4 groups in two chat sessions held 20 days apart from each other. The interaction focused on discussion of content questions related to a reading assignment. As can be seen in table 3.3, this study confirmed the result reported by Lee (2001), that negotiation of meaning occurs between learners during real time interaction in a chat room. The researchers found that negotiation of meaning (focusing on new lexis) occurred in all groups. In a significant finding, they observed that the negotiation structures were similar to those described for oral discussion. These interactions followed the trigger, indicator and response model of learner-learner face-to-face negotiation proposed by Varonis & Gass (1985). An example of this model (1985, p. 78) is reproduced below:

Student 1: And what is your mm father’s job?

Student 2: My father is now retire (the word retire acts as a trigger for a non-understanding)

Student 1: retire? (this utterance indicates a non-understanding has occurred)

Student 2: yes (response)

Student 1: oh yeah (reaction to a response)

However, there was a significant difference. Analysis of the transcripts revealed the presence of only a limited number of communication strategies. For example, the subjects made little use of the echo questions that are a common feature of oral interaction. Instead, in contrast to the findings reported in Lee (2001), the subjects preferred almost exclusively to rely on explicit statements of non-understanding (“what does X mean?”). The researchers speculated that a

number of factors were responsible for this result. They observed that the learning and subsequent use of formulas is a feature of conventional classroom interaction and that this practice may have transferred to the chat room. These researchers further claimed that the online nature of the interaction contributed at least partially to this result. They argued that in the online medium the absence of intonation (and paralinguistic cues) made this strategy one of the few means available to signal that a non-understanding has occurred. In a less positive finding, analysis of the data further revealed that the subjects made little use of self-correction. Moreover, in many cases the participants made frequent use of their native language, as this appeared an efficient means to resolve communication problems during the real time interaction. This study confirmed the results of previous research that negotiation of meaning occurs during learner-learner interaction in chat rooms. However, in this study, the extensive use of L1 was a cause for concern as it limited the quantity of modified TL output produced.

3.3.3 Strategy use and the influence of task type on negotiation of meaning during learner-learner interaction in the *Blackboard* environment

In an effort to follow up on her previous work Lee (2002), explored the task-based interaction of 34 intermediate level learners of Spanish as a foreign language based in the United States. In this semester long project, the subjects formed dyads or triads and engaged in weekly chat sessions in the chat tool that forms part of the *Blackboard* course management system. The learners undertook various opinion-exchange tasks. As table 3.3 shows, Lee reported a number of findings that confirmed the results of her earlier research (2001). For example, the data analysis demonstrated that the subjects employed a number of “modification devices” similar to those found in face-to-face communication in order to manage their L2 interaction. The most frequent of these communication strategies were requests for help, followed by clarification requests and self-correction. Further strategies employed by the subjects included comprehension checks, confirmation checks, use of English, topic shift and the use of approximation. As she had reported in her earlier study, the subjects used a variety of communication strategies. Requests for help (63) followed by clarification requests (59) were among the most frequent strategies identified. In a positive finding, when a communication problem arose the subjects frequently engaged in the negotiation of meaning and form, by providing feedback and “making input and output adjustments” (Lee, 2002, p. 280).

There were also significant differences between the findings of this research and her earlier study. In her 2002 research, the total number of strategies identified was 354. This was a higher total than that reported in her previous study (298) and was a significant result given the smaller number of participants (34 as opposed to 40 in her 2001 study). Lee speculated (p.286) that this finding may be

due in part, to the broad nature of the opinion-exchange tasks that appeared to encourage participation. Lee also noted another significant difference. In her 2002 study, she identified the presence of adaptive discourse management strategies. Lee observed that the learners employed keyboard symbols as “discourse markers” (p.281). For example, they utilized question marks to signal uncertainty and smileys such as a smiling face to signal agreement and an unhappy face to show confusion or dislike. The findings of this study raised a number of issues regarding the use of real time CMC in CALL. Echoing the concerns expressed in her previous study, Lee noted that the real time nature of the interaction in the chat room creates pressure to respond quickly and this situation can result in the production of problematic linguistic output. For example, many responses were short sentences that “contained no verbs” (p. 282). The need to reply promptly coupled with limited vocabulary knowledge and sociolinguistic concerns (reluctance in some circumstances to signal non-understanding) resulted in the production of usage and spelling errors that frequently went uncorrected. Lee suggests that real time CMC may be a useful venue for language practice related to fluency. However, she also emphasized the role of the teacher in ensuring that learners focus on accuracy. The above study was subject to a number of limitations. For example, only one type of task was used, thus providing a limited perspective on the role of task type on the interaction. In addition, there were problems in the coding categories used to analyze the data. Kötter notes (2003) these include the “substantial overlap between the definitions of clarification checks and requests” (p. 157). Although these factors were limitations, this study demonstrated the potential of engaging learners in task-based interaction in real time text chat.

3.3.4 Strategy use and the influence of task type on negotiation of meaning during learner-learner interaction in the *Remote Technical Assistance* environment

Blake (2000) examined the interaction of 50 intermediate Spanish learners from two classes based at a University in the United States. In this research, the learners, who worked in dyads, participated in weekly 50-minute chat sessions over two semesters using the synchronous chat tool *Remote Technical Assistance*. In this large-scale longitudinal study, Blake explored the potential of implementing tasks as a means to create the conditions in which negotiation and language development can occur. Blake investigated possible task induced effects by utilizing a variety of task types. The number of tasks implemented varied over the two semesters. In the first semester, 3 jigsaw tasks and a single (one-way) information gap task were implemented. In the second semester, 1 decision-making task, 2 jigsaw tasks, and 3 information-gap tasks (two one-way and one two-way) were utilized. At this stage, a native speaker was introduced during the single one-way information gap task. This study represented an attempt to validate research which claimed that as jigsaw and two-way

information gap tasks require collaborative interaction focused on the production of a single outcome they are particularly useful in stimulating negotiation (Pica et al., 1993). Blake reported (see results in table 3.3) that data analysis of the transcripts indicated that as predicted by Pica and her associates (1993), jigsaw tasks in particular appear more effective than other task types in helping learners “notice the gap” in their interlanguage output. This task type appeared to be most effective at enhancing metalinguistic awareness, and this result led Blake to claim that:

Well-designed networked tasks promote learners to notice the gaps in their lexical interlanguage in a manner similar to that has been reported in the literature for oral learner/learner discussions. (p.132)

Data revealed that the jigsaw tasks stimulated more instances of negotiation than other task types, accounting “for 93% and 78% of the total negotiations” over the two semesters. The one-way information gap task involving the native speaker subject produced the highest number of turns but only a very low amount of negotiation (0.3% of all turns). This result suggests that learner-learner interaction in text chat produces more modified interaction than is the case than during native speaker-non-native speaker encounters. The analysis also showed (p.127) that instances of negotiation in the data as a whole were largely incidental in nature, focused largely on unknown lexis (syntactic and phonological negotiations were rare) and accounted for only a limited number of total turns (ranging from 0.3% to 3.8%). Blake claimed that, although this total was low, a positive feature of the data was that the majority of the subjects’ interaction was focused on completing the tasks. Blake’s findings (which also included largely positive learner feedback) were significant as they identified the presence of task-induced effects during interaction in learner-learner real time CMC. This study stimulated further research into the use of tasks in CMC-based CALL projects.

3.3.5 Strategy use and the influence of task type on negotiation of meaning during learner-learner interaction in the *ChatNet* environment

Smith (2003 b) explored the real time chat-based interaction of 18 intermediate-low level ESL learners based at a university in America. The interaction took place in a type of IRC program called *ChatNET*. Learner interaction was recorded over 5 30-minute sessions and involved the use of two task types.

This approach was motivated by earlier research (Pica et al., 1993) which suggested that tasks that require information exchange (jigsaw tasks) will produce a higher incidence of negotiation than tasks where such exchange is optional (decision-making tasks). In order to investigate communication strategy use, Smith implemented jigsaw and decision-making tasks that contained low frequency lexical items. In this research, the subjects spent the first 30 minutes of each session in a pre-task warm-up. This activity was then followed by the main

task. The results (see table 3.2) showed that the participants employed a wider range of what Smith identified as communication strategies (26 in total) than has been reported in other research (Fernandez-Garcia & Martinez-Arbelaz 2002; Lee, 2001; 2002). It appears that these strategies were used in part, as a means to facilitate discourse management during problem free interaction and also to overcome communication problems. The most frequent of these strategies identified in this study (and their definitions) are reproduced in the following table:

Table 3.2 Most frequent learner compensatory strategies in real time CMC (adapted from Smith, 2003 b, p. 46-47)

Strategy	Number of occurrences	Definition
Substitution	43	“use of abbreviated forms of a word u= you, 2= too/to”
Framing	30	“these can mark the closure of old topics and the initiation of new ones. “Good,” “OK”
Use of fillers	54	“using gambits to fill pauses. These are time-gaining strategies to maintain conversation in time of difficulty. “Well..,” “Actually...”, etc”
Politeness	28	“interlocutors use explicitly polite formulations”

Smith claimed that interaction in real time CMC “may encourage” (p.43) the use of the above strategies due to the absence of paralinguistic cues and the removal of pronunciation concerns. Substitution was employed by the subjects mainly as a result of the online nature of the interaction and the limited proficiency of the learners. As the above table shows, the use of fillers was the most frequent discourse management strategy employed by the subjects. Smith reported that during the interaction the use of fillers carried out the same function as in face-to-face communication, namely the provision of feedback during periods of difficulty. Framing was a further strategy used during the interaction and this phenomenon appeared linked to the intermixing of messages. Smith speculated that this feature of CMC interaction, coupled to the absence of intonation, leads learners to signal turn transmissions in a more explicit manner than would be the case in face-to-face communication. The analysis also revealed another interesting phenomenon, namely, the presence of interactional discourse management strategies. The results showed that the learners made extensive use of politeness formulae strategies.

Smith argued that the “sensory limitations” faced by learners in CMC led to politeness being utilized in order to maximize the possibility of cooperation from interlocutors.

Smith attempted to investigate the relationship between task type and communication strategy use. Quantitative analysis of the transcripts was conducted using the Nijmegen taxonomy of compensatory strategy types. The data showed that compensatory strategies were employed by the subjects as an efficient means to overcome communication problems relating to unknown lexis. In addition, it was found that more compensatory strategies were elicited by the decision-making tasks than the jigsaw tasks. Smith (2003 b) stated that:

78% of these (lexical) items were negotiated during the decision-making tasks whereas only 22% were negotiated during the jigsaw tasks. (p.45)

This was an interesting finding, and contradicts Blake’s (2000) claim that, in chat interaction involving non-native speakers, jigsaw tasks (due to their convergent nature) produce a higher incidence of communication strategy use and therefore negotiation than other task types. This finding led Smith to claim that “task type may indeed affect compensatory strategy use among learners” (p.44). Conceptual compensatory strategies were found to be far more frequent than linguistic transfer or mixed strategies across all tasks administered. However, as regards the relationship between task type and discourse management strategies no significant effect was reported.

Further research by Smith (2003 a) investigated the task-based chat interaction of a larger learner group (28) in the *ChatNet* environment. The subjects were students of English based in the United States. This project was conducted over 5 30-minute sessions. As in Smith’s other study (2003 b), the recorded interaction followed a warm-up period. The subjects in this study (university students) undertook a series of jigsaw (picture description) and decision-making (selection of a gift) tasks that incorporated low frequency lexical items. Analysis of the chat transcripts indicated that the participants frequently engaged in collaborative TL-based interaction that involved hypothesis testing and the negotiation of meaning related to the tasks (see results reported in table 3.3). As reported in previous research (Blake, 2000; Lee, 2001; 2002; Smith 2003 b) in the case of negotiation, the interaction focused on the resolution of non-understandings related to unknown TL lexis. The negotiation routines identified broadly followed the model for face-to-face interaction (trigger, indicator, response and reaction to a response) proposed by Varonis & Gass (1985). However, there were differences due largely, in Smith’s view, to the online nature of interaction. In a significant difference, the subjects frequently employed a reaction to a response. Smith (2003 a) claimed this reflected a need to “bring the

routine to some explicit closure” (p.47) and was due, in part, to reduction of the paralinguistic cues that carry out this function in face-to-face communication.

This situation also accounted for the use of explicit expressions of non-understanding similar to those reported by Fernandez-Garcia & Martinez-Arbelaiz (2002). Smith observed (2003, a):

Thus in CMC, a certain degree of support is stripped away, concentrating the entire burden of communication on written characters. As a result, a more explicit marking of understanding and non-understanding, as well as turn boundaries, is required in CMC than in face-to-face interaction. (p.47)

The analysis revealed that during the interaction there were occasions when long delays occurred between turns involving triggers and indicators. Smith speculated that these delays were due in part to “the lack of strict turn adjacency” (p.48) that is a frequent feature of multiparticipant real time CMC (Herring, 1999). However, this phenomenon did not appear to prevent negotiation of meaning taking place. This study further revealed the influence of other possible task-induced effects. In a significant finding, negotiated turns focusing on the low frequency lexical items embedded in the tasks accounted for approximately one third of total turns recorded in the data. This result contrasts with the finding reported by Blake (2000, p.127), where negotiation was incidental in nature and the number of negotiated turns was low. In an interesting finding, that contradicts a result reported by Blake (2000) in this study the decision-making tasks eliciting higher levels of negotiation than the jigsaw tasks. Smith claimed (2003, a p. 46) that this result was because that in contrast to the decision-making tasks, interaction focusing on the lexical items in the jigsaw tasks was not central to task completion. As was the case with the research examined in this discussion this study was subject to a number of limitations. The study itself was only conducted over 5 sessions and therefore provided only a limited support for the claim that the decision-making tasks elicited higher levels of negotiation than the jigsaw tasks. Moreover, only two task types were used. Despite these shortcomings, this study showed that the use of task-based learning in learner-based CALL projects involving the use of chat rooms can support collaborative interaction focusing on the negotiation of meaning related to new lexis and the development of L2 skills. The key findings of the studies examined in this section are summarized in table 3.3.

Table 3.3 Studies of learner-learner interaction in types of synchronous CMC: Strategy use and the influence of task type on negotiation of meaning

Researcher	Lee (2001)	Fernandez-Garcia & Martinez-Arbelaz (2002)	Lee (2002)	Blake (2000)	Smith (2003 b)	Smith (2003 a)
Type of synchronous CMC tool investigated pedagogical /methodological approach (if specified)	<i>Parachat</i> Experimental project involving discussion of open ended discussion topics Qualitative and quantitative	<i>Open Transport</i> Project part of a course on grammar and composition Qualitative	Chat feature of the <i>Blackboard</i> system Project part of a university language class Qualitative and quantitative	<i>Remote Technical Assistance</i> chat program Project part of the lab requirement of 2 Spanish classes Quantitative	<i>ChaNet</i> Project part of a regular ESL class Quantitative and qualitative	ChatNet Project part of regular class syllabus Quantitative and qualitative
Number and background of subjects, proficiency levels and location	40 undergraduate intermediate learners of Spanish divided into 12 groups located at a University in the United States	28 undergraduate Spanish learners divided into 4 groups located at a university in the US	34 intermediate level learners of Spanish located at a University in the United States	50 intermediate level undergraduate students of Spanish (drawn from 2 classes) based at a University in America	18 intermediate-low level based at a University in the United States	28 intermediate learners of English based at a University in America
Sessions and project duration	One hour session weekly over a semester	2, 35 minute sessions held 20 days apart	One weekly 50 minute session held over a semester	1, 50 minute chat session per week over two semesters	5, 30 minute sessions	5, 30 minute sessions
Features of learner interaction investigated	Communication strategy use	Strategy use during negotiation of meaning	Communication and discourse management strategy use	Relationship between task type and incidence and type of negotiation	Strategy use during task-based interaction	Relationship between task type and negotiation
Research method/ analysis technique employed	Analysis of chat transcripts	Analysis of chat transcripts	Analysis of chat transcripts	Analysis of chat transcripts Post project attitude survey	Analysis of transcripts	Analysis of learner transcripts
Main findings	The subjects employed a variety of strategies during communication problems The most common strategies were requests and clarification checks The subjects negotiated input and output focusing on unknown lexis However on occasion the real time nature of the interaction impeded the production of accurate and coherent discourse	The subjects engaged in negotiation of meaning focusing primarily on unknown lexis Their negotiation broadly followed the model proposed by Varonis & Gass (1985) However, there were differences The subjects almost exclusively relied on explicit appeals for assistance The extensive use of L1 was identified	The learners negotiated meaning focusing on unknown lexis by utilizing communication strategies similar to those identified in her 2001 study Discourse management strategies were also identified Study reported the presence of usage and spelling errors and an absence of complex TL constructions	Jigsaw tasks produced more negotiations focusing on unknown lexis than the other task types (information-gap and decision-making) Negotiations mostly incidental in nature there were few syntactic negotiations	The learners employed 26 different strategies The most frequent strategies were substitution, framing, fillers and politeness These strategies were more frequent than other types Limited evidence that task type influences strategy use with more strategy use recorded in the decision-making tasks than in the jigsaw tasks	Subjects engaged in frequent negotiation of meaning (accounting for approximately one third of all turns) focusing on low frequency lexical items embedded in the tasks There were frequently delays between turns during negotiations Highest incidence of negotiation in decision-making tasks

3.4 Research on learner-learner interaction in synchronous CMC: Key findings

The previous discussion has examined the literature on learner-learner interaction in various types of synchronous CMC. The following sections will identify significant results reported in this examination with reference to following key research areas. First, the participation patterns and linguistic features identified. Second, the nature of learner strategy use during online interaction. Third, the nature and extent of learner negotiation in real time CMC. Finally, the effects of task type on both the type and quantity of negotiation.

3.4.1 Participation patterns and linguistic features

The studies examined in sections 3.2.1 through 3.2.3 have drawn attention to the potential benefits of learner participation in real time CMC-based interaction. Kelm's (1992) early study provided evidence that this form of interaction produces a more equitable and non-threatening environment for learning. Kelm observed that in his study learner participation and TL output was enhanced and anxiety reduced. Learner feedback indicated that the subject's self-confidence appeared to increase. These beneficial effects were generated in part by the learner-centered nature of the interaction. These findings were mirrored in the work of Chun (1994) and Darhower (2002), who also reported similar findings. Chun (1994) noted that in her study, the subjects increased their TL output and took the initiative in asking and answering questions to a greater degree than would be the case in many traditional language classes, where interaction is frequently dominated by the teacher. Darhower (2002) observed that the subjects in his study enjoyed participating in online interaction. Taken together, the results of these (and other similar studies) suggest that regardless of the type of real time chat tool employed, this form of interaction appears to encourage the production of TL output, autonomy and more equitable participation patterns than those found in many conventional classrooms. As was noted above, a partial explanation for these phenomena can be found in the learner-centered nature of multiparticipant chat interaction where it difficult for an individual to dominate the discussion (Kelm, 1992, p.448)¹. Further partial explanations suggested in the above studies include the use of pseudonyms that appear to encourage self-disclosure (Darhower, 2002), and the visual saliency of text onscreen (Kelm, 1992), that supports the production of TL output. These factors, coupled to the perceived reduction in time and psychological

¹ The above studies identify the reduction of teacher authority as a significant feature of interaction in CMC. The implications of this claim will be discussed in section 3.4.2.

pressures during real time CMC support increased TL output and participation as Chun (1994) observes:

A decided advantage of computer mediated of CACD (computer assisted classroom discussion) is that learners are under neither time pressure to respond nor the psychological pressure of making a mistake or looking foolish. (p.28)

The above studies have further shown that the largely supportive environment created during learner-learner interaction in real time CMC facilitates the production of a wide range of linguistic output incorporating a variety of linguistic features. Chun (1994) identified a number of (p.17) “interactional speech acts” in her data including the use questions and answers (including clarification requests), statements and imperatives. These moved the discourse forward, provided feedback and contributed to effective management of the interaction (p.26). She also identified a number of linguistic features related to discourse management. These included the appropriate use of “social formulas”, such as, greetings and farewells (p.23). The subjects in Darhower’s (2002) study produced (for the most part), coherent and substantive TL output characterized by the appropriate use of interactional discourse management strategies including politeness, greetings and leave-takings. Darhower (2002) claimed that the subjects in his study “appropriated the chat room environment” and created a discourse community based on autonomy that enabled the subjects to produce TL output that is not typical of many conventional language classroom such as the use of humor and role-play.

In addition to these positive results, these studies identified a number of potential problems with engaging learners in types of synchronous interaction. For example, Darhower (2002) noted the presence of extensive off-task discussion, flaming and L1 use in his data. Although he speculated that the presence of off-task discussion and flaming were not necessarily wholly negative and reflected the presence of collaborative interpersonal relationships, these findings are a cause for concern. The frequent use of L1 reported by Chun (1994) and Darhower (2002) represent further negative findings. The results reported by Shin (2006) showed that a number of variables can negatively affect learner behavior in real time CMC. Shin’s study suggests that for some learner groups, prior language socialization experiences and attitudes greatly influence online behavior. His results emphasize that variables such as variations in proficiency levels can restrict participation in CALL projects that involve interaction using text chat. Shin’s results were also significant because they identified a potential problem with large group real time CMC. The rapidly scrolling multiple topic threads frequently produced by this type of interaction can make it difficult to follow the discourse and this can negatively affect participation, particularly on the part of students with limited L2 proficiencies and typing skills.

3.4.2 Strategy use and the influence of task type on negotiation of meaning

The studies analyzed in section 3.3.1 through 3.3.5 (Blake, 2000; Fernandez-Garcia & Martinez-Arbelaiz 2002; Lee, 2001; 2002; Smith 2003a; 2003b), demonstrate that during interaction in various types of real time Internet chat learners use a variety of the communication strategies identified in interactionist research as playing a central role in language development. These studies, conducted within the social interactionist framework, are consistent in confirming the presence of the communication strategies (such as, for example, clarification requests) that have been identified in learner-learner interaction in conventional classrooms (Varonis & Gass, 1985). Fernandez-Garcia & Martinez-Arbelaiz (2002) and Smith (2003a) note the frequent use of explicit communication strategies such as requests for meaning and suggest that these are the result of medium induced effects. They claim that in the online environment, where many paralinguistic cues are absent or reduced, the use of explicit strategies is one of the few means available to signal that a communication problem has occurred. The studies reviewed in this chapter have established that the majority of negotiations during learner-learner interaction in text chat broadly follow the model proposed by Varonis & Gass (1985) and focus on unknown lexis (Fernandez-Garcia & Martinez-Arbelaiz 2002; Lee, 2002; Smith, 2003 a). Other types of negotiation (such as those involving morphosyntax) are infrequent (Blake, 2000). This finding is not unexpected, given that most studies have examined interaction involving intermediate learners who possess limited vocabularies. However, it leaves open the question of whether participation in real time chat-based interaction may support grammatical development.

Smith's (2003 a) study reported a significant finding. Although there can be considerable delays between turns in real time multi-participant CMC, the subjects in his study were able to track messages from their partners and successfully complete negotiation routines. This finding indicates that for learner groups who are comfortable engaging in network-based interaction, the visual saliency of text in real time CMC coupled to the ability to scroll supports turn tracking and may facilitate negotiation. The evidence is less clear regarding a central concern of social interactionist research, namely, the influence of task-induced effects on the quantity of negotiation. Studies by Lee (2001; 2002) and Fernandez-Garcia & Martinez-Arbelaiz (2002) indicate that learners negotiate during opinion-exchange tasks. Unfortunately their research was limited as it did not quantify the incidence of negotiation nor investigate other task types. In an effort to overcome these limitations, both Blake (2000) and Smith (2003 a; 2003 b) examined a wider range of task types. Although they both claimed that communication strategy use is influenced by task type their studies produced conflicting results. Blake (2000) claimed that jigsaw tasks produce the highest incidence of negotiation. In contrast, Smith (2003 a, 2003b) reported a higher incidence of negotiation during decision-making tasks. These contradictory

results show the need for further research. Although the studies examined in this chapter have yet to clarify the precise relationship between task type and negotiation they nonetheless demonstrate (in most studies) the collaborative nature of much of the interaction in various types of real time CMC and in a number of cases the high degree of focus on the task (Blake, 2000; Smith 2003 a).

The review conducted in this chapter has identified a number of potential issues related to the use of tasks in real time text chat. The use of L1 by learners has been identified as a problem (Fernandez-Garcia & Martinez-Arbelaiz, 2002; Lee 2001; 2002). Additional areas of concern include the high frequency of linguistic errors (Lee 2001), and the limited evidence for self- and other-initiated correction. This finding highlights the danger of the incorporation of incorrect forms. The implication raised by these results is that while interaction in text chat may benefit fluency there may be a trade off in accuracy (Lee, 2002). This claim draws attention to the issue of the role of teacher in CALL projects involving text chat. If, as is claimed, the influence of the teacher is reduced in these projects there may be a requirement for active teacher intervention both in the areas of task design and in the identification and correction of L2 errors. This may especially be the case in projects where the teacher is not an active participant in the interaction (as was the case the majority of the projects examined in this chapter). The research examined in this chapter also raises issues regarding the suggested beneficial effects of engaging learners in real time computer-based interaction. Although some researchers have argued that real time CMC offers learners an interactive environment that provides additional time to compose and edit messages (Kelm, 1992; Chun, 1994) the findings of other studies contradict this claim. For example, Lee (2002, p. 285) noted the presence of avoidance strategies in her data and identified the communication context produced by real time CMC as being partially responsible for this result. Lee argued in that in situations where messages are scrolling rapidly the desire to respond quickly can result in avoidance. Finally, although a number of studies (Chun, 1994; Smith 2003 b) have identified the presence of interactional strategies such as politeness to date, few researchers have explored the role of these strategies in facilitating discourse management. As a result, the effects of affective, cultural and sociolinguistic variables on strategy use during learner-learner interaction in real time CMC remains to be comprehensively investigated.

The review of the literature conducted in this chapter demonstrates that, as Chapelle (2005) states:

the relevance of the constructs and methods from SLA research for the study of CALL. (p.60)

The broadly positive findings emphasize that adopting the central questions, constructs and methods articulated in social interactionist research provides a useful means to advance development work in CMC-based CALL particularly when exploring the potential of interaction, strategies and tasks in facilitating SLA . The results indicate (see summaries provided in tables 3.1 and 3.3) that engaging learners in real time interaction through the medium of text may create the conditions hypothesized in social interactionist research as beneficial to language development. However, as I have emphasized at an earlier stage of this discussion, research is limited with regard to some issues such as the role of tasks where the results of existing studies are contradictory. There remain large gaps in the literature on CMC-based CALL and many areas remain unexplored. This literature review demonstrates the need for additional qualitative and quantitative studies, as Kitade (2000) observes:

there is still an urgent need for descriptive and empirical research on computer-mediated interaction, especially the use of CMC in L2 learning applications. (p.146)

Additional work is required in the following important areas. There is a need for more descriptive work that identifies the linguistic features of learner interaction in the various types of real time CMC that have been utilized in CALL projects. Although the small number of existing studies that have investigated learner communication strategy use during negotiation of meaning have produced promising results, there is a need for more work in this area. The related area of learner discourse management (including interactional strategy use) remains largely unexplored, as does the investigation of the influence of variables such as attitudes, technical features of CMC, sociolinguistic and sociocultural factors on learner strategy use. The relationship between task type and negotiation represents a further area that would benefit from additional research.

In the above context, the following discussion will provide an overview of the type of CMC explored in this research. The emergence of MOOs will be examined as are a number of MOO environments specifically designed for language learning. I then provide a critical analysis of the results of studies of MOO-based interaction involving native speakers, learners and native speakers and learners. In this analysis, I will examine the important areas identified in my review of the literature on other types of CMC. Areas investigated will include including participation patterns and linguistic features. I will also explore key areas of concern in social interactionist accounts of SLA, including, strategy use during communication problems and discourse management. I further examine the relationship between tasks and negotiation.

3.5 MOOs and CALL

Of the many chat environments applied in CALL in recent years multi-user object-orientated domains, popularly known as MOOs, are amongst the most distinctive. MOO environments provide a means to bring together groups of learners for real time TL interaction through the medium of text, within the framework of an online virtual world. In this and in the next chapter, I will show that MOOs provide a number of advantages over conventional CMC-based communications tools. The following discussion will provide an overview of the development of MOOs and their use in language education. Various EFL MOO environments and projects are examined. The discussion then moves on to examine current research on interaction in MOOs and identifies areas in need for further research.

3.5.1 The emergence of MOOs

The precursors of the first MOO program were on-line adventure games known as MUDs (multi-user dungeons or dimensions). These early CMC programs facilitated communication by means of typed text between multiple users in real time (Bartle, 1994). Anticipating the educational potential of these environments a programmer at Xerox Parc Corporation, Pavel Curtis, reprogrammed the MUD environment to create a server software package called the *LambdaMOO Core*. This database constitutes the core MOO environment. MOOs are text and hypertext-based desktop virtual reality (VR) worlds designed to facilitate real-time communication. Interaction is carried out through text chat in environments modeled on the real world. Unlike most forms of chat, the system contains an accessible and fully functional object-orientated programming language that enables users to create virtual spaces (known as rooms) and content within the environment. MOO worlds incorporate varying numbers of rooms. The number of rooms in a particular MOO is usually dependent on the number of users. As with other objects in MOOs, rooms consist of a textual description of a virtual space. Other virtual objects that can be utilized include tape recorders (which record online discussions for future use), electronic notice boards, online language games and generic objects. Learners are also free to create their own digital personas through the creation of character (pseudonyms) names. MOOs further provide for the recording of user input through the creation of log files. Log files show user output in the order it is posted by the server, as in the following example reproduced from Shield et al. (1999 a) the character “Razor” is a learner, “Lesley” is a native speaker:

Razor says, “ I personally feel this is a world within a world.....:-) “
Lesley asks, “Hmm?”
Razor says, “I mean, is ee so many people just saying anything that comes to their heads.....irl...I’m sure they’d think first.”

Lesley asks, "So do you think this environment somehow disinhibits people?"

Do you think it helps shy people, for example?"

Razor says, "I'd say YES...it does."

.....

Razor says, "I feel people keep coming back here because places such as these help breaking their hesitation."

Lesley nods.

Lesley asks, "And that's valuable?"

Razor says, "to a certain level.....yes."

Lesley asks, "Because?"

Razor says, "because if they're shy, they'll never ask...and thus never learn."

Lesley asks, "Ah...so, because MOO breaks down barriers, shy students feel more comfortable asking questions?"

Razor says, "I'd say yes.....(p.393)

As the discussion in the following sections will demonstrate, the above features distinguish MOOs from most other chat tools. This chapter will show that these environments have a number of potential uses in teaching and learning (Holmevik & Blanchard, 2001). The LambdaMOO core has undergone considerable development and forms the basis of most educational MOOs in use today. In the past few years, the MOO concept has been expanded due to advances in network technology. Many MOOs are now accessible through the World Wide Web and incorporate hypertext, graphics and authoring tools (Holmevik & Blanchard, 2001). The following section will examine some of the best-known language learning MOOs and illustrates the variety of approaches to MOO design. The discussion in this section draws attention to the potential of these environments as language learning tools.

3.5.2 MOO environments and projects

MundoHispano (<http://www.umsl.edu/~moosproj/mundo.html>) is hosted at the department of foreign languages and literatures at the University of Missouri-St. Louis. This MOO is designed to support language learning and cross-cultural exchange between native speakers and learners of Spanish. A screen capture of the gateway interface is reproduced in figure one:

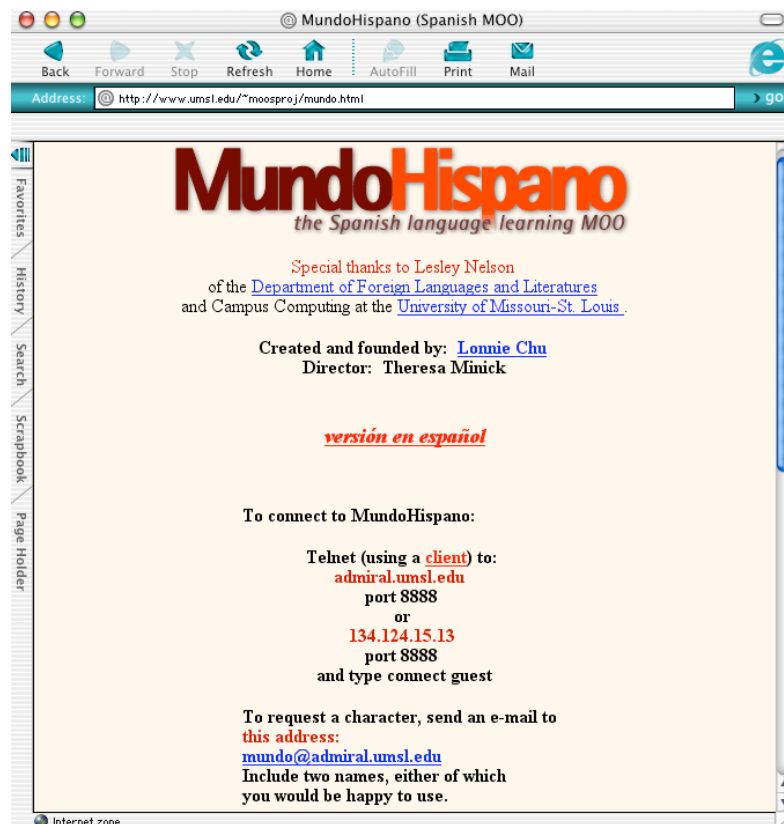


Figure 1. The MundoHispano gateway site

The above MOO may be accessed through the *Telnet* network communications program. The use of a software client with *MundoHispano* facilitates user communication in real time. Various freeware MOO client software packages are available for download from the Internet. As in other MOOs, on login users are required to complete a simple protocol, this includes providing a short self-description. Users have the option of logging on anonymously as a guest, or they may request a unique character name from the MOOs' administrator. On completion of this protocol, users are free to navigate around the environment and communicate in real time with other users by means of a series of standardized commands. For example, users in the same virtual space in the MOO (known as a room) can communicate by means of the "<message>" command. After typing and then sending this message the contents are seen by all users in that room. Users can "teleport" or move between rooms, by the use of the @join <person> or <exit_name> commands. Users may move by typing the command go followed by a location name. The news command meanwhile gives access to an online newspaper that provides updates on recent developments in the MOO. In *MundoHispano*, this command also gives access to a command list. The @turismo command links to a MOO-based guidebook to the many thousands of user-created rooms in *MundoHispano*. These rooms have been created by native speakers in 12 Spanish speaking countries.

Commands can also be used to access the data recording facilities of this environment. When learners type the command @who the program automatically lists the names of users logged on at that time, supplies their locations, and the duration of their log on time. The developers have created a web site that provides links to a technical support page, list of basic commands and other web-based MOO resources.

The *Dreistadt* MOO (<http://cmc.uib.no:7001/>), is hosted at the University of Bergen. This environment is designed to facilitate the teaching of German as a second language and adopts the learning metaphor of a virtual location in Germany. This hypertext MOO can be accessed through a web browser. As with other MOOs, users have the option to log on anonymously as a guest, or request a personal character name. On completion of the entry protocol users may enter *Dreistadt*, which is designed to resemble a virtual town in Germany. As a web-based MOO, users can navigate by means of mouse clicks. A screen capture of the interface is reproduced below:

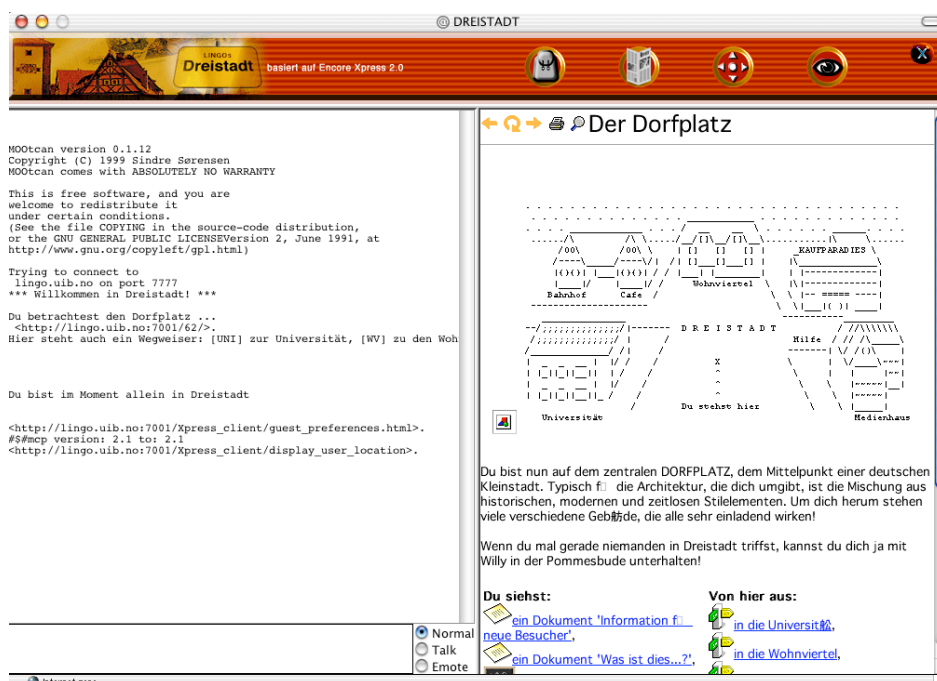


Figure 2. The *Dreistadt* MOO interface

As MOOs are object-oriented programs, learners can participate in the creation of new rooms. *Dreistadt* incorporates many learner created virtual rooms and other content. After obtaining permission from the administrator, rooms can be created by learners through the use of simple programming commands. *Dreistadt* contains a number of theme-based student created rooms, where learners may engage in discourse related to a particular topic. The environment

also provides several forms of learning support. While logged on, learners can type the help command that brings up an onscreen help index.

CALL developers have not been slow to utilize the potential of MOOs in language education. Although language learning MOOs represent a relatively recent development in CMC-based CALL, the number of these environments has been increasing. Access to second language learning MOO sites has been rising. For example, at the time of writing, the *Schmooze University* web site claims 947,057 user requests for access since its inception in 1994. Although this total may not be fully accurate, this data indicates substantial interest in language learning MOOs. Despite the increasing use of MOOs in CALL, only a limited number of studies have been conducted into the nature of learner interaction in MOO environments. The discussion in the following sections will explore the results of these studies. I shall begin by examining a major study of native speaker interaction in a MOO. I go on to analyze the results of studies involving learner-native speaker interaction in various EFL MOOs conducted under the principles of tandem learning. I then investigated existing research on learner-learner interaction in these environments.

3.5.3 Research on interaction in MOOs: NS-NS interaction

Researchers have investigated the interaction of NSs in MOO environments. Cherny (1999) conducted a major longitudinal study of NS interaction in a MOO designed for social interaction she called *ElseMOO*. The subjects in this project developed a unique register, that was the product of the need to communicate through text in an online chat environment where users are anonymous and communication cues are restricted. This register was similar to those reported in studies of interaction involving other CMC environments, but, was more sophisticated and differed in a number of respects (Murray, 2000). Moreover, this register appeared to display usage patterns that were more reminiscent of oral rather than written communication (Cherny, 1999). The *ElseMOO* register was characterized by a number of features. First, the subjects made use of the specific communication features of MOO environments particularly “emotes”. Emotes are MOO text commands that enable users to describe physical actions in real time as they carried out by their online “character”. A typical example of an emote is provided by Cherny “Mike nods to Karen” (p.202). In contrast to the results of studies that involved IRC (Werry, 1996), only limited use was made of smileys. A notable feature of the *ElseMOO* register was the use of adaptive strategies including the deployment of upper case characters to display emphasis and also actions such as laughter (both examples from Cherny, 1999, p. 112):

Devil says, ““ITS ALL FROGDS FAULT, STRING HIM UP WITH AN ENDFORK”

lynn [to llon]: just noticed you were at Umist
Henry is not well.
Mike says, "UMIIST ME HAHAHA"
Mike is not well. --Henry
Ted HAHAHHAHAHA
Henry HAHAHAHAHAHAHAHAHAHA

The participants adopted abbreviation, deletions (for example, of prepositions) and contractions. The subjects made use of acronyms common in Internet culture such as LOL (laughs out load). However, they also employed acronyms specific to this environment including "convo" (conversation) and "bbiaw" (be back in a while) (p. 92). These strategies were motivated, in part, by the need to respond quickly. However, this was not always the case. In some circumstances the subjects employed these devices in ritualized manner that was culturally determined. A common strategy utilized by the subjects was the sending of a blank message implying that their character is the answer to a question as in the following example, where the character Tom sends a blank message in order to suggest in a humorous way that he is weird (p.105):

Lenny says, "what's weird"
Tom

The process of turn-taking in MOOs operates under conditions in which all subjects can take turns (by sending messages) at any time. During turn-taking the absence of visual and verbal cues (such as posture, eye contact and intonation) that regulate turn-taking in face-to-face interaction led the users of *ElseMOO* to utilize text devices that are designed to signal the attention state of an interlocutor and provide feedback. Cherny (1999) describes these utterances as "back channels", and they take the form of:

"some nonlexical limitations of speech sounds or laughter ("Tome hehs"), and some lexical descriptions of behaviors that are back channels "in real life" ("lynn nods"). They also include conventional misspellings of other conventional forms (the back channel "hsm" came from a typo of the back channel "hms") and other conventional shortcuts (e.g. "oic" comes from "oh, I see"). (p.185)

Confusions and non-understandings occurred during the project and where the talk became disorderly repair mechanisms were deployed. In the following example (Cherny, 1999, p. 173) of a repair, the character Tom pastes a line of text from an earlier discussion to clarify the meaning of the word "this":

Rob [to Tom]: if they don't know about quitting then they're likely best off using@quit

Tom [to Rob]: um, thanks

Mike [to Robin]: What's new?

Tom isn't quite sure what he's supposed to conclude from this.

Mike says, "From what?"

Tom I Rob [to Tom]: if they don't know about quitting then they're likely best off using@quit

This study further emphasizes the important influence of sociocultural factors on the creation of an online speech community. As this community was modeled on a real life one many of the expectations that regulate community life appeared to transfer to *ElseMOO*. In an example of this phenomenon, the comments of experienced long time users (the so called power elite) were attended to, in contrast, the utterances of novice users were frequently ignored. Cherny noted that ritualized behaviors such as unique formulaic greetings and leave-takings were a characteristic of communication in *ElseMOO*. These behaviors reflected the existence of ritualized communication conventions that influenced the communication. These rituals facilitated language play and were designed to create and sustain in-group membership. Cherny's research shows how NS interaction in a MOO environment is influenced by the interplay of a number of factors including the specific communication features of MOOs, context of use, and sociocultural concerns.

Motivated by these results and other studies, a small number of CALL researchers have attempt to investigate interaction in MOOs in order to identify the factors that influence communication and determine if these tools are suitable venues for the support of language development. As observed previously, MOO-based interaction has been investigated in a limited number of studies conducted within the framework of tandem learning. The discussion will now focus on an examination of the principles of tandem learning and go on analyze the results of current studies conducted within this framework.

3.5.4 Tandem learning

An influential approach that has attempted to explore the role of interaction in language development is tandem learning. Network communication tools have been utilized in a number of task-based tandem learning projects. Tandem language learning occurs when:

two learners of different native languages work together in order to learn their partner's language and also learn about his or her background.
(Brammerts, 1996, p. 123)

Schwienhorst (1998 b) has observed that tandem learning is based on three main principles. The first principle is that of reciprocity:

Each student must benefit equally from the partnership, and can expect to receive as much help as s/he gives. Each student depends on contributions from both students to make the partnership successful. (p.2)

The second principle is bilingualism. The learners in a tandem exchange should balance their use of L1 and L2 when communicating. The final principle is learner autonomy, defined by Little (1991) as a:

capacity - for detachment, critical reflection, decision-making, and independent action. It presupposes, but also entails, that the learner will develop a particular kind of psychological relation to the process and content of his learning. The capacity for autonomy will be displayed both in the way the learner learns and in the way he or she transfers what has been learned to wider contexts. (p.4)

The development of autonomy is seen as an important influence on the process of language learning as it enables learners to monitor and plan their learning and this reflection leads to enhanced skills and knowledge that can be transferred to new learning contexts (Little & Brammerts, 1996).

Research indicates that participation in tandem learning encourages learners to take an active role in their learning and offers a number of potential benefits including opportunities to develop metalinguistic awareness, intercultural knowledge, writing and speaking skills (Brammerts, 1995; Little et al., 1999). Moreover, by providing learners with access to an authentic communication context involving NS language, tandem-based learning may also positively impact on the development of communicative competence (Bachman, 1990; Canale, 1983; Canale & Swain, 1980). These potential benefits (coupled to the advantages of using network technologies to remove distance constraints and bring together diverse learner groups) have led researchers to implement tandem learning in MOO-based CALL projects. Early attempts to utilize tandem learning in CMC focused on e-mail-based CALL projects. These studies reported encouraging results particularly in terms of the development of metalinguistic awareness and learner autonomy (see, for example, Appel, 1999). This work stimulated research that explored the nature of tandem learning in MOO-based CMC.

3.5.5 Research on interaction in MOOs: NS-learner interaction²

In an early experimental study, Donaldson and Kötter (1999) brought together two learner groups located in two different countries. This tandem learning project focused on examining the interaction of 8 German native speakers studying English as a second language in Germany and 13 undergraduate American students studying German in the US. Subjects from each group worked with a partner from the other group on a variety of project-based L2 tasks in a telnet-based MOO. The linguistic output of all the participants was recorded using the log feature. Although it was not the purpose of this study to analyze this data longitudinally for changes in learners' linguistic competences, this qualitative study nonetheless produced significant findings. The authors observed that from early on the project learners utilized the room-building feature of MOOs to create personalized learning spaces. Learner discourse in these rooms was characterized by a high degree of personalized and authentic interaction (Donaldson & Kötter, 1999, p. 69). The creators of this project also organized a number of team-based language tasks, which took the form of online discussions of comparative issues relevant to German and American culture. The researchers found that interaction generated by these tasks engendered a high degree of participation. Regular interaction fostered a strong sense of community and engagement amongst participants (Donaldson & Kötter, 1999, p. 70). As the project progressed, this trend was reinforced as the learners took control of the management of the project through summarizing the results of discussions to other members of the group, scheduled meetings and supporting the learning of other group members.

Through the study of learner logs and a post-study questionnaire, the researchers found that participants employed a number of strategies for dealing with communication in the MOO. Two distinct types of strategy were observed (Donaldson & Kötter, 1999, p. 71-74). One set of strategies was used for dealing with potential breakdowns in communication. Another set related to mentoring between participants. The learners preferred active strategies such as paraphrasing or direct translation to overcome breakdowns in communication. Translation of single words was especially prevalent. No incidences of avoidance strategies were reported. A further characteristic of this study was that NNS participants often made use of code switching in an attempt to prompt their NS partner for assistance during communication. In terms of mentoring strategies, many of the German students simplified their linguistic output in order to facilitate communication. After initial reluctance, participants took an active role in correcting partners TL utterances. This interaction prompted instances of the negotiation of meaning held in the literature to promote SLA.

² Summaries of key findings of the studies analyzed in this section are provided in table 3.4.

The researchers concluded that regular interaction in the MOO supported the creation of a TL community, characterized by a high degree of purposeful learner-centered interaction. The personalized nature of the learner discussion appeared to promote learner autonomy and motivation (Donaldson & Kötter, 1999, p. 74). At the same time, the study did identify a number of problems. The use of simplified TL output by the native speaker subjects appeared to be an effective means to maintain the interaction. However, the use of this strategy led to a situation where opportunities to negotiate meaning were lost. Moreover, the degree of control that the learners exercised over the project may have, on occasion, hampered the researchers' ability to structure the learning experience. However, despite these problems, the findings suggest that interacting with native speakers in a MOO can support aspects of second language development.

A study by Von Der Emde et al., (2001) described a language course involving American undergraduate students of German studying at a college in the US, paired with advanced students of English studying at a University in Germany. This project utilized a multi-media web-based MOO environment called *MOOssiggang* (<http://moo.vassar.edu:7000>). This MOO is designed to support the study of German and is modeled on a town in Germany. The authors of this qualitative study examined the discourse generated over two semesters and claimed that participation appeared to support the production of "authentic communication and content" (Von Der Emde et al., 2001, p.13). According to the above researchers, two aspects of communication in MOOs were responsible for this phenomenon. First, the free flowing nature of the interaction promoted communicative language use. Second, the ability of learners to create their own language learning environment through the construction of rooms engendered the production of meaningful content. As in the case of the findings reported by Donaldson & Kötter (1999), this study found evidence that interaction in MOOs appears to promote enhanced participation on the part of learners and autonomous learning behaviors. During the course of the project, the subjects created a discourse community. Analysis of the data further revealed frequent instances of negotiation (Von Der Emde et al., 2001, p. 215). The instances of peer teaching involved collaborative interaction related to correction and help with new vocabulary (p. 217). The discourse produced was characterized by a high degree of learner input and control. The researchers reported that MOO-based learning is also conducive to individualized learning, as learners can negotiate and provide content at their own pace. The authors of this research noted that the study of MOO log files off line supported individualized learning. They identified another area where participation in MOO-based CALL projects may be beneficial. MOOs provided many opportunities for exploratory learning. They observed that in *MOOssiggang* learners often made use of the anonymity afforded by pseudonyms to indulge in role-play and language play involving

experimentation with language (p.218). These risk taking behaviors were the product of reduced inhibition. In a further noteworthy aspect of the project, the authors claimed that as the project progressed, many learners became active researchers into the TL and culture. As the learner project conducted in *MOOssiggang* was cross-cultural in nature involving interaction with native speakers, it focused learner interest not only on the TL but also its culture, thus enriching the learning experience (p.219). The role of the teacher in the project was also examined. The researchers found that during the project the role of the teachers developed to that of facilitators. Faculty involved in the *MOOssiggang* project played a valuable role in supporting the participants learning by providing “meaningful student centered activities with explicit content-based goals” (p.210). Faculty also supported student learning off line by providing supplementary learning materials. The findings of this study show the important role of the teacher in facilitating the development of learner autonomy.

This study echoed many of the findings reported by Donaldson & Kötter (1999). The high degree of learner participation confirmed their results. The authors of the *MOOssiggang* project claim that participation in MOO-based language courses provide learners with access to the kind of autonomous learning opportunities, peer teaching and individualized, exploratory learning that may be beneficial to L2 development. Von Der Emde and her associates (2001) claimed that:

..the MOO presents students with a range of self-empowering options for their own language learning while still providing them with significantly more intensive language practice than available in the traditional classroom. (p.222)

Moreover, the authors of this research view the use of MOOs in language education as an opportunity to transform the language learning process itself (Von Der Emde et al., 2001, p.221). The results of this project reflected the care with which the researchers planned their project and demonstrate the value of engaging motivated learners in sustained periods of MOO-based interaction. A surprising feature of this research was that the number of participants was not specified. Although this fact represents a limitation, the results of this study emphasize the potential of interaction in MOOs as a means to develop learner autonomy, communicative competence and cross-cultural knowledge.

Schwienhorst (2002) conducted a MOO-based tandem-learning project involving 29 undergraduates based in Ireland and 22 students located in Germany. The subjects in this study were information and communication technology (ICT) students. This project utilized a custom built, browser-based MOO environment. Transcript data was collected over a nine-week period. In addition, post-study questionnaires were administered. This study was unusual as it represents one

of the few studies to include beginner level language learners in a MOO-based CALL project. Analysis of these data sources showed evidence that bilingual TL collaboration took place. This study confirmed the findings reported in Donaldson & Kötter (1999) and Von Der Emde et al., (2001) that during tandem learning in MOOs negotiation of meaning occurs focusing on non-understandings (p. 138). During the interaction, communication strategies incorporating clarification requests, self and other-initiated repetitions were utilized. Schwienhorst claimed that this type of interaction was more common than instances of avoidance or misunderstanding (p. 144). Repetition was utilized during negotiation (p.141). Moreover, analysis of the learner questionnaires indicated that although there were significant differences in L2 proficiency levels the subjects displayed reciprocity by adapting to their partner's needs. In this regard Schwienhorst (2002) states that:

The data shows clearly how both groups worked towards finding the most effective strategies for their highly different levels of proficiency, adapting to each other's needs and capabilities. (p.144)

In an example of this behavior, both learner groups displayed an awareness of their partners' preferred means of resolving communication problems. Schwienhorst (2002) observed that:

The questionnaire data suggested that German students, when helping their Irish partners with German, would adapt to or move towards the Irish students' preferred/intended strategy, translation, whereas the Irish students, when helping their German partners with English, mostly would adapt to the German students' preferred/intended strategy, paraphrasing. (p.144)

The subjects displayed a number of autonomous learning behaviors. The researcher observed that the subjects made use of Internet-based dictionaries and also consulted with their classroom peers during the project. The data analysis further suggested that during interaction in the MOO the learners actively managed their L2 learning and took risks. Schwienhorst claimed that this situation appeared to foster the development of autonomy and learner awareness of the social nature of language learning.

As stated in chapter 1, only limited research has been conducted into NNS strategy use in MOO-based CMC. One of the few studies to specifically address learner strategy use during interaction in MOOs was conducted by Kötter (2003). The project utilized the *MOOssiggang* environment that was explored by Von Der Emde et al., (2001). This longitudinal study that was based on the principles of tandem learning, involved a total of 29 undergraduate students based at a German and an American University. Participation in the project was mandatory

for the American students and an extra-curricular activity for the German learners. A major goal of this project was to explore the ways in which the subjects (who were of intermediate and advanced level) managed their task-based interaction.

As reported by Donaldson & Kötter (1999), Von Der Emde et al., (2001), and Schwienhorst (2002), analysis of the transcripts (the corpus consisted of approximately 184,000 running words) showed that when attending to the tasks problems occurred but the subjects utilized communication strategies and engaged in negotiation of meaning when overcoming these problems. Strategies used included confirmation and clarification checks, recasts and clarification requests. The most frequent strategy was clarification request, which accounted for 39.2 % of the total strategies identified in the corpus. Echoing a finding by Fernandez-Garcia & Martinez-Arbelaz (2002) the data indicated that indirect strategies such as confirmation checks and recasts were infrequent. Kötter speculated that the infrequency of these strategies in his data may reflect a desire to maintain face with interlocutors (2003, p. 158), and, in the case of the lower level participants, their limited proficiency level. Furthermore, in contrast to the results reported by Schwienhorst (2002), repetitions were absent. Kötter claimed that this finding indicates that the ability to scroll back during real time computer-based interaction and revisit previous utterances made this strategy largely redundant. Kötter observed another influence on strategy use that was a product of the online nature of the interaction, namely, the absence of paralinguistic cues. Both the American and German students frequently employed what were coded as “explicit statements of understanding, agreement and non-agreement” in order to undertake negotiation and also manage their interaction.

Analysis of the chat transcripts showed that the participants used the technical features of the MOO system to provide feedback (Kötter, 2003, p. 152). For example, they utilized specific MOO commands to narrate physical actions (so called emotes) and also employed keyboard symbols (such as exclamation marks) to display intonation. Learner self-reports indicated that as the project progressed, the subjects reflected on their use of strategies and employed paraphrasing and code switching during interaction with their interlocutors. The German students (who were more proficient in their L2) made more use of paraphrasing and code switching than their less proficient American counterparts. In contrast, the American subjects claimed to have made use of a wider range of strategies than their German peers. The use of paraphrasing and codeswitching was apparently the result of a desire “to avoid communication breakdowns” and sustain the discourse. Although the subjects took active control of their learning, there was little evidence of the interactional discourse management strategies (such as social formulas) that have been reported in other studies of learner-native speaker interaction in other types of CMC (Chun,

1994; Darhower, 2002). Kötter speculated that this finding was probably the result of the need to comply in real time with task requirements coupled to the limited duration of the project. Kötter's results indicate that MOO environments provide learners with a forum in which to take risks, negotiate meaning and develop their metalinguistic abilities. It appears his results were the product of differences in proficiency levels, sociocultural concerns and medium-specific factors (p.159). The most significant finding lies in the claim that there are differences between MOO-based repair and the repairs identified in the literature on oral interaction (p.145).

A more recent tandem learning project that investigated native speaker and non-native speaker topic initiation and negotiation in a MOO conducted by Schwienhorst (2004) reported positive results. As was the case in Schwienhorst's previous study (2002), this project brought together two learner groups based in different countries. These were 29 lower intermediate students of German based in Ireland and 22 advanced students of English located in Germany. Although the interaction was conducted over a limited period (8 one hour sessions), the researcher found that during the task-based interaction both subject groups worked in a collaborative manner. In addition, during the bilingual interaction the participants initiated and sustained coherent TL discourse incorporating adjacency pairs. The subjects managed their interaction through the use of wh-type, yes/no, tag and or-choice questions. Furthermore, it was found that negotiation of meaning occurred. In a significant finding, it was reported that in contrast to face-to-face interaction, where NSs initiate the majority of topics, topic initiation was shared equally by the NS and NNS participants (2004, p. 48). Moreover, this tendency became more pronounced as the project progressed. Schwienhorst claimed (2004, p.38) that this result is in part due to the MOO-based nature of the interaction where social cues (gender and age) and paralinguistic cues such as facial expressions (p.38) are absent. He also commented on the limitations of his study, namely the small sample size and the lack of a base line study (of NS-NS discourse) with which to compare the data. Although he acknowledge the above limitations he claimed his results support the contention that:

the combination of a learner autonomy-based framework such as tandem learning with a text-based medium such as the MOO can lead to a more NS-NS-like behaviour. (p.48)

Table 3.4 Studies of tandem learning in MOOs: Key results

Researcher	Donaldson & Kötter (1999)	Von Der Emde et al (2001)	Schwiehorst (2002)	Kötter (2003)	Schwiehorst (2004)
Type of MOO investigated pedagogical and methodological approach (if specified)	<i>Telnet</i> -based MOO experimental Tandem learning project involving discussion of open ended discussion tasks Qualitative	<i>MOOssiggang</i> web-based German as a foreign language MOO Tandem language course incorporating project work Qualitative	Web-based <i>EnCore</i> MOO Tandem project formed part of an ICT course Quantitative and qualitative	<i>MOOssiggang</i> web-based German as a foreign language tandem MOO project involved team-based project work Quantitative	<i>CLCS</i> Campus MOO Tandem project Quantitative
Number and background of subjects, proficiency levels and location	13 undergraduate intermediate learners of German based at an American college 8 native speakers of German studying English in Germany	Low to intermediate level learners of German based at a College in the United States paired with advanced learners of English based at a University in Germany	29 ICT undergraduates (based in Dublin) had beginner to low intermediate level German 22 ICT undergraduates (based in Germany) were advanced English learners	14 English learners based at the University of Munster and 15 students of German at Vassar College in the US. Subjects intermediate and advanced level.	29 low intermediate German learners based in Ireland 22 advanced German learners of English based in Germany
Sessions and project duration	14 two hour sessions over 14 weeks	2 75-minute sessions per week over 2 semesters	1 hour per week for 9 weeks	16 sessions Subjects met 2 times a week for 75 minutes	weekly 1 hour session over 8 weeks
Features of learner interaction investigated	Task-based learning Participation patterns Strategy use	“Pedagogical benefits” of using MOOs	Repair strategies	Repair strategies	Topic negotiation and initiation
Research method/ analysis technique employed	Researcher observation Analysis of transcripts Post-study questionnaire	Analysis of transcripts	Analysis of transcripts and post-study questionnaire	Analysis of chat transcripts Learner self-reports	Analysis of transcripts
Main findings	High degree of learner participation, autonomy and motivation The most common communication strategies during negotiation were paraphrasing direct translation and code switching The main discourse management strategy identified was the use of simplified TL output No evidence of avoidance	Interaction enhanced learner participation, autonomy and cross cultural knowledge Reduced inhibition and instances of risk taking (involving role play and language play) peer teaching involving negotiation focusing on correction and new vocabulary	Repair strategies were utilized during negotiation including clarification requests, translation, repetition and paraphrase. Avoidance strategies were rare. Participation in the project supported the development of learner autonomy	Heavy emphasis on direct repair strategies (clarification requests and confirmation checks) On-line nature of the interaction encouraged use of overt indications of understanding, agreement and non-agreement Strategy use influenced by differences in proficiency, sociocultural concerns and medium-specific factors	Interaction in the MOO encouraged learner autonomy and more equal participation between the natives speakers and non-native speakers in the area of topic initiation

The results of the studies examined in this section (see table 3.4) indicate that learner-native speaker interaction during tandem learning projects undertaken in MOOs may positively influence factors that contribute to second language development. In terms of participation patterns, the research reviewed in this section has consistently emphasized that the online nature of the interaction in MOOs (where learners can utilize pseudonyms) encourages active learner engagement involving use of the TL (Donaldson & Kötter, 1999; Von Der Emde et al., 2001; Schwienhorst, 2002; 2004). The findings reported by Schwienhorst (2002; 2004) were significant in this regard, with his most recent large-scale study providing evidence that during tandem learning in MOOs learners take responsibility for topic initiation and that their output in this regard almost equaled the native speakers (p.48). This result confirms the claim made in the majority of the above studies that interaction in MOOs is learner centered. The studies analyzed in this section indicate that participation in MOO-based CALL projects may further support the development of metacognitive skills (Kötter, 2003, p. 159), enhance cross-cultural knowledge (Donaldson & Kötter, 1999), lower inhibition (Von Der Emde et al., 2001, p.216) and encourage risk-taking (Schwienhorst, 2004). These benefits are perceived as facilitating the development of learner autonomy (Donaldson & Kötter, 1999; Schwienhorst, 2002; 2004; Von Der Emde et al., 2001). Results relating to the linguistic features of the interaction such as discourse management during these projects are limited, as this area was not a primary focus of these studies. However, Von Der Emde et al., (2001) identified the presence of TL output associated with language play. Kötter, (2003, p. 152) identified instances of the use of emotes and the narration of physical actions. Kötter further noted the utilization of keyboard devices such as block capitals and exclamation marks to display intonation.

The findings related to communication strategy use are clearer, as this aspect of interaction was a central focus for the above research. These studies confirm that as has been reported in studies of learner interaction in other types of CMC (Blake, 2000; Lee, 2001; 2002; Smith, 2003 a; 2003 b), in MOO-based tandem learning, learners actively collaborate with their native speaker partners and engage in the negotiation of meaning focused on the tasks. Results differ regarding the frequency of negotiation and the specific strategies employed. However, researchers are in general agreement that code switching, the use of simplified target language output and paraphrase are employed mainly by native speakers to overcome communication problems with their non-native partners. As reported in the above studies, the majority of negotiations relate to unknown lexis. In terms of learner strategy use during negotiation, the research reviewed in this section supplies considerable evidence to suggest that learners utilize explicit repair strategies (such as clarifications requests) more frequently than other strategy types and that this is due, in part, to the online nature of the interaction. These encouraging results show the potential of engaging learners in MOO-based interaction.

Analysis of the current literature draws attention to a number of issues requiring further investigation. Although the use of simplified TL output appears a useful means to maintain interaction during communication problems its frequent use in a number of the above studies (Donaldson & Kötter, 1999; Kötter, 2003) raises concerns regarding the possible dangers of the incorporation of incorrect forms and missed opportunities for negotiation. An additional area in need of research is the use of transactional discourse strategies. Few of the studies reviewed in this section have specifically examined the role of these strategies. For example, Kötter noted their relative absence in his data (Kötter, 2003, p. 156). This aspect of interaction in CMC requires investigation given the evidence in the literature that these strategies play an important role in creating an environment that facilitates language development during interaction in CMC (Darhower, 2002).

In conclusion, the above discussion has shown that interaction in various MOO environments appears to provide learners with a number of benefits. The network-based nature of the interaction offers the advantages of bringing together diverse learner groups that are often located in the TL culture. Online interaction removes distracters and social context cues that can inhibit interaction in face-to-face communication contexts. The results of the studies described in this section suggest that the benefits of online interaction may be significantly enhanced by the introduction of a tandem learning pedagogical framework. The results suggest that CALL projects involving real time communication environments such as MOOs provide a suitable venue for the principles of tandem learning to be realized. Online interaction involving tandem learning provides learners with access to bilingual forums based on the principle of reciprocity where learners can take risks, provide feedback, and engage in the negotiation of meaning. Moreover, the results described previously indicate that participation in international network-based tandem learning projects can support the development of cross-cultural knowledge, metalinguistic awareness and communicative competence. Research conducted to date further emphasizes the role of teacher as a facilitator in the organization and management of Internet-based tandem learning. The combination of online interaction coupled to tandem learning offers new opportunities to engage learners in beneficial interaction that offers the additional advantage of supporting the development of learner autonomy. The results described in this discussion indicate that MOO environments possess considerable potential as learning platforms in tandem-based CALL projects.

3.5.6 Research on interaction in MOOs: learner-learner Interaction³

As was noted in chapter 1, only a limited number of studies have attempted to describe the nature of MOO-based learner-learner interaction. To date, one of the very few studies to examine the linguistic features of this type of interaction was conducted by Weininger & Shield (2003). This research compared its results with the findings of an earlier study into NS-interaction in a MOO environment (Weininger & Shield, 2001). The subjects were 30 intermediate level NNSs of English as a foreign language based in 6 countries. The interaction occurred over a 5-month period and data was collected during both formal (teacher-led sessions) and informal sessions (where the teacher was absent). All of the subjects were novice MOO users. The study was based on the view that MOO-based interaction produces a form of “written speech”, and that interaction in MOOs can provide NNSs with “a rehearsal arena for face-to-face interaction” (Weininger & Shield, 2003, p. 330).

This “initial” study attempted to establish if NNS-MOO discourse was “similar” to NS-MOO-discourse in terms of linguistic features. It also investigated evidence that NNS-MOO-based interaction is influenced by medium-specific factors and also explored the effect of context (formal versus informal) on the interaction. In order to investigate these questions the researchers compared the linguistic features of their data with evidence from several corpora described as being of “similar size” (2003, p. 332). These were an oral corpus, a written corpus and a corpus of NS MOO discourse. The oral (CRISTINE) and written (SUSANNE) corpora were compiled at the University of Sussex. The NS MOO corpus was drawn from logs of the NETEACH-L sessions conducted at *Schmooze University* and the Esc-Pau MOO project. The features investigated were as follows, the distribution of 1st, 2nd and 3rd person pronouns, occurrence of conversational particles and greetings, the use of modals, interjections and phonetic contractions. Other features subject to analysis were the use of politeness, completeness/grammaticality of utterances, use of non-standard symbols and lexis. The main findings are reproduced in the following table:

³ Summaries of the key findings of the research analyzed in this section are provided in table 3.5.

Table 3.5 Differences in linguistic features between oral, written, NS MOO and NNS MOO-based corpora

Linguistic feature under investigation	Result
Occurrence of 1 st and 2 nd person pronouns	NNS MOO corpus contained higher frequency of 1 st and 2 nd person pronoun use than in the oral, written and NS MOO corpora
Occurrence of 3 rd person pronouns	NNS MOO corpus contained lower frequency of 3 rd person pronouns than in the oral, written and NS MOO corpora
Occurrence of conversational particles (politeness indicators “actually”)	Use of particles more frequent in the NNS MOO corpus than in the above corpora
Greetings	Use of greetings more frequent in the NNS MOO corpus than in the above corpora
Modals and auxiliaries (abbreviations and interjections)	Similarity between use of abbreviations in NS and NNS MOO corpora Modal use lower in the NNS MOO than in the NS MOO corpus Interjections absent in NNS MOO corpus
Phonetic contractions	Similar frequency between oral and NS corpora Rare in NNS corpus
Completeness/grammaticality of utterances	NNS MOO utterances more complete and formal when teacher was present
Non standard symbols and lexis	These features identified in the NNS MOO corpus

In terms of the frequency of 1st and 2nd person pronoun use (which these researchers claim is representative of engagement and spoken rather than written language), it was reported that the NNS MOO-discourse contained a higher frequency of 1st and 2nd person pronoun use than the other corpora. According to Weininger & Shield, this finding suggests that the NNS subjects were highly engaged in the interaction (2003, p. 337). The use of 3rd person pronouns was most frequent in the oral and written corpora, a finding that may be due to the presence of emoting in the MOO (Weininger & Shield, 2003, p. 338). The researchers further drew attention to the possibility of a link between context and pronoun use in NNS MOO-based CMC. The use of pronouns may have been influenced by the context of the interaction, with informal interactions generating a higher level of 1st and 2nd person pronoun use on the part of the subjects than

more formal contexts. Greeting forms and politeness strategies were more frequent in the NNS corpus. Weininger & Shield (2003) speculate that there are a number of possible reasons for this result:

the high occurrence of greetings forms may be a result of the relatively new situation of online exchanges for the participating learners; in other words, they may have felt a greater need for some structures than they would in a face-to-face discussion, solely as a result of the medium employed. On the other hand, this result might also indicate that students practiced structures they were familiar with in a situation where they could be employed in an authentic context. (p.338)

These researchers suggested that the infrequent use of modals and phonetic contractions by the subjects and the absence of interjections compared to the NS MOO corpus, was probably due to their limited L2 proficiency. The data also showed the influence of context on the interaction. The participants appeared to monitor their output more carefully when the teacher was present, and used more complete sentences incorporating formal language when the teacher was online or initiating interaction, as can be seen in the following examples from Weininger & Shield (2003, p.341):

(learner 1) "have you been to Ballarat"

(learner 2) "I know Ballarat. But I went to Bendigo to homestay.
My friend has been to Ballarat".

(teacher) Oh you must have been keen!

(learner 3) No, it's afterschool!

(learner 3) We don't have much time to work on the computer so we have to do it after class.

In contrast, when the teacher was absent the interaction was more informal and was characterized by the use of abbreviations and smileys. Moreover, the use of non-standard symbols and lexis occurred and these were accompanied by errors. Examples of these strategies can be observed in the following interaction (Weininger & Shield, 2003, p.343):

(learner 1) " oh I see :p yeah I enjoyed making some sips (:"

(learner 2) "G plz type give beet to H"

(learner 1) "sure (:

(learner 2) " Oh thank you a lot-you saved to a thirsty

(learner 1) "you're a beer lover."

This study was subject to a number of limitations. For example, the duration of the MOO sessions was not specified. The authors noted that due to difficulties in logging the data, only 90% of the interaction was available for analysis. In addition, the size of each corpus was not specified. One source, that of the NS MOO corpus, is not open to public access. Moreover, as the subjects were lower intermediate and intermediate level, lack of knowledge of their L2 may have influenced their strategy use. The results suggest that a combination of factors affect NNS interaction management in MOO-based CMC. As has been reported in studies involving NS interaction in MOOs (Cherny, 1999), the learners made use of adaptive strategies including the deployment of keyboard symbols and emotes to display non-verbal features of face-to-face oral discourse. The results suggested that learner interaction in MOOs is shaped by “medium-specific characteristics” that are the result of the need to compensate for the absence of intonation and paralinguistic cues in the online environment. The researchers speculated that the online text-based nature of the interaction “where non-verbal and situational clues are absent” (2003, p. 345), may have led the subjects to make use of greetings and 1st and 2nd person pronouns to a higher degree than would be the case in NS face-to-face communication due to the absence of the above cues in the MOO. The results further demonstrated the influence of context on learner interaction with the subjects producing more formal TL linguistic output when the teacher was present. The results indicate that as is the case in NS interaction, NNS MOO-based interaction appears to “have more in common with oral than with written discourse” and that MOOs may:

offer an appropriate arena for language learners who wish to rehearse using L2 synchronously for face-to-face encounters. (Weininger & Shield, 2003, p. 346)

Research conducted by Pinto (1996) explored participation patterns and strategy use during interaction in an EFL MOO. This project involved 15 EFL learners based at a university in Australia. The data was collected from sessions held in the *Schmooze University* MOO once a week for 5 weeks. A major finding of this study was that a number of factors combined to restrict participation during the early sessions. Pinto identified various problems that hampered the interaction during this period. Significant numbers of students in this study had difficulties mastering the technical aspects of MOOs. As the commands used in MOOs must be typed accurately, the study found that learners often made errors. Some learners reported that they became confused when their mistyped commands were rejected by the program (p. 174). Other students experienced difficulties following the interaction due to the phenomenon known as lag, a period of time delay in MOO communications caused by network congestion or configuration problems. Several students with poor computer skills such as slow typing had problems participating.

In examining the subjects' interaction, Pinto identified a number of "moves", which were used in an attempt to initiate and continue topics during management of the interaction. These moves were categorized in the following table:

Table 3.6 Categories of communication moves and examples (table reproduced from Pinto, 1996, p.171):

	Category	Example
Initiating Moves	Give Initiate	I want to speak to someone
	Solicit Initiate	Where are you?
Continuing Moves	Give Respond	I am in Melbourne
	Give React	Really?
	Solicit Extend	Who do you want to speak to?
Discourse features	Repairing	What do you mean?
	Embedding	I'm fine. And you?
	Engaging	How are you?

Analysis of the transcripts revealed that in the early sessions, topic decay was a problem (p.180). The subjects further reported that they tended to congregate in a single area of the MOO and this phenomenon produced rapidly scrolling multiple topic threads that were, on occasion, difficult to follow (p.182). However, Pinto observed that from the third session onwards the "amount of conversation and variety of moves greatly increased" (p.181). This finding shows that once the subjects became more comfortable with the MOO environment they were able (for the most part) to engage in periods of TL interaction involving initiating and continuing moves. Although the subjects had difficulties in sustaining their interaction over long periods (initiating moves were more frequent than continuing moves) Pinto noted the generally positive feedback from learners regarding their experience of the project and claimed that the results of his study showed the potential of MOO environments as a "tool for helping students to develop their conversation management techniques" (p.182).

Pinto's results were clearly influenced by the subjects' lack of computer skills and experience of using MOO environments. These findings have a number of implications for pedagogy. The literature on the use of MOOs in CALL shows the need to provide learners with training in the use of MOO environments (Donaldson & Kötter, 1999). The absence of motivating tasks further emphasizes the potential of tasks to structure and sustain learner interaction in MOOs. The low level of negotiation recorded in the data reflects a limitation of this study, namely its brief duration. The gradual increase in the subject's participation as the project progressed echoes findings from MOO-based tandem learning

projects (Donaldson & Kötter 1999; Von Der Emde et al., 2001) that suggest longer periods of interaction are more beneficial for learners.

A study conducted by Warner (2004) investigated the pseudonym-based interaction of two separate groups of German as a foreign language students based at a University in America. The first group were 19 undergraduate beginner level learners in a second-semester German course. The second group were 16 advanced students in an upper level German communication course. The goal of this study was to examine the types of language play undertaken by the participants. Analysis of the transcripts indicated that as has been shown in other studies involving learner interaction in MOOs (Von Der Emde et al., 2001), the learners engaged in play during all the language tasks that were employed (see table 3.7). Three main types of play were identified. These were described as (p. 73-74) “play with the form” (rhyming and punning), “play with content/concept” (use of metaphor) and “play with the frame” (parody).

In terms of play with form, the learners experimented with the use of rhyme and word play in the TL (p.76). Warner claimed that these strategies enabled the subjects to establish their presence in the MOO environment. Instances of play relating to content and concept were identified in the transcripts. For example, the subjects engaged in “verbal dueling” incorporating light hearted teasing and taunting. During exchanges were this type of play occurred, use was made of the emote command a feature of MOOs that has been utilized by learners in other studies (Kötter, 2003). This text command facilitates the representation through text of physical actions such as laughing (p.78). During play with form, Warner noted that the subjects undertook role-play. She found that one learner engaged in the posting of incendiary messages (flaming) in an effort to gain attention. However, this subject changed their behavior when the other participants ignored their comments. Warner claimed that for the most part, while the subjects in her study undertook the tasks they treated the online interaction as being similar to participation in a game. In this context, Warner (2004) observed that:

Students in the German classes were not simply playing with language, but playing *within* the language. In such instances, it is not primarily meaning that is being negotiated, but also the relations between speakers, their interlocutors, the medium, and the context. (p.81)

This study made no claims regarding the relationship between forms of online play and SLA. However, although the subjects did not take the interaction very seriously, the relaxed atmosphere created by the participants enabled them to achieve solidarity and undertake, to a limited degree, strategies associated with language learning including risk taking and role-play. These findings showed that online real time communication is not only referential and involves a complex

interplay of factors. The key findings of the studies examined in this section are summarized in table 3.7.

Table 3.7 Studies of learner-learner interaction in MOOs: Key results

Researcher	Weininger & Shield (2003)	Pinto (1996)	Warner (2004)
Type of MOO investigated pedagogical and methodological approach (if specified)	<i>GrassRoots & Achieve MOOs</i> Project-based learning Qualitative and quantitative	<i>SchMOOze University</i> MOO Interaction part of a language course Quantitative and qualitative	MOO Interaction part of a task-based language course Qualitative
Number and background of subjects, proficiency levels and location	30 subjects in two groups who were lower intermediate and intermediate learners of English located in France and Japan	15 EFL students based at a university in Australia	19 beginner level students of German (German course) and 16 advanced learners of German (communication course) based at a University in America
Sessions and project duration	Interaction collected over 5 months	Data collected over 5 sessions	Data for the 19 students collected over 4 50 minute classes conducted over a semester Data for the 16 learners conducted 3 times over a semester
Features of learner interaction investigated	Usage patterns Including the distribution of 1 st , 2 nd and 3 rd person pronouns, occurrence of conversational particles and greetings, the use of modals, interjections and phonetic contractions use of politeness, completeness/grammaticality of utterances, use of non-standard symbols and lexis	Features of the MOO that impeded interaction and “communication moves”	The types of play that occurred during the interaction
Research method/ analysis technique employed	Discourse analysis learner discourse compared with corpora of native speaker oral written and MOO-based interaction	Analysis of transcripts and learner self-reports	Analysis of transcripts Student survey
Main findings	Learner MOO discourses broadly similar to native-speaker data Differences included a greater use by the subjects of politeness, 1 st and 2 nd personal pronouns, and particles due to the absence of paralinguistic cues Learner MOO discourse appears to “have more in common with oral than with written discourse”	Lack of familiarity with MOO environments and limited typing skills restricted participation in the early stages Learner participation and TL output increased substantially as the project progressed	Students undertook various types of TL play involving form, content and frame These combined to create a positive atmosphere where learners took risks, experimented and engaged in role-play

3.5.7 Areas requiring further investigation concerning learner-learner interaction in MOO-based CALL projects

In this chapter, I have emphasized that synchronous CMC-based CALL is a research field with considerable potential. Although current research is subject to a number of limitations, the emergence of network-based learning environments coupled to the recording capacities of computers, offers the prospect of new opportunities to enhance understanding of a number of key factors in language development. These include the role of interaction, strategies, negotiation and tasks in the complex process of language development in the context provided by online communication. The review of the literature conducted in this chapter has shown the relevance of social interactionist research methods and constructs as a basis for development in this area of CALL. Moreover, it has emphasized that engaging learners in interaction through text in types of real time CMC may provide access to environments that have the potential to support second language development (see results in tables 3.5 and 3.4). However, my analysis has shown that interaction in CMC is more complex than was originally envisaged by early theorists. Learner behavior in CMC appears the product of a complex mix of variables including context of use, task, affective variables, features of the particular CMC tool utilized, sociolinguistic and sociocultural concerns. Moreover, the benefits of CMC-based CALL are not to be taken for granted as Ware (2005) observes:

telecollaboration does not automatically promote the kinds of language learning that educators often anticipate. (p.64)

This chapter has demonstrated that there is a requirement for additional qualitative and quantitative research on important aspects of learner interaction across all types of real time CMC. In the context of exploring learner-learner interaction in MOOs the need for more research is particularly pressing. At the present time, although the results of current research are broadly positive (see key findings in table 3.7) existing studies are too few in number and limited in scope to enable any firm conclusions to be drawn regarding the value of engaging learners in MOO-based interaction. More studies on learner-learner interaction in MOOs are required in order to establish if the benefits identified during tandem learning in MOOs also occur during this type of interaction. There is a need for studies that explore, from a social interactionist perspective, the role of both communication and discourse management strategies during learner-learner interaction in MOO environments. In this context, research that investigates task-based learning would establish the potential of this form of interaction in supporting second language development. In order to obtain a broader perspective on the role of the above factors on MOO-based interaction, studies that draw from a wider range of subject groups than has been the case in

the past will be of significant value. In an example of this approach, research that explores the interaction of intermediate and lower level learners based outside North America would be of particular value.⁴

In order to fill the specific gaps in the literature identified in this chapter, I investigate, drawing on the constructs and methods articulated in social interactionist research, the interaction of 14 intermediate level Asian learners of English based at two universities in Japan. I identify linguistic features of the subjects' interaction. Specifically, I explore learner strategy use during task-based interaction in the EFL MOO *Schmooze University*. I first identify and account for the transactional and interactional strategies used during discourse management⁵. The main though not exclusive focus of my analysis is on the discourse management strategies utilized by 4 subjects in two separate sessions undertaken in the early and later stages of this research. I then investigate strategy use during communication problems. In this context, I examine the nature of learner-learner negotiation of meaning in MOO-based CMC. I investigate any possible relationship between the frequency of negotiation and the 4 task types that were administered. In investigating the above issues, I explore the possible influence of various factors on the interaction. In conclusion, this research will attempt to contribute to understanding of learner interaction in MOO-based CMC and the development of theory (and pedagogy) in CMC-based CALL. Finally, I identify areas of potential interest in future research.

⁴ A striking feature of the literature on CMC-based CALL is the predominance of studies conducted in North America.

⁵ This aspect of learner-learner interaction in real time CMC has yet to be the subject of comprehensive research.

Chapter 4 Methodology

4.0 Introduction

This chapter describes the research methods, questions and procedures used in this study. The first section provides an overview and rationale of the methodologies selected. The specific research questions (and their rationales) are then introduced. I move on to provide a research narrative, description of the participants and setting. Following this description, the tasks employed and their theoretical backgrounds are discussed. Research procedures are then outlined. The final section supplies an overview of data analysis, reporting and interpretation.

4.1 A case study

My review of the literature in chapter 3 has emphasized that a variety of methods have been adopted to analyze data collected during learner interaction in types of real time CMC that involve the use of text. This review has established that there is no dominant approach to the investigation of learner interaction in types of real time CMC. As Murray (1997) has observed:

There are no widely accepted designs for studying CMC discourse. (p.1)

The methodology selected to investigate the research questions posed in this research is that of a case study that draws on qualitative methods, with discourse analysis as the principle research instrument. This methodology was considered the most suitable for a number of reasons. This research involved the investigation of a contemporary real life phenomenon (learner interaction in CMC) within the framework of interactionist research and focused on the analysis of data collected under naturalistic conditions. The literature suggests that this type of data, when explored through the use of qualitative methods, provides new insights that can guide research into CMC-based CALL. As Negretti (1999) states:

A qualitative approach can facilitate a preliminary understanding of broad new perspectives that Internet technologies open to SLA and communication. (p.76)

The literature further indicated that case studies are a particularly effective means to investigate CMC-based interaction. As Waggoner (1992) notes:

Evaluating the use of computer conferencing in a collaborative learning activity involves the analysis of many interacting variables. Many of these may be measured using quantitative techniques, but others require

qualitative analysis. A case study offers the most comprehensive approach to understanding this complex process. (p.145)

In contrast to quantitative research methodologies, employing a case study enabled me to incorporate a mix of qualitative research techniques into my research design (Merriam, 1998), including observation, field notes, analysis of transcripts and questionnaires. Utilizing a case study further enabled me to include, when appropriate, the quantification of some data (Johnson, 1992, p. 83).¹ This approach supported the investigation of a bounded phenomenon (learner-learner interaction over a semester in MOO environment) that had not previously been examined using such a combination of methods. Adopting the above methodology not only offered considerable flexibility in the choice of methods, it enabled me to access a wider and richer set of data sources than could be obtained through other means. In this context, the use of a case study that incorporated a variety of qualitative techniques and sources of data offered the further advantage of providing an analytical framework that supported the implementation of triangulation.

Another advantage of a case study was that it facilitated the examination of the subject under investigation (in this study learner interaction in a particular online communication context) in-depth and over a period of time, creating opportunities to collect more detailed data than may have been available from other more narrowly focused research techniques (such as, for example, cross sectional methods). As the implementation of this qualitative collection method supports the identification of “important patterns and themes” (Chapelle & Duff, 2003,p.164), the use of a case study enabled the data to be examined holistically and provided a broader macro level perspective. Utilizing a case study offered further advantages. Case studies supply rich information on the language development of individual learners and small groups. In this context, as Johnson (1992, p. 76) has observed, case studies provide a means to obtain new perspectives on the processes and strategies that individual learners utilizes in order to communicate and develop their L2. As this research was concerned with analyzing these aspects of interaction in dyads and small groups (chapters 7, 8 and 9) adopting this method enabled me to obtain a valuable micro level perspective on the data. A further positive aspect of case studies lies in their dynamic nature. The use of a case study enabled me to refine my research questions as part of an on-going process. This aspect of case study research supported flexibility and enabled me to reflect on and revisit my original research questions in the light of new findings or developments. In summary, this qualitative research utilizes a case study that incorporates discourse analysis of

¹ A similar methodology has been adopted in other studies of learner interaction in types of real time CMC see for example Sullivan & Pratt (1998).

learner produced chat transcripts. Other sources of data utilized in the analysis include pre- and post-study questionnaires, observation and field notes².

4.2 Research questions and their rationales

As noted in chapter one, the research questions that inform this study originated from a number of sources. In formulating these questions, I drew on my positive pre-study experiences of using MOOs with small groups of learners.

My initial choice of specific research questions was further shaped by my analysis of the existing literature on learner-learner interaction in MOOs and other types of synchronous CMC set out in chapter 3. This review had identified several areas that required investigation. The questions became more focused as a result of observations made during this research and in the data analysis. The following section describes the specific questions investigated and their rationales.

- 1) What discourse management strategies do learners utilize during real time typed interaction in a MOO-based virtual world?

My review of the literature on learner interaction in network-based CALL demonstrates that although the use of network-based tools is increasing, few studies have focused specifically on the discourse management strategies employed by learners during interaction in the new communicative setting provided by real time CMC (see discussion in chapter 3 section 3.4.2). As stated in chapter 1 (section 1.3.2), in this research, I have defined these strategies as the interactional and transactional strategies employed by learners to maintain communication and avoid problems occurring during interaction. In my review of the literature on MOO-based CMC, I have shown that during native speaker interaction in MOOs a wide variety of these strategies are employed. Their use reflects the creation of a unique register that is the product of a new communicative context where user behavior is influenced by the interaction of technical, sociolinguistic and sociocultural factors (see discussion of Cherny's 1999 study in chapter 3 section 3.5.3). The literature on tandem learning further suggests that MOOs provide an environment where learners appear able to initiate and sustain coherent TL discourse through the use of a number of both transactional and to a lesser degree, interactional discourse management strategies (Von Der Emde et al., 2001; Schwienhorst, 2002; 2004). The broadly positive results of existing research suggest that interaction in MOOs

² I acknowledge the limitations of qualitative research (see discussion in Mackey & Gass, 2005, p. 170-178). However, it is my view that the complex nature of learner interaction in CMC can be most comprehensively explored through the use of a multi-perspective analysis.

may provide learners with access to an environment that facilitates the development of L2 discourse management skills. However, due to the limited nature of existing studies on learner-learner interaction in this type of CMC, further research is required that identifies the specific strategies employed and the factors that influence their use.

The investigation of discourse management during learner-learner interaction in MOOs represents a potentially significant research area for the following reasons. It is important to establish the ways learners maintain their TL interaction in the new type of communication context provided by real time CMC where the communication is carried out in real time by means of text and where paralinguistic cues are absent (Herring, 1999)³. From the perspective of social interactionist SLA research, exploring how learners keep the communication channel open during interaction in on-line environments provides a means to assess the possible role of input (such as feedback and assistance) in supporting second language development in MOOs and other types of synchronous CMC environment currently utilized in CALL (Darhower, 2002). There is a further need for additional evidence that can shed new light on the variety of factors that may influence learner communication in MOO-based CMC. These include context, proficiency levels, socio-cultural concerns and their influence on strategy use in MOO-based CMC.

As turn-taking during learner-learner interaction in MOOs has yet to be comprehensively explored, it is essential to investigate the operation of this important aspect of discourse management in order to establish the potential of this form of interaction in CMC-based CALL. Due to the limited extent of existing research, I shall explore how the subjects attempted to produce coherent TL discourse through the use of both transactional and interactional discourse management strategies. Additional research in the area of transactional strategy use is necessary because, at present, it remains unclear if there are significant differences between strategy use during native-speaker-native speaker, native-speaker-learner and learner-learner interaction in MOOs. In terms of interactional strategy use a small number of learner-based studies conducted in chat environments have noted the presence of these strategies (Chun, 1994; Darhower, 2002). However, in the context of MOO-based interaction, their role remains to be comprehensively investigated.

Another reason for examining discourse management in MOO-based CMC is that it offers opportunities to access both the operation and development of strategic competence and autonomy in the new communicative context provided by on-line interaction. Exploring these phenomena enables the identification of new strategies that have yet to be reported and offers the prospect of

³ I will revisit the issues raised by on-line communication in chapter 6.

establishing the recurrent patterns and regularities in strategy use that may be unique to the particular communicative context provided by MOO-based CMC. As observed in chapter 1, investigating discourse management facilitates an examination of the influence of context on strategy use. Finally, investigating the above aspects of discourse management in real time CMC enables preliminary conclusions to be drawn regarding the efficacy of MOO environments as platforms for learner-based CALL projects. In this study, research question 1 is investigated from the perspective of social interactionist accounts of SLA (see chapter 2) and the relevant CMC research (see section 4.6.1). This question is the focus of investigation in chapters 7 and 8 where the discourse management of 4 learners (who worked in dyads and small groups) is examined during different stages of the project (in an early and later session).

2) What factors cause communication problems between non-native speakers during MOO-based CMC?

Studies of interaction suggest that learner attempts to overcome communication problems in their L2 can provide opportunities for learning by creating conditions for negotiation of meaning (Long, 1983 a; 1983 b; Pica, 1994; Varonis & Gass, 1985). In exploring second language development during face-to-face interaction, researchers have attempted to identify the factors that create communication problems. The results of many studies have indicated that non-understandings involving lexis are the primary cause of communication problems during learner-learner and native speaker-learner classroom-based interaction (Porter, 1986; Foster, 1998). As I have shown in chapter 3, research into learner interaction in various types of real time CMC environment (though limited) has produced similar findings. In a study conducted by Blake (2000), unknown lexis accounted for the majority of communication problems. Research undertaken by Lee (2001) reported a similar finding. However, my review of the literature demonstrates that studies on native speaker-learner interaction in MOO environments have produced conflicting results. A tandem learning project described by Kötter (2003) found that few communication problems arose over lexis. In contrast, a tandem project conducted by Schwienhorst (2002) reported that communication problems focusing on unknown lexis were frequent and provided opportunities for learners to employ communication strategies such as clarification requests that play an important role in L2 negotiation processes. To date, few studies have attempted to identify the factors that may cause communication problems to arise between learners interacting in novel forms of real time CMC such as MOOs. Chapter 9 of this study will aim to fill this gap in the literature, by identifying the factors that cause communication problems during learner-learner interaction in MOO-based CMC.

3) Do MOOs provide an environment where learners can utilize the communication strategies that play a central role in the negotiation of meaning?

As stated in chapter 1, I have adopted a definition of communication strategies that is widely accepted in the literature (Bialystock, 1990; Tarone, 1980). This defines communication strategies as the strategies learners employ when attempting to overcome a communication problem in their L2. As noted in chapter 2, communication strategies identified in research on learner face-to-face interaction include clarification and definition requests (Porter, 1986). Further strategies investigated by researchers include comprehension and confirmation checks (Varonis & Gass, 1985). According to an influential body of research, the use of these strategies enables learners to overcome communication problems through negotiation of meaning (Pica, 1994; 1996). From this perspective, the process of negotiation is seen as creating the conditions in which SLA may occur (Long, 1996; Long & Robinson, 1998). A small body of research into learner interaction in real time CMC (which I reviewed in chapter 3) has demonstrated that in examples of real time CMC (such as IRC) learners utilize many of the above strategies (Chun, 1994; Lee, 2001; Smith, 2003b). There is also evidence that the use of these strategies enables learners to successfully overcome communication problems through the negotiation of meaning (Fernandez-Garcia & Martineez-Arbelaiz, 2002; Kitade, 2000; Lee, 2002, Smith, 2003a). However, at the present time, there is only a limited amount of research into learner communication strategy use in MOOs and other types of real time CMC. As Warschauer and Kern (2000) have observed:

..most of the research on the linguistic nature of CMC has focused on counting or categorizing individual students' comments rather than qualitatively analyzing how and in what ways students actually negotiate meaning with each other. (p.15)

In view of this, in chapter 9 I will seek to establish if interaction in MOOs provides NNSs with an environment in which to overcome communication problems through the use of strategies that facilitate the negotiation of meaning.

4) Are there any differences in NNS communication strategy use in MOO-based CMC compared to face-to-face and other types of real time CMC interaction?

Researchers who support the interactionist account of second language learning argue that negotiation of meaning plays a central role in the complex process of second language acquisition (Long, 1996). Classroom-based studies have shown that learner-learner interaction provides opportunities to employ many of the

communication strategies associated with the negotiation of meaning (Ellis et al., 1994; Pica et al., 1996; Varonis & Gass, 1985). However, there is considerable disagreement in the literature regarding the role of various communication strategies in fostering negotiation and second language development (Kötter, 2003). As noted in the previous section, learner-based studies of interaction involving examples of real time CMC such as IRC indicate that these tools can provide environments in which learners can utilize communication strategies. In the context of MOO-based interaction, there is little research on communication strategy use during learner-learner interaction. Results of the existing tandem learning projects suggest that MOO-based interaction may encourage the use of certain communication strategies such as clarification requests, that play an important role in the process of negotiation (Schwienhorst, 2002; Kötter, 2003). These studies further indicate that communication strategy use during interaction in MOOs may differ in some respects from that found in face-to-face communication. For example, Kötter (2003) reported that direct repair strategies such as clarification requests were more frequent in his data than had been reported in studies of face-to-face interaction (see for example Porter, 1996). Kötter speculated that this aspect of his results was in part due to the online-based nature of the interaction (where paralinguistic cues and social context cues are absent) pushed the learners to be more explicit. The findings of these tandem projects, while not conclusive, show the need for further research in this area. There is a need to confirm if learner strategy use in MOOs differs in some important respects from that found in other examples of real time CMC-based interaction. Research in this area may further establish if the beneficial patterns of communication strategy use reported in bilingual tandem learning projects also occur during learner-learner interaction in MOOs. This question will be investigated in chapter 9.

5) Is there any relationship between task type and the incidence of negotiation of meaning involving NNS interaction in MOO-based CMC?

The discussion on task-based learning in chapter 2 (section 2.8) has demonstrated that there is considerable interest expressed in the literature regarding the possible relationship between task type and incidence of negotiation. In the context of CMC-based CALL, a small number of learner-based studies have reported that task-based interaction can support negotiation of meaning (Lee, 2002; Smith, 2003b). In contrast to this positive finding, the literature is less clear on the relationship between particular task types and frequency of negotiation. Indeed, as I have noted in chapter 3 (see section 3.3), studies have produced conflicting results when attempting to ascertain if certain task types are more effective than others in facilitating the negotiation of meaning. For example, in the study of learner interaction conducted by Blake (2000), jigsaw tasks were identified as promoting higher quantities of negotiation than information-gap tasks. Blake argued that the requirement to request and

contribute information that is inherent to this task type results in a “pooling of resources” in order to come to a single outcome and that this format is superior to other task types that have multiple possible outcomes in providing opportunities for negotiation. However, this result was contradicted in a project reported in Smith (2003a), who found that, when low frequency vocabulary items were included, decision-making tasks produced higher levels of negotiation than jigsaw tasks. Furthermore, the potential of opinion-exchange tasks in promoting learner negotiation in CMC has yet to be fully investigated. Research conducted by Lee (2001) indicated that this task type may be an effective means of eliciting the strategies associated with negotiation of meaning. However, to date few studies have explored the relationship between task type and incidence of negotiation during learner-learner interaction in a MOO environment. As a result of this situation, in chapter 9 I will explore the possible influence of specific task types on the frequency of negotiation in MOO-based CMC.

6) What factors may have influenced the frequency of negotiation?

In the context of investigating non-native speaker CMC-based interaction, a number of factors have been identified in the literature as having the potential to influence the frequency of negotiation. In the discussion in chapters 2 and 3 I have emphasized that research indicates that task type may influence the frequency of negotiation (Blake, 2000; Smith, 2003a). It has also been suggested that the online nature of the interaction in types of real time CMC where the communication is carried out through the medium of text influences learner behavior in a number of ways. For example, time pressures may result in the production of simplified output (Murray, 2000). Furthermore, the online nature of the interaction may promote direct rather than indirect communication strategies (Kötter, 2003). Some researchers stress that other variables such as proficiency levels have the potential to significantly influence the extent of learner negotiation in CMC (Pellettieri, 2000). Studies indicate that, as in face-to-face interaction, sociocultural and sociolinguistic factors retain an important influence on learner behavior in MOOs and other types of real time CMC (Baym, 1995; Cherny, 1999). Studies on the use of CMC in CALL have drawn attention to the potential of this form of interaction in fostering second language development (Kitade, 2000). More recent research has demonstrated that CMC is more complex phenomenon than was originally envisaged and that learner behavior in CMC environments is influenced by the interplay of technical, cultural and sociolinguistic factors (Throne, 2003), but there remains a need to investigate how these factors influence the nature and extent of learner negotiation in types of real time CMC such as MOOs. This question will be addressed in chapter 9.

7) What are learner attitudes regarding the use of MOOs as a language learning environment?

This question was explored for a number of reasons. First, few studies have explored learner attitudes towards studying in MOOs. Second, an important feature of qualitative research (the research method adopted in this study) is the view that the perceptions of learners are an important element of a research study. From this perspective, obtaining feedback from learners provides an enhanced account of learning experiences and this in turn supports data interpretation. In the context of this study, obtaining first hand knowledge of learner views also facilitated identification of possible advantages and drawbacks of utilizing MOOs in CALL. As a result of these requirements, the collection and interpretation of data relating to learners' attitudes (through the use of questionnaires) constituted one of the objectives of this study. Although I was aware of the potential limitations of learner self-reporting (Seliger, 1984), it was my view that the most effective means of eliciting learner attitudes would be the use of questionnaires. These not also offered a means to facilitate the identification of specific factors that influenced strategy use during discourse management and communication problems but also contributed to a holistic and more comprehensive overview of the data. This research question is investigated in chapter 10.

4.3 Research narrative

The completion of this research involved overcoming a number of challenges. When planning this project I initially intended to bring together two specific learner groups: English learners based at a university in Japan and undergraduate students of Japanese based in Japan. Unfortunately, I was unable to find a suitable group of Japan-based native speakers. I then attempted to find a class of NNSs of Japanese based outside of Japan. As I have noted in chapter 1, during this period I encountered considerable difficulties in finding a suitable learner group. Although I was a member of the tandem learning network (now known as *eTandem* <http://www.slf.ruhr-uni-bochum.de/etandem/etpartner-en.html>) for over one and a half years, my request for a partner class failed to elicit a single response. Eventually, after repeated postings on various language teacher mailing lists, I succeeded in finding an available group of EFL undergraduates located in Korea and a pilot project was initiated; however this was unsuccessful as lab access and participation could not be sustained because of scheduling problems at the Korean university. As I was unable to find a partner group overseas, I attempted to locate a partner class in Japan. After repeated attempts to locate another class, I was fortunate (after a further year) to find a group of undergraduate students of English located at Waseda University in Tokyo.

4.4 Subjects, research setting and tasks

In order to achieve their goals, case studies require that information be obtained regarding research subjects and the research context. The following discussion provides information on the subjects who were involved in this research.

The context of this study is then described, as is the use of pseudonyms.

The final section describes the specific tasks employed and provides a rationale for their implementation.

4.4.1 Participants and context

The participants were 14 intermediate level learners of English based at two universities in Tokyo⁴. Seven of the learners were second year undergraduate students at Tokyo University of Foreign studies. The other learners were second year undergraduate students of Waseda University in Tokyo. This research attempted to bring together two roughly comparable learner groups.

Responses to the pre-study questionnaire indicated that the participants ranged in age from 19 to 27 years old and the median age was 20.3 years. There were 5 males and 9 females. Participants came from the following language backgrounds: Japanese, Chinese and Thai. The majority of participants (12) were native speakers of Japanese. The project ran for the duration of the spring semester, from April until July. Participants met for approximately one and a half contact hours per week in the Schmooze MOO⁵. The orientation phase lasted three weeks (weeks 1 through 3). The second phase (weeks 4 through 13) continued for ten weeks (two planned sessions could not be completed due to university holidays)⁶. All of the classes took place in computer labs at both universities. The English curriculum at each university adopts a content focused task-based approach focusing on the development of the four skills. The tasks were designed to meet the requirements of this research and the instructional needs of the participants. Due to the written nature of interaction in the MOO environment the tasks utilized (that will be described at a later stage) focused on the production of written TL output; however, I hoped that the results could to some degree be generalized to CALL classes that adopt the above curricular goals.

⁴ The number of participants was limited by institutional constraints outside the researchers control.

⁵ On occasion contact time was reduced in tasks that required reading of a short text in the initial phase.

⁶ Restrictions on lab access at both Universities prevented the scheduling of any additional sessions.

4.4.2 MOO-based chat sessions: learning platform and lab context

The project made use of the *Schmooze University* MOO environment that will be described in detail in chapter 5. As an established educational MOO, *Schmooze University* was selected as the project platform for the following reasons. First, it is a reliable, well-maintained educational environment. Second, this MOO was designed specifically for EFL learners. Third, it possessed a user-friendly interface. In adopting this platform I considered that this environment was the most suitable as the subjects were initially novice MOO users⁷. I was present during all of the sessions held at Tokyo University of Foreign Studies.

The sessions at Waseda University were conducted with the support of a graduate student who was available to give out the task sheets and provide technical support. This student provided technical and administrative backup. The sessions took place in two computer labs where students worked in dyads or small groups with partners from the other university. Due to occasional lateness and absences students worked with a variety of partners during the project. Learners in both groups sat beside each other during each session. At the beginning of each MOO task session, the students were provided with a handout containing instructions pertaining to the particular task. As the learners engaged in real time communication their messages were displayed in the MOO in the order in which they were received and posted by the server software. In order to reduce the possibility of learner behavior being influenced by my presence, at no time during the main phase of the project did the graduate student or I intervene directly in the online tasks.

4.4.3 MOO-based chat sessions: the use of pseudonyms

During both the orientation and main phases of this research the students were encouraged (though not required) to adopt character names (pseudonyms) while interacting in the MOO. I adopted this approach as my review of the literature on CMC (chapter 3) indicated that their use may facilitate self-disclosure by reducing threats to face (Kelm, 1992). A further advantage of the students adopting pseudonyms lay in that they afforded anonymity to the subjects during the research write up.

4.4.4 MOO-based chat sessions: learning tasks

In the discussion in chapter 2, I drew attention to the importance placed by communicative language teaching on task design. In the view of many researchers, implementing task-based learning provides a communicative environment where learners can employ the communication and discourse

⁷ I will provide a detailed rationale for selecting this environment in chapter 5, section 5.1.

management strategies that facilitate acquisition (Pica et al, 1993; Varonis & Gass, 1985). The following sections will describe the tasks implemented in this study. Moreover, drawing on the relevant literature, I will provide a rationale for each of the task types implemented.

4.4.5 Learning tasks: Jigsaw tasks

A task type identified in the interactionist literature as having the potential to facilitate the production of communication strategies associated with negotiation of meaning is the jigsaw task (Pica et al., 1993). This task type involves engaging learners in activities where information is shared and all the subjects involved in the interaction must work together by requesting and supplying information in order to complete the task by reaching a single outcome. The goal orientation of this task type is therefore convergent. This requirement is seen as providing learners with enhanced opportunities to negotiate meaning. It is claimed, that learners are less likely to give up and switch topics (this can be the case in open tasks) during this task type, because they must make themselves understood while maintaining the interaction (Long, 1989). Three jigsaw tasks were used in this study⁸. These were implemented in weeks 7 (*Keanu Reeves*), 10 (*Schedules of the Stars*) and 12 (*Finding the Perfect Apartment*). Each of these tasks comprised two work sheets in which elements of the content varied. This format ensured that the subjects each possessed information (that included low frequency vocabulary items) that was required by their partner in order to complete the task. This format ensured that the subjects had to work collaboratively in order to come to a single outcome.

This task type was investigated because the literature suggests that interaction during closed tasks (such as jigsaw) provides learners with enhanced opportunities to employ communication strategies involved in the negotiation of meaning, which may contribute to the creation of conditions that facilitate SLA (Pica et al., 1993). The findings of a number of research studies appear to suggest that this task type may produce higher levels of meaning negotiation than other task types. For example a study by Berwick (1990) reported in Ellis (2003) showed that convergent tasks produced more communication strategies associated with negotiation (clarification requests, comprehension checks, confirmation checks) than tasks with a variety of possible outcomes (divergent tasks). A further study conducted by Manheimer (1995) found that learners produced more complex modified output when engaged in convergent tasks. Current research suggests that jigsaw tasks may produce more negotiation of meaning than other task types in face-to-face and CMC-based communication (Pica et al., 1993; Blake, 2000; Pellettieri, 2000). However, there is a need for further research in order to establish the relationship between this task type

⁸ The tasks implemented in this study are located in appendix E.

strategy use and the incidence of negotiation during non-native interaction in MOO-based CMC. Moreover, investigating this task type enabled some provisional conclusions to be made regarding the factors that can cause communication problems to arise during learner-learner interaction in MOO-based CMC.

4.4.6 Learning tasks: Information-gap tasks

A well-known task type described in the literature is information-gap. In the context of communicative language teaching, this task type is seen as promoting authentic communication between students (Johnson, 1992). It is similar in some respects to the jigsaw task in that it requires the transfer of information in order to reach a single outcome. The interactant relationship in this task type can be two-way as in jigsaw tasks, when each learner holds information necessary for the completion of the task. However, information gap tasks can also be one-way when a single learner holds all the information required (Nunan, 1994). Two information gap tasks were used in week 9 (one-way) and week 11 (two-way). In the one-way task used in week 9 *Partner profile*, participants were asked to develop a personality profile of their partner. Each dyad then worked collaboratively to summarize the profile and post it in the MOO. In the case of the two-way task *Word meanings*, each learner had to guess the meaning of two different sets of words (while receiving hints from their partner) and then switch roles.

The literature indicates that this task type may stimulate noticing (Schmidt & Forta, 1986). However, it is also suggested that information-gap tasks, while promoting interaction, produce lower levels of negotiation than jigsaw tasks because, as Ellis (2003, p.214) observes, they “do not require students to formulate their own meanings”. Researchers have attempted to investigate the incidence of negotiation during information-gap tasks and their studies have produced conflicting results. Research involving NS-NS and NNS-NS dyads undertaken by Long (1980) found that two-way tasks produced more communication strategies than one-way tasks. In contrast, research conducted by Varonis & Gass (1985) involving NNS-NNS dyads suggested that more negotiation occurred during a one-way task. In his study of learner interaction in CMC Blake (2000), reported that instances of negotiation occurred during information gap tasks, however negotiation was more frequent in the jigsaw tasks. This task type was utilized as the limited nature of the studies conducted to date, shows that there is only limited understanding of the relationship between this task type, strategy use and second language development in real time CMC.

4.4.7 Learning tasks: opinion-exchange tasks

A further task type investigated by researchers exploring task-based learning is opinion-exchange. This task type involves “ identifying and articulating a personal preference, feeling, or attitude in response to a given situation” (Nunan, 1989, p.66). Participation in this task type is usually optional. Opinion-exchange tasks have a variety of possible outcomes and, in contrast to information gap task types, the goal orientation is divergent (the learners can disagree). Four opinion-exchange tasks were implemented in this study. In these tasks the subjects were invited to exchange opinions on the following topics; *What are the best ways to study English* (week 4), *Japan’s economic crisis* (week 5), *Education reform in Japan* (week 6) and *My ideal university* (week 8). From the perspective of some interactionist researchers, the divergent nature of opinion-exchange tasks should produce lower levels of negotiation than information-gap tasks (Pica et al., 1993). In the context of classroom interaction, researchers have argued (for example Lee, 1999), that opinion-exchange tasks are an ineffective means to promote the kind of interaction that facilitates second language development as they focus on a question and answer format and therefore generate less sophisticated interaction management behaviors than other task types. However, other studies have challenged this view. For example, Duff (1986) found that divergent opinion-exchange tasks produced more complex output than convergent tasks, and Newton (1991) reported that, although the subjects in his study produced more negotiation during closed tasks, they produced longer turns in the open tasks. Moreover, as was observed in the discussion of task-based CMC in chapter 3 Lee (2002) reported that when opinion-exchange tasks were utilized they elicited communication strategies. Due to these encouraging findings, opinion-exchange tasks were implemented as a means to investigate whether this task format is a useful means to elicit use of the communication strategies that are involved in the negotiation of meaning.

4.4.8 Learning tasks: decision-making task

A common task type employed by researchers and language educators is decision-making. When undertaking this task type learners have equal access to all the relevant information and work towards a single agreed solution from a variety of possibilities (Rubdy, 1998). However, participation on the part of learners is frequently optional. As is the case with information-gap tasks, the interaction can be designed to be one-way or two-way and this task type can have a variety of possible outcomes. One decision-making task was utilized in this study. In *Studying in MOOs* (undertaken during week 13) the subjects were requested to express their views regarding the advantages and disadvantages of studying in the Schmooze MOO. The subjects were then requested (though not required) to select from their opinions the most important advantage and disadvantage of studying using the Schmooze environment and post their final

conclusions in the MOO. From an interactionist perspective, decision-making tasks should elicit low levels of negotiation (compared to jigsaw tasks) as in these tasks learners are not required to exchange information or negotiate meanings (Pica et al., 1993). However, research on learner interaction in CMC conducted by Smith (2003 a) contradicts this view. As noted in chapter 3, Smith reported that in his study learners engaged in frequent negotiation of meaning while engaged in decision-making tasks. Furthermore, he noted that the frequency of negotiation was higher in the decision-making tasks than in the jigsaw tasks. Due to these conflicting results, a decision-making task was implemented in order to explore the efficacy of this task type in promoting negotiation during learner interaction in MOO-based CMC. The task types and their characteristics implemented in this research are reproduced in the following table:

Table 4.1. Task types and characteristics (adapted from Pica et al, 1993)

Type	Interaction	Interactional requirement	Goal orientation	Outcome
Opinion-exchange	One-way or two way	optional	divergent	open
Jigsaw	Two-way	required	convergent	closed
Information-gap	One-way or two way	required	convergent	closed
Decision-making	One-way or two way	optional	convergent	open

4.5 Research Procedures

The following sections provide an overview of the procedures utilized in order to investigate the learner interaction. Included in this section is information on how participant consent was obtained. This section further describes the specific data collection tools and procedures employed in this study.

4.5.1 Participant consent

Although there was no formal requirement on the part of both universities to obtain the consent of the subjects who took part in this project, I secured their verbal agreement to take part in this research. The subjects at both institutions also gave their consent for the recording (logging) of the data.

4.5.2 Data collection activities

The data was collected according to the schedule provided in appendix D. As this research adopted a qualitative case study approach to the examination of data, an attempt was made to make use of a variety of perspectives and sources of information in order to better comprehend the phenomena investigated. To this end, the data was examined through the methods described in the following sections.

4.5.3 Pre-study questionnaire

In order to gain a fuller understanding of the subjects' background I created a pre-study questionnaire. This questionnaire was designed to obtain relevant information pertaining to participants' ages, language proficiency, L1 and degree of familiarity (if any) with MOO environments. The pre-study questionnaire was distributed during the first session of the project (orientation phase). It can be found in appendix B.

4.5.4 Transcripts of MOO chat sessions

Case studies are designed to focus on the study of data collected over a period of time in a naturalistic setting. The main focus of data analysis in case study-based research involving interaction in CMC is the collection and study of transcripts of participant communication (Kitade, 2000; Negretti, 1999). The major sources of data used to investigate the research questions that formed the focus of this study were the log files of the chat sessions conducted in the *Schmooze* MOO environment (for examples see appendices F and G). These files record all aspects of participant's written communication in the MOO and were collected through the use of the logging feature of the *Pueblo* MOO client software. At the start of each session, the participants activated the data-recording feature of *Pueblo*. At the end of each session, the subjects saved the data produced by each dyad. This data was then emailed to an e-mail mailbox and then sorted chronologically in order to facilitate systematic study.

Although chat transcripts provide a useful means to examine learners' interactions in CMC their use in CALL research presents some problems. For example, there may be technical difficulties that prevent a particular data sample being recorded in its entirety. Problems with data collection did occur in the orientation phase. On several occasions, due to computer freezes, learners accidentally shut down their computer and the data of their chat sessions to that point were lost. Learners also forget to log their data. On one occasion in the orientation (session one) a subject forgot to activate the logging of data until half way through the session. These problems show that on occasion, chat files may provide an incomplete and therefore misleading picture of learners' real time

communication. In order to prevent these difficulties recurring, the learners were instructed to begin the recording of their data immediately after they had joined the MOO. As an additional precaution, I logged on to the MOO during each session of the main phase of the project (sessions 4 through 13) in order to gather a backup source of data. These measures ensured that there were no significant problems involving the recording of the learners' interaction during the main phase of this research.

4.5.5 Researcher field notes

I observed the subjects' behavior during the sessions and made field notes. I undertook this activity for a number of reasons. Writing field notes enabled me to generate ideas concerning the types of questions that should be asked in the post-study questionnaire. A further advantage of field notes lay in that they provided an additional source of data. This new source assisted in the process of analysis by providing a broader perspective on the data.

4.5.6 Post-study student questionnaire

In an attempt to provide a broader longitudinal context for the examination of the data collected in this study, I administered a post-study participant questionnaire (Nunan, 1992). This questionnaire was designed to obtain learner views on the usefulness of the tasks and activities utilized in the project. In order to obtain answers that would be relevant to the context and goals of this study, the post-study questionnaire adopted a mix of question formats. The first section of the questionnaire adopted a closed question type designed to obtain background information on all of the participants. The question format adopted in the rest of the questionnaire was the open question type, as this was considered to be the most useful in eliciting relevant answers relevant to the research questions. The full questionnaire may be found in appendix C. The participants completed this questionnaire during the final session. As I was aware that in the Japanese university context learners could feel reticent about expressing their views openly (LoCastro, 1996), the subjects were not required to use their real names. In order to encourage participants to express their views in a forthright manner, learners who completed the questionnaires were requested to use the alias they had adopted in the MOO. At this time, I was on hand to answer any questions. At the end of the class the completed questionnaires were collected.

4.6 Data analysis

The following sections outline the data analysis procedures employed in this study. I describe the analytical framework employed to answer the research questions and go on to explain how data reduction, coding and display were carried out. I then describe how questionnaire analysis was undertaken.

In the final section I describe data reporting and interpretation.

4.6.1 Analytical framework

In order to answer my research questions, I obtained and analyzed a number of data sources. The central focus of my research was an analysis of the learner discourse produced during interaction in the MOO. In investigating strategy use, it was necessary to record learner interaction. Therefore, the main (though not the only) source for my analysis was the text produced (chat transcripts or *log files*) by the subjects during interaction. This source of data was considered suitable because, as Simpson (2003) states:

it is tangible, stable, and open to isolation for the purposes of analysis.
(p.6)

The method of discourse analysis adopted in this case study involved examining the transcripts for evidence that could be of value in answering the research questions. In order to obtain a broader perspective on the data, I employed observation and took field notes. I analyzed learner responses to post-study questionnaires and obtained quantitative data (user-generated statistics). I also drew on a number of relevant theoretical and learner-based studies (see below) to inform my analysis.

Answering research question 1 involved analyzing learner discourse management strategies. To achieve this goal, I drew on definitions proposed by Brown & Yule (1983) and Smith (2003 b). Within this general framework, episodes of interaction involving the use of specific transactional and interactional strategies were identified and categorized. This process was informed by the literature on native speaker, learner-native speaker and learner-learner interaction in MOOs and other types of real time CMC. My analysis of discourse management strategy use in chapters 7 and 8 draws in part, from the work of Bays, (1998); Cherny (1999); Chun (1997); Donaldson & Kötter, (1999); Garcia & Jacobs (1999); Hentschel (1998); Herring, (1999; 2001); Murray (2000); Rintel, Mulholland & Pittam (2001); Rintel & Pittam (1997); Simpson, (2002; 2003; 2005) and Werry (1996). A further source for my analysis in these chapters came from studies that are based on interactionist accounts of SLA that stress the social nature of learning (Darhower, 2002; Foster & Ohta, 2005; Warner, 2004). In investigating turn-taking, I drew on ideas derived from conversation analysis (henceforth CA) that have been utilized successfully to analyze learner interaction in text chat (Negretti, 1999; Kitade, 2000). In exploring turn-taking organization including recurrent patterns such as openings and closings, I looked to ideas proposed by Laver, (1975; 1981), Schegloff, (1986;1968), Schegloff & Sacks (1973) and Sacks et al.,(1974). My analysis of other aspects of interaction management such as facework drew on ideas set out by Goffman

(1969;1967), politeness strategies from theories proposed by Brown & Levinson (1987; 1978), presence from work by Bays (1996); Ornberg (2003) and Von Der Emde et al., (2001). In investigated the expression of paralinguistic features in the on-line context I looked to work by Baym (1995); Cherny (1999); Crystal, (2002); Hentschel (1998); Murray (2000); Negretti (1999); and Werry, (1996).

In answering questions 2, 3, 4, 5 and 6 that are investigated in chapter 9, I examined sequences of learner interaction for instances of negotiation. I adopted the model of learner-learner negotiation proposed by Varonis and Gass (1985). I drew on this analytical model as it accounts for the ways learners overcome communication problems (through the process of negotiation) caused by a “shared incompetence” in the target language. This interactionist model (that will be described in detail in chapter 9) is concerned with the communication strategies employed by learners during non-understandings and was initially developed to describe learner-learner interaction in face-to-face contexts. This model was adopted for a number of reasons. First, it provides a means to identify the factors that may cause non-understandings to arise during learner interaction. Second, as it focuses on communication strategy use it facilitates a detailed and systematic evaluation of the role played by these strategies during negotiation. Third, this model is well established and provides a robust comprehensive framework for investigating learner interaction. It has been used to explore the role of communication strategies during learner negotiation in face-to-face communication (Varonis & Gass, 1985). Furthermore, this model has been implemented successfully to analyze learner-learner negotiation during interaction in various types of real time CMC (Fernandez-Garcia & Martinez-Arbelaz, 2002; Lee, 2002; Pellettieri, 2000). Finally, the adoption of this model provided the additional advantage of allowing direct comparison with other studies involving learner-learner negotiation in both face-to-face and online communication contexts. In order to answer research question 7, I implemented post-study questionnaires. The responses were analyzed as an exploration of learner attitudes enabled me to obtain an additional perspective on the factors that may have influence strategy use in MOO-based CMC. The results are discussed in chapter 10. Analyzing the responses was a further means to obtain holistic and more comprehensive overview of the data. Implementing the analytical framework outlined in this section offered the possibility of conducting an in-depth analysis of the data at both the micro and macro level.

4.6.2 Data elimination

The large quantity of data collected required that data reduction procedures be implemented. The data collected in the first three weeks (orientation phase) of the project was eliminated, as analysis revealed that these sessions did not yield any significant data. An additional form of data reduction was due to occasional instances of lateness and absence. There were only three sessions where

absences occurred. Two learners were absent during sessions 5 and 13. Furthermore, one learner was absent during session 12. However, these incidents did not significantly reduce the total volume of transcripts examined. All of the transcripts amounting to 82, 725 words from the remaining sessions (weeks 4 through 13) were analyzed. This data represented the log files collected during all of the project sessions. These log files were selected for closer level inspection as they displayed significant results and represented a good sample of learner interaction over the duration of the study.

4.6.3 Data coding

The analysis of the chat transcripts was a two-stage process. Following Miles & Huberman (1994), the classification method adopted involved the identification and investigation of strategies in the MOO transcripts that related to the research questions. In the first stage of analysis, in order to identify communication and discourse management strategies, I drew up a provisional list of coding categories that I anticipated would be manifest in the data⁹. The strategies included were selected for their relevance to the research questions under investigation. These strategies were drawn from studies on native speaker, learner-native speaker and learner-learner interaction in real time CMC environments including MOOs (for example see Cherny, 1999; Donaldson & Kötter, 1999; Herring, 1999; Murray, 2000; Simpson 2002; Warner, 2004; Werry, 1996). In drawing up this list, I reflected on the factors that had the potential to influence strategy use. These included project configuration and the online-nature of the interaction. I also considered the nature of the tasks, specific features of the MOO environment (commands), learner proficiency levels and sociocultural factors.

In investigating question 1, I anticipated that the following transactional discourse management strategies would appear in the data. My analysis of current research conducted in chapter 3, had shown evidence for learners engaging in TL discourse in MOOs (Donaldson & Kötter 1999). I therefore expected that the subjects would initiate and sustain TL discourse related to the tasks. The strategy of addressivity, the explicit naming of the intended recipient of a message, was included as previous research indicated that this had been reported in other types of chat-based interaction (Werry, 1996). It was therefore considered that establishing the presence of this strategy would be of relevance in answering research question one. I anticipated that the learners would utilize at least some of the special communication features of MOOs that are designed to facilitate communication, reduce ambiguity and maintain discourse coherence

⁹ As is the case in all coding this process was, to a degree, subjective. I am grateful to an anonymous reviewer for this observation.

under conditions of real time text-based CMC. I examined the data for evidence of the *to* command; a text command that prefixes a recipient's name before a message posted by the MOO server. I also looked for examples of the use of *Emoting* (see below). In analyzing the data, I further attempted to identify any of the various feedback strategies that have been observed in studies of NS interaction in MOOs and other types of CMC (Werry, 1996;Cherny, 1999). I expected to find examples of the deployment of time saving linguistic devices such as abbreviations, as researchers had reported that these transactional strategies are frequently deployed in NS chat due to the computer-based nature of the interaction (Herring, 1999). The data was therefore examined for the presence of these phenomena.

I further hypothesized that as in face-to-face and other forms of real time CMC-based communication the subjects would adopt interactional strategies designed to establish, and maintain, interpersonal relationships with interlocutors. Strategies I anticipated included the use of character names that would signal a cooperative face and facilitate risk-taking. I also examined the data for any instances of the use of the *emote* command, a unique feature of the MOO environment that enables users to display emotional responses via text (Cherny, 1999). I hypothesized that the data would reveal instances of interaction management strategies that would signal the presence of sociocultural influences on the interaction. I therefore examined the data for the presence of the ritual interchanges (Goffman, 1972) that occur during greetings and leave-takings (Cherny, 1999; Goffman, 1976; Rintel & Pittam, 1997). I also looked for examples of the use of politeness strategies (Brown & Levinson, 1987) including off-task discussion (Darhower, 2002).

In order to answer research questions 2 through 6, I attempted to identify instances of the communication strategies that have been identified in the literature on face-to-face (Varonis & Gass 1985) CMC (Blake, 2000; Kitade, 2000) and MOO-based (Donaldson & Kötter, 1999; Kötter, 2003; Schwienhorst, 2004; Von Der Emde et al., 2001) interaction as being involved in the process of negotiation of meaning. Drawing on the above literature (see discussion in chapters 2 and 3), and my previous research (see chapter 1), I anticipated that due to the limited proficiency levels of the participants and the task-based nature of the interaction communication problems would likely arise and that the following strategies would be identified. These included clarification and definition requests. I further expected to identify comprehension and confirmation checks. Moreover, I anticipated that there would also be evidence of self and other-initiated correction and non-response. After drawing up the initial list I then undertook repeated close readings of the data and noted the presence of any of the above strategies. After this initial investigation, the original coding categories were maintained with one exception. The *emote* command was abandoned, as I could find no examples of this strategy in the data. Some new coding categories

also emerged. New discourse management strategies associated with interesting learner behaviors were identified in the data. These strategies (examined in chapters 7 and 8) were as follows, split turns, emoticons, suspension dots, language play, and use of continuers, that is, utterances designed to display interest and encouragement to an interlocutor (Foster & Ohta, 2005). A total of 16 types of strategy were identified. The final list can be seen in tables 4.2 (discourse management strategies) and 4.3 (communication strategies):

Table 4.2. Discourse management strategies utilized by learners in the MOO

Addressivity (transactional)
Use of the <i>to</i> command (transactional)
Feedback strategies (transactional)
Time-saving strategies (transactional)
Split turns (transactional)
Use of character names (interactional)
Use of greetings and leave-takings (interactional)
Politeness strategies (interactional)
Language play (interactional)
Off-task discussion (interactional)

Table 4.3. Communication strategies utilized by the learners in the MOO

Clarification requests (transactional)
Comprehension checks (transactional)
Confirmation checks (transactional)
Definition requests (transactional)
Self and other-initiated correction (transactional)
Non-response (transactional)

As this was a qualitative study, it was necessary to obtain inter-coder reliability (Johnson, 1992). Due to this requirement, in the second stage of data analysis a second coder assisted me. This individual was an experienced instructor from Tokyo University of Foreign Studies. Following Chaudron (1988), I first orientated this coder to the codes employed. Following this procedure, both myself and the coder (working independently) manually coded all the transcript data collected over the first three sessions of the main phase of this project (weeks 4, 5 and 6) following the framework outlined above. We discussed and resolved any discrepancies that emerged during this stage of the analysis. The adoption of this process was highly effective as we were able to agree on 98% of our coding, a finding that suggests a high degree of consistency. I coded the remainder of the data. The adoption of the above approach enabled me to establish the following results. First, the total number of communication strategies employed in all sessions. Second, the total number of turns that occurred during each session.

Third, the total number of turns involving communication strategy use in each session. Finally, the total number of turns involving negotiation for each task type. The implementation of a two-stage approach to coding enabled the data to be comprehensibly analyzed using the analytical framework outlined previously.

4.6.4 Data display

Following the data display guidelines described by Miles & Huberman (1994), data was provided in a format that supported interpretation. I identified and then extracted illustrative excerpts from the log files and analyzed them individually. These excerpts were reproduced in this thesis. Results were also displayed in tables as has been suggested by Miles & Huberman (1994).

4.6.5 Questionnaire analysis

A pre-study questionnaire was administered in order to obtain background information on the subjects. I described the results obtained in section 4.4 (this data is examined in detail in chapter 10 section 10.1). The post-study questionnaire was the primary means used to investigate research question 7. As I observed previously (section 4.5.6), this questionnaire was administered during the final session of this project and contained a mixture of *Likert* scale statements and open-ended questions. In analyzing the 14 students' responses to the first two *Likert* scale questions, I calculated the total number of responses to each statement (this procedure was also used to analyze the responses to question 14). In the case of the next question, which contained 10 *Likert* scale statements the students' responses were entered into a spreadsheet and averages were calculated. In analyzing the responses to the 18 open questions, I undertook multiple readings of the completed questionnaires in order to identify common themes and patterns.

4.6.6 Data reporting and interpretation

In order to support the transferability of my results the method of reporting adopted in this study was "thick description" (Geertz, 1973). This involved the description of particular representative examples of the phenomenon under investigation. This was combined with a general description of the patterns in the data. This process was accompanied by an interpretative commentary. The data was interpreted through the analytical framework described in section 4.6.1. Data interpretation was carried out in chapters 7, 8, 9 and 10. The conclusions are provided in the final chapter.

5 The Schmooze University MOO environment

5.0 Introduction

This chapter provides an overview of the *Schmooze University* MOO virtual world utilized in this research. I shall provide a rationale for selecting this MOO and describe its key features, which include the log on protocol, communication and navigation commands. I provide an overview of user access and privileges, examine the learner created virtual rooms that constitute this MOO environment, and discuss learning support features, software and hardware utilized during this research. In the discussion, I draw attention to the combination of features that make MOO environments such as *Schmooze University* valuable platforms for CALL projects and research.

5.1 The Schmooze University MOO environment: A rationale for selection

MOOs are programmable virtual worlds that enable users to communicate in real time through the use of typed text. All MOOs consist of an Internet-based open access database housed on a server. Access to a MOO database can be facilitated through use of the *Telnet* program or a *Telnet* MOO client. Recent development work has attempted to make MOO environments more accessible. Recent efforts have focused on developing the Lambda database (the core of all MOO environments), in order to make it more adaptable for educational use (Holmevik & Blanchard, 2001) by implementing browser-based client software. As this approach adopts advanced network technologies the use of new web-based clients in MOOs (see Holmevik & Blanchard, 2001), remains, at the present time, somewhat problematic. For example, the new MOO multimedia client software program *Encore* cannot operate through network firewalls unless certain access ports are made available. In addition, the advanced Java script requirements of the new MOO clients can, on occasion, fail to operate effectively on older operating systems. As a result of this situation, I selected *Schmooze University* (accessible from the following Internet URL, <http://schmooze.hunter.cuny.edu:8888>) as the MOO environment most suitable for the purposes of this study. Established in 1994 at the City University of New York, Schmooze is one of the most developed and innovative English language learning MOOs currently in existence. *Schmooze University* offered a number of advantages as a platform for this research. As an established MOO, based on proven technologies, it provided a robust learning platform. Moreover, this environment incorporates extensive online help features (which will be discussed in section 5.2.5). As an open access MOO, accessible through a variety of operating systems and network configurations, the Schmooze environment offered a combination of advantages that could not be matched by alternative

systems. The following section will focus on a description of the key features of the Schmooze environment utilized in this research.

5.2 The Schmooze University MOO: key features

In this section, I provide an outline of the key features of the above environment. Areas examined include the gateway web site, log on protocol, text commands, user access, privileges and learning support features. I also discuss the client program used to access the MOO. I will further describe the specific computer hardware and software utilized in this research.

5.2.1 Web site

The Schmooze MOO can be accessed through a browser-based gateway page or through a client program utilizing *Telnet*, the method selected in this project (the client will be described at a later stage). A screen capture of the *Schmooze University* web site is reproduced in figure 3:

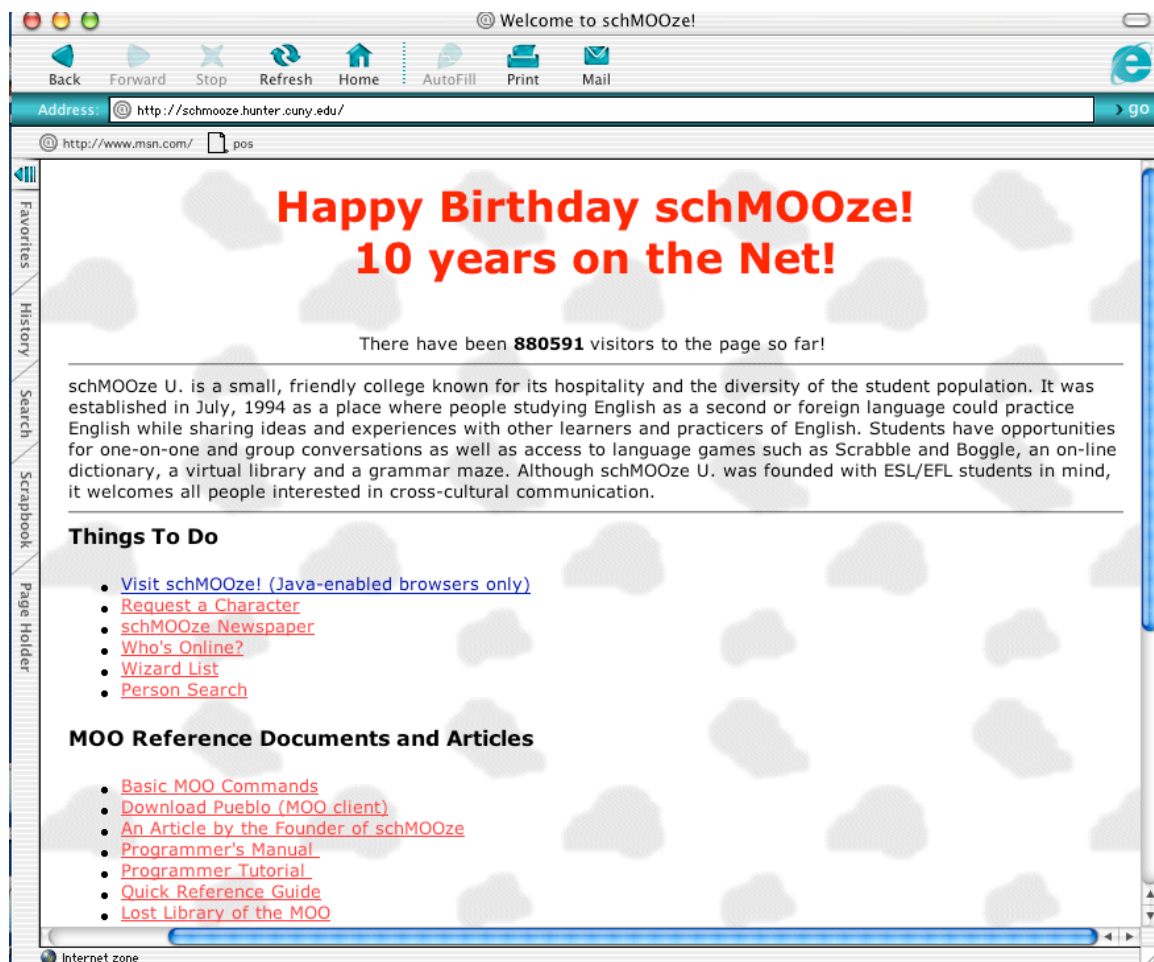


Figure 3. The Schmooze University MOO web site

This Schmooze gateway site contains links to a number of resources relevant to the use of MOOs in CALL. Included in the site are hypertext links to a list of basic commands, a programming manual and tutorial. The site gives access to a multilingual online help page accessible at the following URL (<http://members.tripod.co.jp/schmooze/ENG/index.html>). This page is designed to give new users an extensive overview of the Schmooze world and also contains an FAQ (frequently asked questions) page. Furthermore, the above site contains links to a number of online articles and relevant teaching materials.

5.2.2 Log on protocol

Access to Schmooze requires completion of a log on protocol that involves either joining as a guest or a registered user (a so called character). On completion of this protocol, both guests and registered characters are free to communicate and navigate within the virtual world (privileges associated with registration will be examined in section 5.2.4). In the case of a registered user, joining the MOO requires the inputting of a unique ID and password. The completion of this procedure provides for network security and enables the tracking of access data. A screen capture of the graphical user interface (GUI) is reproduced below:

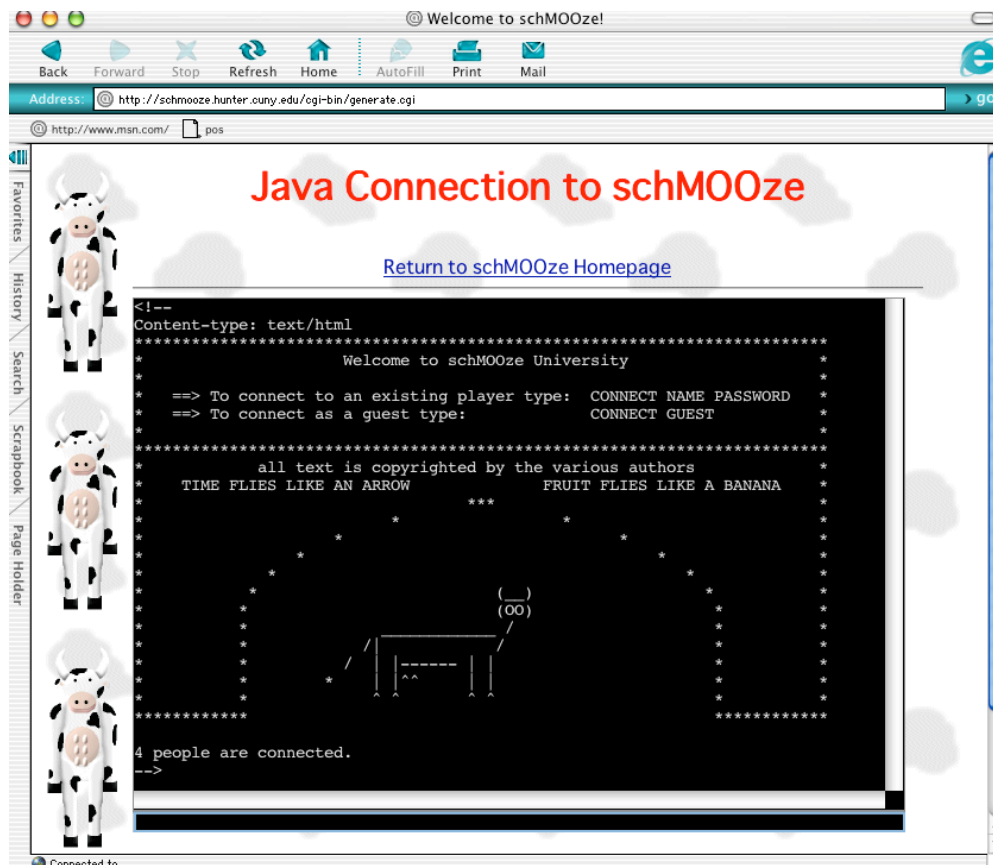


Figure 4. The Schmooze MOO GUI

User ID's are obtained by means of completing an online form accessible from the Schmooze web site. The MOO administrator then supplies a unique character name and password by e-mail. In the case of guests, completion of the log on protocol requires that each user provide a brief self-description (registered users self-descriptions are saved by the database). An example of this stage of the protocol is shown below:

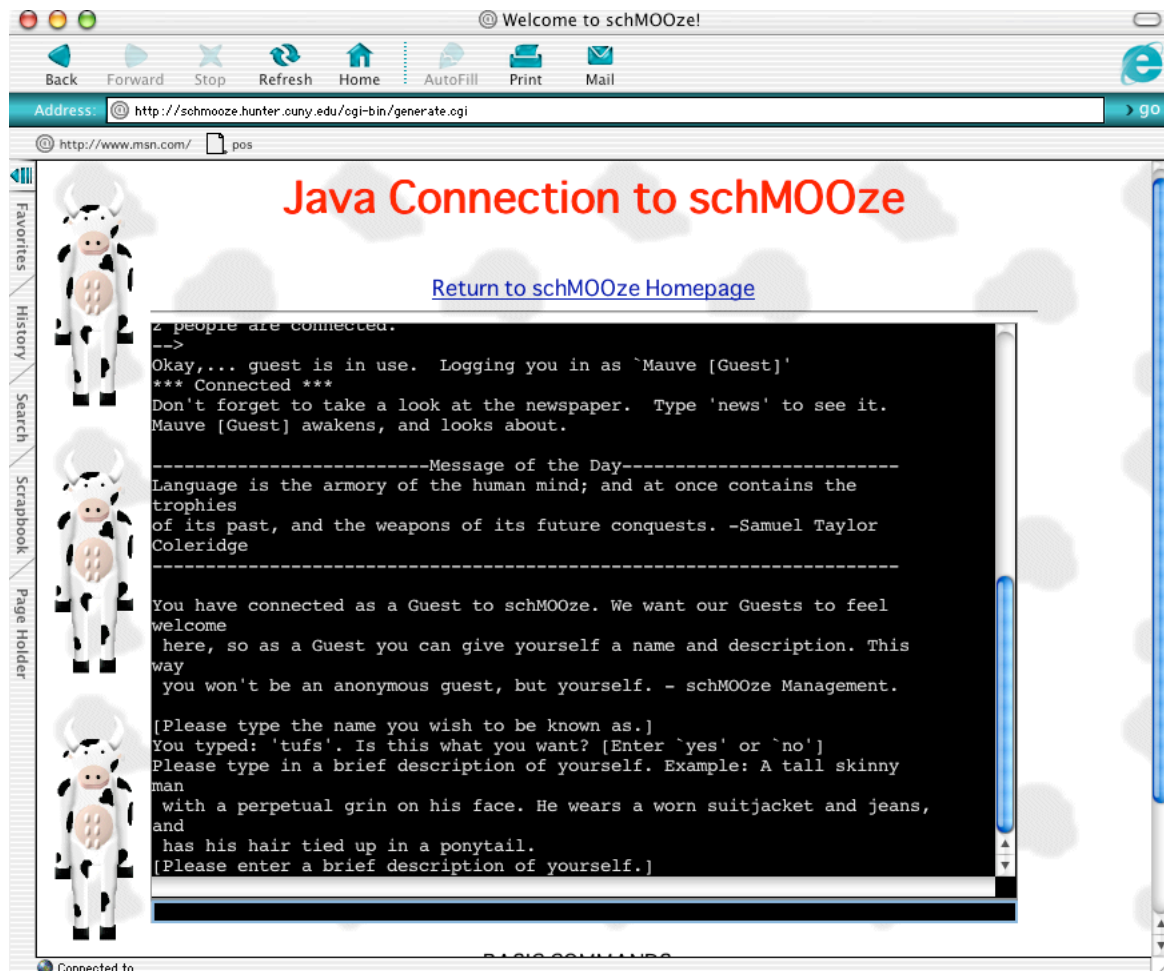


Figure 5. The Schmooze log on protocol

This feature of MOOs provides opportunities to develop an online persona and also obtain a higher level of access to the database. As my review of the literature has shown, the use of character names (pseudonyms) has appeared, in some recent CALL projects, to contribute to the creation of discourse communities characterized by a high degree of participation and interaction between learners (Donaldson & Kötter, 1999; Von der Emde et al., 2001). This aspect of interaction in MOOs will be discussed at a later stage of this research (chapters 7 and 8).

5.2.3 Text commands

In MOO environments, communication and navigation require users to use text commands. In Schmooze, learners communicate by means of typing in a text box located at the bottom of the browser or client screen. After entering the MOO learners can type help (the help command) in order to obtain a list of help commands and their functions. The specific information available in the help database is shown below:

MOO help commands
 help- help texts and command features
 introduction- basic MOO overview and commands
 index- index to the help system
 players- settings for user characteristics
 movement- navigation between rooms
 communication- conversing with other players
 manipulation- moving or using other virtual objects
 building- extending the MOO
 programming- writing code in the MOO programming language
 editing- editing text and code in the MOO
 manners- online etiquette

The main Schmooze MOO commands available to participants in this project are reproduced in table 5.1 (table adapted from Shield, 2003,p. 99-100):

Table 5.1 MOO connection, communication and disconnection commands

Command	Player keys in	Player sees	Other users see
connect	<playername> <password> Connect Mark *****	Player's connection message	<playername> + connection message Example:Mark has connected
say	Either: Say how are you today? Or: "How are you today?"	You say, "How are you today?"	Mark says, "How are you today?"
to	to <playername> <message> Example: to Bob how are you today?	<playername> + to + <player name> + message	Mark [Guest] [to Bob [Guest]]: How are you today?

emote	Either: Emote smiles Happily Or: :smiles happily	Mark smiles happily	Mark smiles happily
disconnect	@quit	Player's disconnection message Example: You leave the MOO	<playername>+ disconnection message Example: Mark has disconnected

An innovative feature among MOO commands is the *emote* command. This enables users to display emotional responses through the use of keyboard symbols. A further command employed extensively by participants in the later stages of this study was the *to* command. The role of this command in facilitating interaction management will be discussed in chapter 8. Navigation in the Schmooze virtual world is also carried out by means of a series of typed commands. The use of these commands enables learners to traverse virtual space, enter and exit rooms and move between buildings. The main navigation commands are as follows:

- whereis-location of other users
- @go <room name>
- map (shows a map of the schmooze campus and a players' location)
- north (or n return)
- south (or s return)
- east (or e return)
- west (or w return)
- in (to enter a buliding or room)
- out (to exit a building or room)

The utilization of the above commands enables learners to explore the environment and meet with other participants in specific locations within the MOO. Users can also manipulate virtual objects by typing the following commands:

- look- object description
- get-pick up an object and place it in a users inventory
- drop-remove an object from a users inventory and place it in a virtual room
- give- hand an object to another player
- @move to- teleport an object to a new location
- @eject-remove an unwanted object from a room

The above commands are the main commands available in Schmooze. A comprehensive list of MOO commands including those for building (or adding content) is provided in appendix A.

5.2.4 User access and privileges

Schmooze University provides educators with a number of means to facilitate interaction and learning. A hierarchy of access privileges from guest to site owner enables MOO administrators to control the level of user access and maintain system security. In Schmooze, as in other MOOs, access is determined by a ranking system. There are several user levels in the schmooze environment: guest, registered player, room owner, builder, programmer, wizard and site-owner (Backer, 1999). Each user type has a defined level of access and number of accessible commands. The guest level is the basic default level in the MOO system. This is the most common level for new users. Learners with this level of user privilege may implement the basic commands that enable them to communicate with other users and navigate. The guest level of user access was provided to learners in the initial stages of this project. As users reach higher levels of competency in the MOO environment, they can apply to the MOO administrator in order to move up the hierarchy¹. The higher levels of access (from room owner upwards), enable users to create their own rooms and multimedia objects within the MOO. For example, the wizard level of access gives control over the entire system including the ability to administer all aspects of the environment. This multi-tiered system of access enables administrators to guide activities within their MOO while at the same time preventing abuse of the medium as wizards can eject disruptive users from the environment.

After obtaining builder or programmer level access privileges from the administrator, learners can then create virtual spaces and multimedia objects within the MOO through the use of text commands. Users can therefore design and create their own personal spaces or rooms, thus fostering the creation of meaningful artifacts (Schwienhorst, 1997). Schmooze is modeled on the real world and adopts the learning metaphor of a virtual university incorporating a campus made up of virtual buildings and several hundred rooms. As in other MOOs, rooms in *Schmooze University* are user created and consist of textual descriptions of physical spaces. As an aid to navigation, rooms are linked by entrances and exists. Learners can move between rooms by typing the navigation commands set out in section 5.2.3. Much of the interaction in

¹ In an interesting feature of the interaction, as this research progressed a number of the participants applied for, and obtained, their own individual character names which provided access to the next level of user privilege (registered player). This behavior will be analyzed in chapter 8.

Schmooze takes place in these rooms. Examples of user created rooms are reproduced in figures 6, 7 and 8:

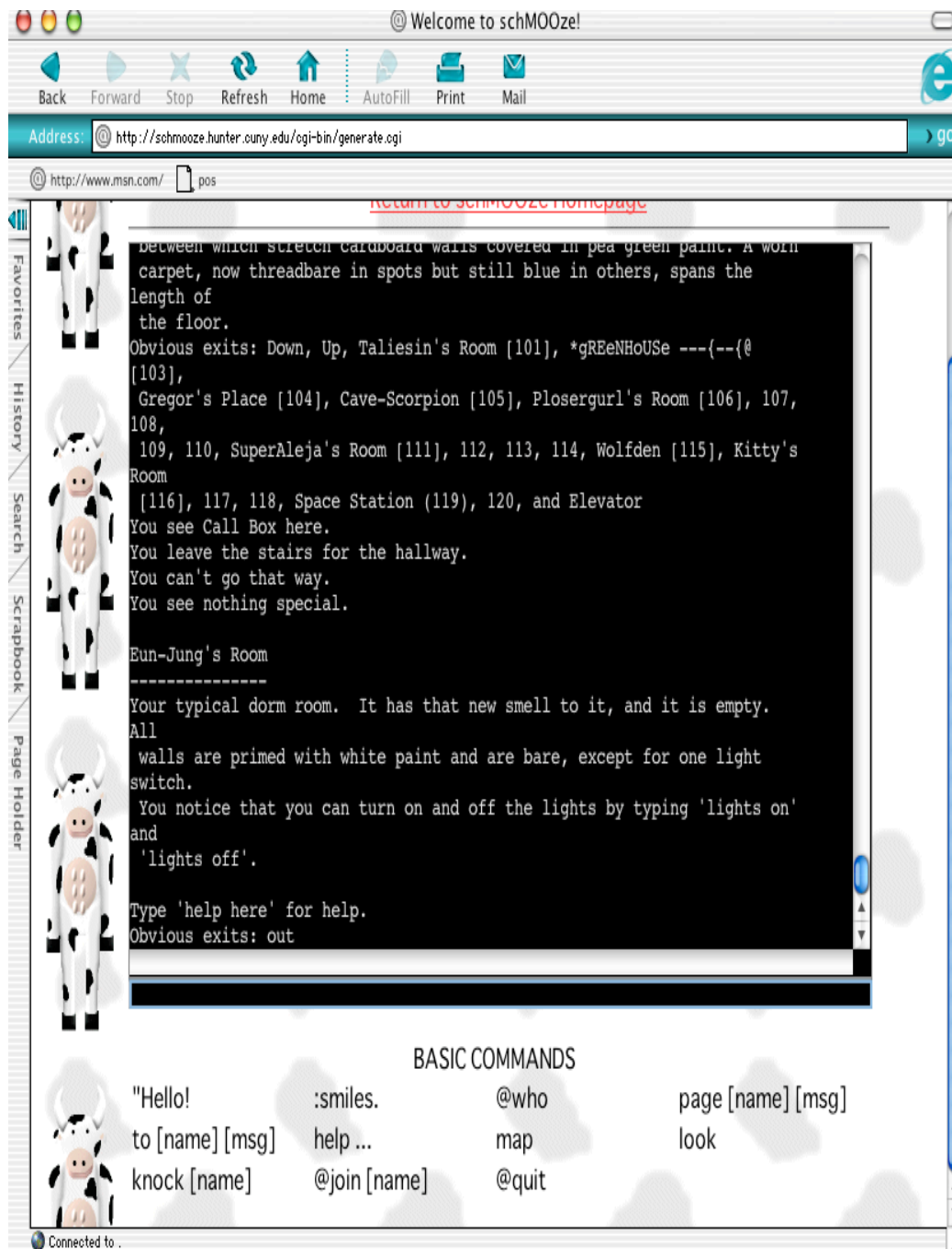


Figure 6. Learner created room in Schmooze University

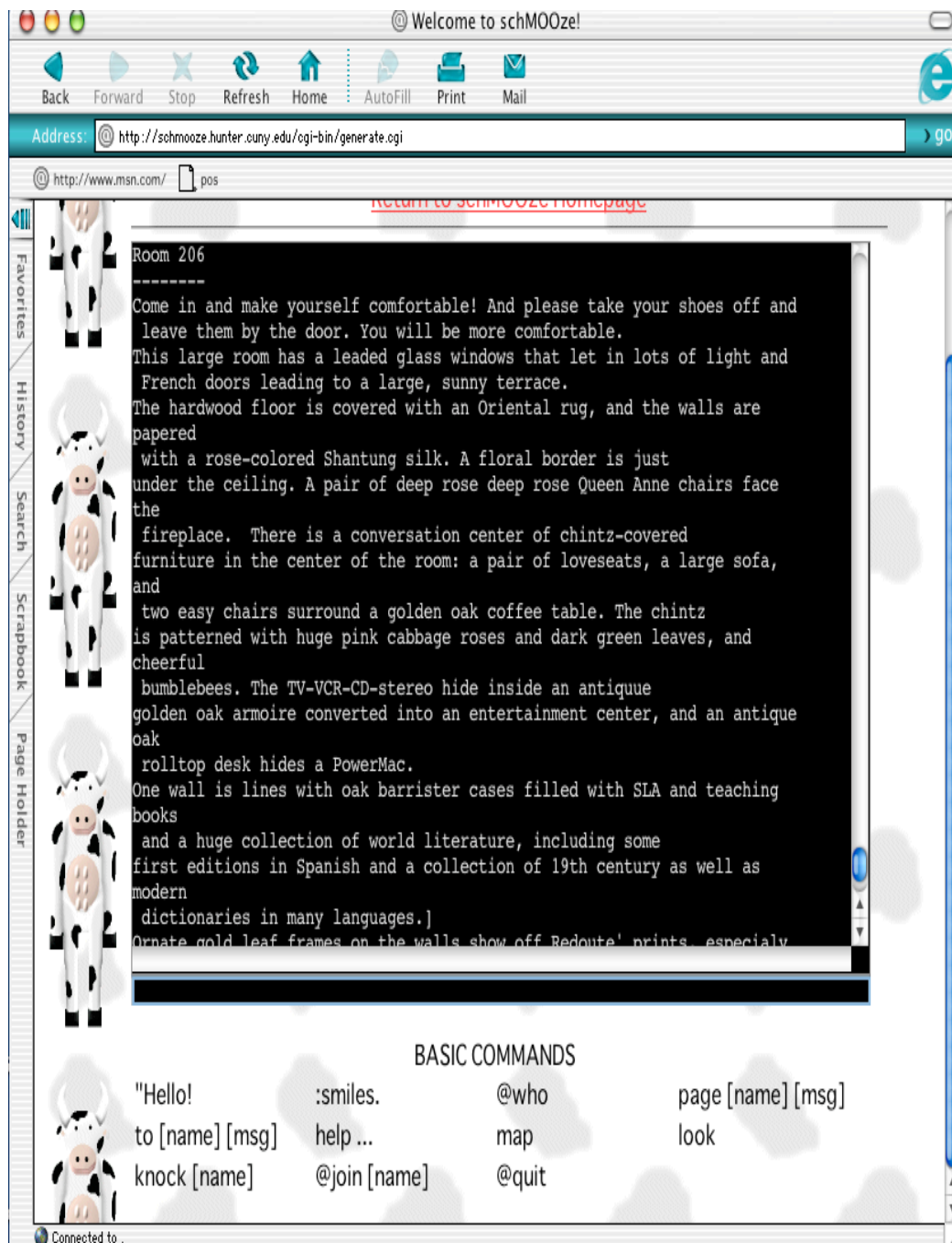


Figure 7. Learner created room in Schmooze University

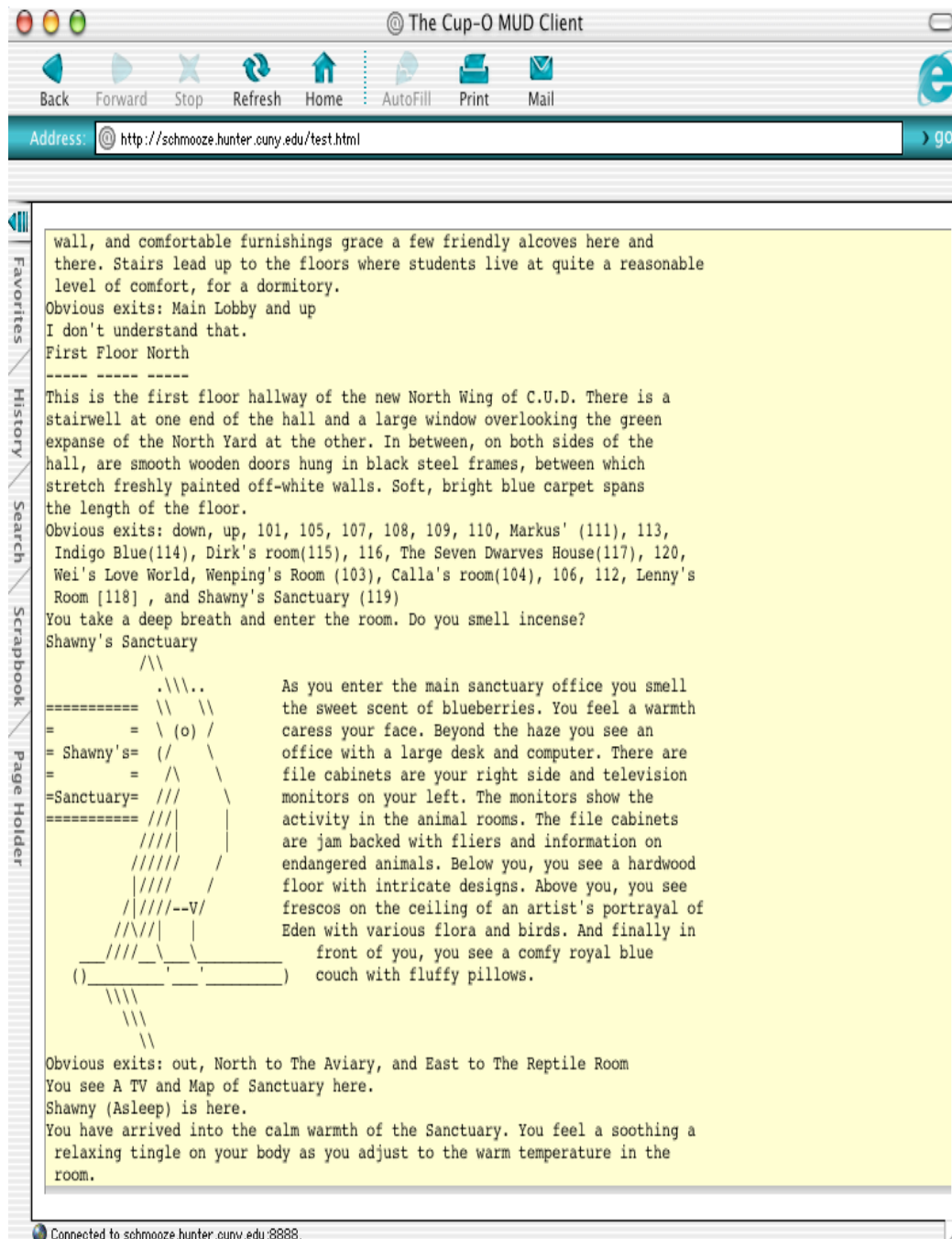


Figure 8. Learner created room in *Schmooze University*

Time constraints prevented participants from creating their own rooms during this project. The interaction was mainly conducted in a specific location in the Schmooze MOO. This was a virtual room designed for learner discussions in the MOO known as the “conference center”. A screen capture of this room is reproduced in figure 9:

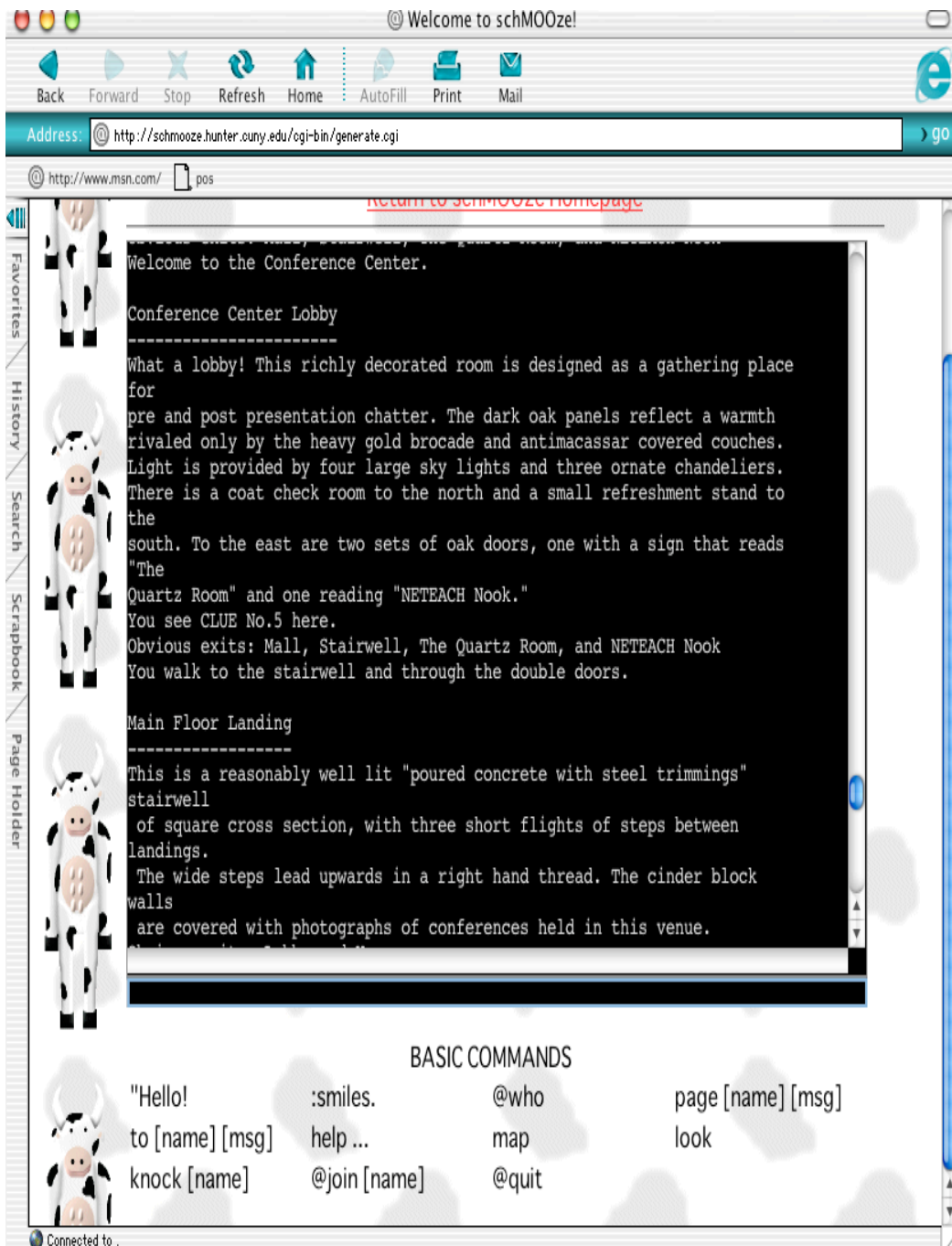


Figure 9. Conference center in Schmooze University

5.2.5 The Schmooze University MOO key features: Learning support features

Unlike many other types of CMC environment utilized in CALL, *Schmooze University* provides access to extensive online support features designed for language learners. As I have noted previously (section 5.2.3), the MOO incorporates an online help database. This includes an online English dictionary². Another form of support is the presence of online native speakers known as wizards. In *Schmooze*, wizards adopt the role of online support staff providing assistance to users in real time. When wizards are logged on, they can be contacted to assist students with problems, supplying real time guidance regarding technical and other aspects of interaction and programming in MOOs. The *Schmooze* MOO also contains a news and mailing list system configured as a learning support. Wizards have created a MOO-based public mailing list, which is used to inform users of new developments in the *Schmooze* world. This function of *Lambda* MOO is further utilized to share information between wizards and other users in the form of an online newspaper. In addition to the above features, in order to inform participants of project information outside of class time, a *Yahoo*-based online bulletin board system (BBS) was created. Although not all participants joined the BBS, this environment served as a learning support during the project and was utilized to provide project related information to participants outside regular lab time.

5.2.6 The Schmooze University MOO key features: The *Pueblo* MOO client program

This project utilized a freeware MOO client program called *Pueblo* (<http://pueblo.sourceforge.net/pueblo/index.php>) in order to connect to the *Schmooze* environment. There were two main reasons why this client was selected. The use of a client overcomes a problem in some MOOs, namely, periods of delay between messages caused by network and hardware constraints. This phenomenon, known as “lag”, has been identified in the literature (Pinto, 1996, p. 168) as hampering learner interaction in MOOs. The use of a client ensured that there were no major lag problems during the project. A further advantage of using a client is that these programs facilitate the collection of learner-produced data. The *Pueblo* interface enables users to log on using the *Schmooze* server and network port addresses and then log their text for the entire duration of a session by clicking the “log to file” option on the tool bar. During this research, learners logged their data using this feature of *Pueblo*. At the end of each session, participant data was saved and then e-mailed to the researcher (following the data collection procedures outlined in chapter 4)³.

² In chapters 8, 9 and 10 I will examine evidence that the learners utilized this dictionary.

³ Data recorded during the project can be examined in appendices F and G.

5.3 Project hardware and software

Pentium IBM PC computers running the *Windows XP OS* (Japanese version) were the platform for this project. This hardware and software combination gave project participants full Internet access as well as access to the *Pueblo* client and *Microsoft Office*. The machines were housed in two computer labs and all participants in this project had access to university-based network and e-mail accounts.

Chapter 6 The communication environment provided by the Schmooze MOO

6.0 Introduction

In order to provide a context for the discussion in the data analysis chapters, I will first examine the nature of the particular communication environment provided by the Schmooze MOO. In this chapter, I discuss the role played by technical, temporal, social and interaction management features in influencing communication in MOO-based CMC. I identify the differences between this form of interaction compared to face-to-face communication and other types of real time CMC. I further draw attention to potential problems and possible advantages of MOO-based interaction, and draw attention to important issues raised by utilizing this type of communication environment in CALL.

6.1 The MOO medium

In a review of the literature on CMC, Herring (2001) has claimed that communication on computer networks is frequently “considered a medium of communication distinct from writing and speaking” (p.614). This perspective draws on research which suggests that, while computer mediated discourse shares elements of spoken and written communication, aspects of this form of communication display unique features that are the result of the particular type of computer messaging system under utilization (Condon & Cech, 1996; Murray, 2000; Werry, 1996). As Herring (2001) observes:

CMD (computer mediated discourse) researchers speak of electronic “medium effects” on CMD, rather than treating CMD as a form of “writing” (typing) that happens to be distributed by electronic means..... The justification for this is that while the means of producing CMD is similar to that of other forms of typing, including allowing for the editing and formatting of text in asynchronous modes, other aspects of computer-mediated communication preclude easy classification with either writing or speaking. CMD exchanges are typically faster than written exchanges (e.g. of letters, or published essays which respond to one another), yet still significantly slower than spoken exchanges, since even in so-called “real-time” modes, typing is slower than speaking. Moreover, CMD allows multiple participants to communicate simultaneously in ways that are difficult if not impossible to achieve in other media, due to cognitive limits on participants’ ability to attend to more than one exchange at a time.... For these and other reasons, participants typically experience CMD as distinct from either writing or speaking, sometime as a blend of the two, but in any event subject to its own restraints and potentialities. (p.614)

As shown in chapter 3, MOOs are distinguished from other forms of CMC environment as they combine real time communication through typed text, with a permanent graphics-based virtual world. This combination of elements produces a communication medium that displays elements found in face-to-face and written communication, and also incorporates medium specific characteristics that are the product of the constraints imposed by the computer-based nature of the interaction (Backer, 1999). As I will show in the following discussion, MOOs utilize a number of features that are found in other forms of synchronous and asynchronous CMC environment such as IRC and e-mail, while at the same time providing communication and design features designed specifically to facilitate interaction management.

6.1.1 Features of the MOO medium: computer-based real time interaction

Communication in MOOs is carried out by means of typed text. Although in some recent versions of the MOO program users can access multimedia content through a web-based hypertext interface (Holmevik & Blanchard, 2001), these features were not available in the MOO utilized in this research. The messaging system operates in the following manner. When a user presses the return key, a completed message is sent to the MOO's server. The MOO software then reproduces the sent message on-screen. The typed nature of the interaction affects the pace of exchanges. As I have noted previously, the exchanges produced in types of real time CMC such as MOOs are quicker than those produced in conventional writing. However, they are slower than spoken exchanges. In contrast to asynchronous communication tools such as e-mail and bulletin boards, the text produced in MOOs is the product of a dynamic environment. As users send messages, their text and the messages produced by other users scroll down the screen in vertical sequence in the order they are received by the MOO server¹. Messages do not appear on the screen until they are sent. Therefore, unlike in some other types of real time CMC such as the VAX system, other users cannot view utterances as they are being composed. This form of message display can be seen in the following interaction drawn from transcript data collected during week 9 of the research. The data is reproduced here in its original form. The interaction of 3 different dyads is shown in red, blue and green. (Note that the MOO software automatically inserts the sender's name, and in the case where no specific communication command has been employed, an action such as "asks", or "exclaims", before a message. As an aid to identification, messages are enclosed by quotation marks. All errors were produced by the participants):

¹ The speed of scrolling depends on the number of users and network conditions.

- (1)
1. Reiji exclaims, "hi luna!!"
 2. ache [Guest] arrives through the heavy oak doors that enter from the mall.
 3. You ask, "to Mieko are you a student of TUFs?"
 4. mieko [Guest] exclaims, "Why everybody so tired on this internet?? What a shame!!"
 5. aoi [Guest] says, "no, it is a common sense. you should study more about the world, reiji. therefore japanese man is not popular for every woman in the world."
 6. ache [Guest] asks, "how are you?"
 7. Wing asks, "Keisuke, would you like to be my partner today?"
 8. mieko [Guest] exclaims, "I'm a student from Waseda, Tyler!"
 9. Luna says, "Hi, reiji!! What's up? Let's have a talk."
 10. Reiji exclaims, "yes !!"
 11. Tyler [to mieko [Guest]]: would you be my partner?
 12. Luna asks, "Do you know about today's task?"
 13. mieko [Guest] exclaims, "My pleasure Thank you!"
 14. Keisuke exclaims, "I want to say to work with you, Wing. let's discuss today's task!"

The above excerpt shows that the overall structure of interactions in MOO-based CMC differs considerably from that found in face-to-face interaction. As can be seen above, at first sight, the communication within the dyads appears discontinuous and there are multiple interactions co-occurring in real time. On closer examination, a pattern of initiation and response can be observed. However, messages posted by users of the MOO system are interleaved. In terms of sequencing, the above interactions show that in MOOs, as in other types of real time CMC where the communication is carried out by typed text:

...many messages do not display an orientation to their sequential placement in the conversation. (Garcia & Jacobs, 1999, p.342)

The sequencing of turns found in face-to-face communication where one related turn immediately follows another in orderly fashion (Schegloff, 1968), is largely absent in MOO-based CMC, where there are frequently considerable delays between turns. In this environment, messages must be typed then sent to the server for posting in real time, and this results in a situation where responses are usually not reproduced onscreen adjacent to an interlocutors previous utterance. Therefore, the expectation proposed for spoken conversation, that adjacent turns will normally relate to each other is frequently not met (Schegloff, 1968). As can be observed in the above interactions, in MOOs, as in other types of real time CMC that involve the use of typed text, the most likely situation is that turns:

that end up physically adjacent are pragmatically irrelevant to one another. (Herring, 1999, p. 12)

This phenomenon has been termed by Herring (1999) “disrupted turn adjacency”. The sequential incoherence produced by the MOO messaging system would appear to make turn tracking problematic in projects involving many users, as Garcia & Jacob (1999) have observed when discussing large-scale multiparticipant real time CMC involving NSs²:

..in general it is difficult to track the progress of a conversation from one message to the next. (p.342)

Moreover, as a result of the computer-based real time nature of the environment exchanges, that is, “the different sub topics of discussion within a larger topic” (Herring, 1999, p. 8) frequently overlap³. This contrasts with the situation hypothesized for oral communication where overlaps of turns are held to be minimal (Sacks et al., 1974). This characteristic of MOO-based CMC can be observed in the following exchanges from a later stage of the above session⁴:

- (2) 15. Reiji says, "I have some interests, now I became interested in Korean,"
16. Keisuke asks, "It sounds great! I haven't try to study chinese... What are you interested in Japan? wing?"
17. Keisuke exclaims, "Hello! Nora! "

² In order to reduce the effects of this phenomenon this study incorporated a limited number of users.

³ However, individual messages cannot overlap.

⁴ An example of a spatially adjacent adjacency pair can be seen observed in excerpt (2) lines 18 and 19.

18. Luna [to Reiji]: I play music and I love learning many foreign languages, Italian, Korean, and so on.
19. Reiji says, "I like music, movies very typical interest."
20. Tyler [to mieko [Guest]]: what kind of food do you like?
21. Reiji asks, "what instrument do you play??"
22. Nora [to Wing,]: Keisuke "Nice to meet you Wing, Hello Keisuke.
23. mieko [Guest] says, "In my case, my parents were so strict and my older sister lives in Tokyo, too, so I don't feel lonely very much. "
24. Keisuke says, "Today's task isn't a continuation of last week's task, Nora..."
25. Wing [to Keisuke]: I'm interested in Japanese language and culture, food....

In the above interactions, different threads related (for the most part) to the overall topic of hobbies overlap. In move 16, Keisuke asks his partner Wing about his interests and receives an appropriate answer, after 8 lines of text produced by other subjects have scrolled down the screen. In moves 18 and 19, Luna discusses music with Reiji, while Nora attempts to initiate discourse with Keisuke and Wing (move 22). This move elicits a response from Keisuke regarding the task (move 24). In move 20, Tyler is discussing food with Mieko. In move 23, Mieko answers a question made previously by Tyler.

In MOOs, as in other forms of CMC, there can be multiple responses to a single initiating message, as in the following example taken from an early stage of session 4:

- (3)
1. Umber [Guest] says, "hallo, anyone here. "
 2. moo [Guest] looks at the map of schMOOze.
 3. taro [Guest] says, "hello, umber"
 4. reiji [Guest] exclaims, "hello Umber!"
 5. Mieko [Guest] exclaims, "hi! Umber! My name is Mieko!"

In this excerpt, Umber's general question directed to the group meets with a swift response from 3 different learners Taro, Reiji and Mieko. In another difference

from face-to-face communication, users of the MOO system can also be involved in multiple on going real time exchanges with different interlocutors as can be seen in segment (4) drawn from the data collected in session 5:

- (4)
1. **starbuck [Guest] says, "I think American economics is in crisis so they need OIL..."**
 2. mahatir [Guest] asks, " north korean goes too much. but small nationalosm is better than individualism, right?"
 3. **chika [Guest] asks, "starbuck, so, which one is the strongest, prime minister,king, or Budda?"**
 4. mahatir [Guest] exclaims, "Ya, That's why US want to occupy midle east!"
 5. **starbuck [Guest] says, "the central of Thai people is King."**
 6. **aoi [Guest] says, "really? I think it is true that by adopting strong nationalism,japan was succeed modernization, but its lead japan wrong way; world war 2. therefore i think it is great that thai is making a proress to modern country without falling wrong way like japan.>starbuck "**
 7. mahatir [Guest] exclaims, "aoi, that's right. and if thai grow up enogh, be carefull not to be individualism!"
 8. mahatir [Guest] asks, "Reiji, is it true?"
 9. **starbuck [Guest] says, "no no aoi. Our country King is quite different from Japan. King doesn` t concern in politics."**
 10. mahatir [Guest] asks, "is it important to separete politics and religion?"
 11. mahatir [Guest] says, "Ya, If I were living in big country,such as US, I would be like that. I think ,after all, everyone can't think about others."
 12. **starbuck [Guest] says, "I think it`s important to seperate that,mahatir."**
 13. **chika [Guest] asks, "starbuck, I see. So, is the Thai king a symbol of the nation as well as Japan's loyal family? "**
 - 14.**starbuck [Guest] says, "yes, chika.but our King work for People so we respect him."**

In the above interactions, Starbuck is involved in several on-going threads. As can be seen in moves 3, 5, 13 and 14, he is communicating with Chika (this interaction is shown in orange). As this interaction unfolds, he responds in move 9, to a statement made previously by another learner Aoi in move 6 (this interaction is in blue). In move 12, he responds to a comment made by Mahatir in move 10 (this is shown in green). This phenomenon, which is made possible by the persistence of text on the screen, has been noted in the literature on both learner and NS interaction in various types of real time CMC (Negretti, 1999; Werry, 1996). The possibility of confusion and cognitive overload arising from this type of interaction has raised doubts regarding the suitability of MOOs for CALL (Paramskas, 1999)⁵. However, it has been argued, most notably by Herring (1999), that participation in real time exchanges with multiple interlocutors may in fact be an advantage, as it enhances the sense of engagement experienced by users and provides opportunities for new computer-based forms of interaction involving the management of multiple threads, language play and enhanced interactivity⁶.

As several conversations can co-occur in real time during interaction, turn coordination in MOOs operates differently than in face-to-face encounters. Unlike in face-to-face communication, in real time CMC users as Negretti (1999) observes:

don't have a chance to negotiate when to start, finish, or give a turn as they would be able to do in face-to-face interaction. (p. 79)

Instead, they can take turns or reply to turns, when they choose, by sending a message to the MOO server. In another difference, there is an absence of interruptions and the types of simultaneous feedback such as intonation, head and eye movements (Hentschel, 1998) that contribute to the signaling of attention and management of turn-taking in face-to-face communication (Schegloff, 1968). The online nature of the interaction may therefore act to reduce, though not entirely remove, the pressure to respond. It may also act to reduce the sociolinguistic limitations on message length found in face-to-face communication. In MOOs, as in other types of real time CMC where the communication is carried out through the medium of text, message length is determined by the context of the interaction. Moreover, as noted previously, the presence of frequent disrupted turn adjacency and overlaps involves violation of what Herring (1999) has described as the "no gap no overlap" principles that are

⁵ Although the presence of multiple threading was inevitable in the context of this research, the potential problems presented by it have been overcome in some small-scale projects by directing learners to different rooms in the MOO.

⁶ The nature of this phenomenon will be discussed in section 6.1.2.

held to regulate turn-taking in face-to-face communication (Sacks et al., 1974). Herring argues (1999) that this situation is largely responsible for the topic decay that is a well-documented feature of NS large-scale multiparticipant CMC⁷. These phenomena have led some researchers to view the identification of collaborative floor holding strategies as more relevant in investigating large-group multi-participant CMC-based interaction than the conventional notions of turn-taking that are proposed for oral communication contexts. As Cherny (1999) drawing on earlier work by Edelsky (1993) observes:

Given there is no competition for the channel per se, but rather competition for attention or control of the discourse, notions of shared or collaborative floors seem to be more helpful than the standard turn-taking literature. (p. 174)

Technical features specific to the MOO environment further influence interaction in this type of real time CMC.

In contrast to IRC, where the screen is split, in MOOs users can see the text they produce on a single screen. At the same time, they can view the text produced by other users logged on in their specific location (or “room”), in the MOO environment. These features are designed to facilitate discourse management, as dealing with a multi-window interface can be challenging for many learners due to limits on cognitive processing. Furthermore, communication in MOO-based CMC involves a novel form of real time interaction, as Garcia & Jacobs state (1999):

although posted messages are available synchronously to participants, the message production process is available only to the person composing the message. Thus the process of message transmission (posting) ..is not synchronous with message production. (p. 339)

As a result of the above conditions, interaction in MOOs is influenced by a “quasi synchronous” form of communication, that is, a type of interaction where messages are displayed to other users in real time, not in the order they are produced but in the order they are received and posted by the MOO database. As I have noted at an earlier stage of the discussion, this situation can result in delays between messages, raising the possibility of communication breakdown. Researchers have claimed that limited delays may, in fact, constitute an advantage of real time CMC for language learners as they provide extra time to respond (Swaffar, 1998). However, it should be noted that delays in real time

⁷ Topic decay is the phenomenon whereby overlapping exchanges scroll down a screen rapidly leading to confusion and the possibility of communication failure.

CMC are usually much shorter than in asynchronous forms of communication such as e-mail where long periods can elapse between messages.

As I noted in chapter 5, technical issues can also affect the speed of message display in MOOs. Although messages are displayed promptly on most MOO servers, studies have reported that message display can be delayed due to lag (Holmevik & Blanchard, 2001). As in other forms of multi-participant CMC (such as IRC), MOOs provide a one-way message transfer system (Herring, 1999, p.4) based on the exchange of text. Although, like other forms of CMC environment, MOOs provide for visual feedback, they have been perceived by some researchers as a “lean” (Daft & Lengel, 1984) medium less suitable to social interaction and negotiation than face-to-face communication. This view is popularly known as the “cues filtered out model” (Culnan & Markus, 1987). Walther & Parks (2002) observe that the basic premise of this model is view that:

..the functions served by nonverbal cues in face-to-face interaction go unmet in computer-mediated interaction because the nonverbal cues are absent. If no other cues can perform the social functions that physical appearance, copresence and dynamic nonverbal behavior can, then.. CMC must always be impersonal. (p.532)

In the context of CMC-based CALL, some researchers have echoed this sentiment. For example, Warner in her study of learner-learner interaction in MOO-based CMC observes (2004) that learners “must make sense of words” (p. 65) in an environment where the auditory and social context cues that influence oral face-to-face communication are either absent or reduced⁸. However, in the literature on NS CMC there is a contrary view. Its most influential proponent is Walther (1996), who in his “Hyperpersonal model” argues that the filtering of cues advantages communicators as it allows for identity manipulation, enhanced planning, organizing and editing of messages. Furthermore, as I will show later, there is evidence in the literature that the low bandwidth CMC medium can in fact support negotiation and the development of interpersonal relationships.

In contrast to face-to-face communication and some forms of synchronous CMC such as video conferencing (where multiple sources of feedback are present), feedback in MOOs is only available through one medium; typed text. This situation has been perceived as a barrier to the formation and maintenance of the cooperative interpersonal relationships that facilitate communication (Kiesler et al., 1984). Moreover, as I have noted, the forms of simultaneous feedback (such as interruptions and intonation) that characterize the rich face-to-

⁸ Ortega (1997) points out interaction in types of real time CMC that involve the use of typed text offer the advantage of removing learner anxiety over pronunciation.

face medium cannot occur (Herring, 2001, p.615). The absence of these features in MOO-based interaction, coupled with the presence of multiple overlapping real time exchanges and frequently disrupted turn adjacency may, on first examination, make such an environment appear of little value in CALL. However, the following discussion will show that, although the above features of communication in MOOs present users with challenges, they do not necessarily inhibit interaction management. Indeed, this form of communication may provide advantages for language learners.

Unlike chat rooms or speech, the MOO system facilitates the logging (saving) of messages. This feature of the environment enables learners to study their linguistic output more easily than would be the case in a conventional classroom environment⁹. Even when logging is not in operation, messages exist until a participant logs off the system. This enables a user to scroll back and examine previous messages. Users can also edit their messages privately before posting them. The permanence of messages in online environments such as MOOs, coupled with the visual saliency of text onscreen, constitute important advantages of this form of interaction for language learners, as they enable them to monitor their (and interlocutors') linguistic output to a greater extent than is possible in face-to-face communication (Swaffar, 1998 p. 3). Moreover, there are specific design features of this environment that may be beneficial to language learners. As observed previously, unlike types of two-way CMC, the interaction occurs on a single screen. Moreover, the MOO system automatically places a user's name in front of their message and encases messages in quotation marks. These design features of the system act as a visual guide designed to support turn tracking. Furthermore, as was mentioned in section 5.2.3 MOO environments in contrast to most other types of real time CMC tool, provide users with a range of user-friendly commands specifically designed to facilitate discourse management and navigation. These were examined in chapter 5 (see discussion of the *to* and *say* commands in section 5.2.3). Moreover, the Schmooze MOO provides access to extensive online learning resources including a help database designed specifically to meet the needs of learners.

⁹ This behavior was identified in the post-study questionnaires. This positive finding will be discussed in chapter 10.

6.1.2 Features of the MOO medium: telepresence, co-presence and social interaction

MOOs provide access to a highly interactive multi-participant environment, where learners can log on and communicate at the same time. The MOO log on protocol offers learners the option of joining the environment anonymously through user-selected pseudonyms known in MOOs as character names. This feature of communication in MOOs may influence the social nature of the interaction. The choice of character names has been shown to have the potential to play a role in influencing discourse management in studies of synchronous NS interaction in IRC (Rintel et al., 2001; Rintel & Pittam, 1997). The selection of character names may play a role in establishing identity and fostering positive impressions of potential interlocutors. The anonymity afforded by the use of character names also provides learners with opportunities to experiment with new online identities, and engage in risk taking behaviors in their L2, with reduced risks to face. These aspects of interaction in virtual worlds represent potential advantages of learning in these environments¹⁰. However, this feature of interaction in MOOs may also have negative consequences. The reduction of social context cues and their accompanying social constraints can result in the emergence of anti-social behaviors such as the posting of offensive and derogatory messages. This phenomenon, known as *flaming*, is a well-documented feature of NS interaction in text chat (Hentschel, 1998).

However, some researchers suggest that the incidence of the above behavior is, in part, influenced by the degree of presence experienced by users. The literature indicates that social interaction and communication in virtual worlds may be facilitated by the degree of presence engendered (Gerhart et al., 2004; Ornberg, 2003). A number of researchers have observed that regular interaction in virtual worlds frequently creates a strong sense of telepresence among users. This phenomenon is defined by Cherny, (1999, p. 156), as the sense of “being in a third world created by the media system” and its operation has been identified as an important factor influencing the success of online encounters. Schroeder (2002, p. 4) has extended this concept to incorporate the positive feelings engendered by multi-participant interaction in virtual environments. Although users interacting in (for example) a MOO may be separated geographically, the sense of immediacy provided by the communication frequently creates co-presence that is a “sense of being together” in a virtual environment. In the context of exploring the potential of MOO-based CALL, a number of researchers have discussed these phenomena (Schwienhorst, 1998; Shield, 2003). Although research is in its early stages these researchers have claimed that regular interaction in MOOs supports the development of these

¹⁰ These features of interaction in MOOs will be examined at a later stage of this discussion.

beneficial phenomena, as it appears they enhance self-disclosure and development of the collaborative inter-personal relationships necessary for successful communication in online environments.

A further influence on social interaction in CMC is that, although message length varies, there is a tendency (reported in studies of NS interaction in other forms of real time CMC such as IRC) toward brevity. As Werry (1996) notes, message size in synchronous CMC is influenced by such factors as:

screen size, average typing speed,.....competition for attention, channel population and the pace of ...conversations. (p.53)

These factors frequently result in the production in studies involving NS participants, of messages that are shorter than those found in asynchronous forms of CMC such as e-mail (Cherny, 1999, p.153), where users have more time. However, this situation frequently results in a high degree of interactivity, in the sense of what Cherny (1999, p. 155) describes as “the feeling of engagement and immersion that a system may evoke in its users.” There is evidence in the literature involving NS-NS interaction in CMC (Simpson, 2002), that the frequent exchange of messages in real time can contribute to the development of not only co-presence but also this feeling of immersion. This sense may be reinforced because MOO environments, unlike for example IRC and MSN Messenger, are permanent theme-based virtual worlds (Shield, 2003, p.102). In contrast to IRC and MSN Messenger, MOOs contain orthographic and graphical representations of physical environments. This unique aspect sets MOO worlds apart from most other forms of synchronous CMC environment currently used in CALL and, in the case of the Schmooze MOO, presents learners with a potentially powerful learning metaphor modeled on the real world (a University campus). Moreover, in MOOs users can not only communicate, but also traverse a virtual landscape (move between virtual locations or “rooms” in the environment). Research on virtual reality (VR) environments suggests that frequent interaction in and exploration of virtual worlds fosters a sense of immersion in an environment (Ornberg, 2003). In a further unique feature of MOOs, users can add new content to the MOO database, an activity called building. Researchers suggest that this feature of MOOs supports a powerful form of learning, as users can collaborate in order to plan and create personally meaningful artifacts (Schwienhorst, 1997).

As I have noted previously, communicating, moving and building in MOOs is made possible by a set of user-friendly text commands unique to the MOO environment. Research further indicates that MOO environments can be perceived as not only dynamic, but also as learner centered social spaces. The studies I reviewed in chapter 3, reported that frequent communication of personal information (Donaldson & Kötter, 1999; Von Der Emde et al., 2001) in MOOs

may support the development of interpersonal relationships (Donaldson & Kötter, 1999). These findings have led researchers to suggest that the communication features provided by MOOs, such as, access to pseudonyms and accessible commands, facilitate a more intimate form of interaction than can be found in other forms of real time CMC-based environment utilized in CALL.

Researchers report that the user-created nature of MOO worlds coupled to their apparent suitability for collaborative interaction contributes to a stronger sense of permanence and community than may be found in other forms of CMC environment (Kötter, 2003; Schwienhorst, 1998; Shield, 2003). However, as I have observed in chapter 3, there is at present little research on the nature of learner-learner interaction management in MOOs and on the wider issue of the potential of these environments as platforms for CALL projects involving this type of learner interaction. The features of MOO-based CMC discussed in this chapter are reproduced in table 6.1:

Table 6.1 Features of MOO-based CMC Location in text

Technical features	
Permanent theme-based virtual world incorporating a text-based virtual geography	Chapter 5 section 5.2
Typed interaction (but dynamic, the screen scrolls)	Chapter 6 section 6.1.1
All text displayed on a single screen	Chapter 6 section 6.1.1
Messages cannot overlap, exchanges (interactions related to the general discourse topic occurring in real time) frequently do so	Chapter 6 section 6.1.1
Interruptions cannot occur	Chapter 6 section 6.1.1
Lag can occur	Chapter 6 section 6.1.1
Users often located in separate geographical locations	Chapter 3 section 3.5.5
Temporal features	
Interaction takes place in a novel kind of real time where there can be delays between messages	Chapter 6 section 6.1.1
Topics can decay	Chapter 6 section 6.1.1
Temporal co-presence with interlocutors	Chapter 6 section 6.1.2
Interaction management features	
Users can take turns at will	Chapter 6 section 6.1.1
Multiple conversations co-occur	Chapter 6 section 6.1.1
Multiple threads can exist	Chapter 6 section 6.1.1
Absence of prosodic cues (no access to verbal information)	Chapter 6 section 6.1.1
Adjacency pairs can occur	Chapter 6 section 6.1.1
Disrupted turn adjacency is probable	Chapter 6 section 6.1.1
Lack of the simultaneous feedback that regulates face-to-face communication. As the interaction occurs online the only visual feedback is provided by text.	Chapter 6 section 6.1.1
Potential for anonymous interaction (messages can be sent anonymously through the use of pseudonyms)	Chapter 6 section 6.1.2
One channel medium	Chapter 6 section 6.1.1

Multi-participant (users connected and communicating at the same time)	Chapter 6 section 6.1.1
Messages exist until a participant logs off the system but data saving “logging” is possible. If logging is not set up messages are lost at the end of chat session.	Chapter 6 section 6.1.1
Message size tends to be short (although turn length is determined by the user according to the context)	Chapter 6 section 6.1.1
Range of MOO-specific text-based navigation and communication commands	Chapter 6 section 6.1.1
High degree of interactivity is possible	Chapter 6 section 6.1.2
Social features	
Frequent communication of personal information may lead to the development of interpersonal relationships	Chapter 6 section 6.1.2
Sense of community may arise between users	Chapter 6 section 6.1.2

As can be seen in the above table, MOOs would appear to possess a number of potential limitations as well as advantages as a platform for CALL projects. The contrasting features of MOO-based CMC identified in this chapter are summarized in table 6.2:

Table 6.2. Potential limitations and advantages of MOO-based CMC as an environment for language learning

Potential limitations	Possible advantages
Text only	Visual saliency of text supports monitoring. Learners can edit messages before sending
Disrupted turn adjacency and possibility of topic decay	Loose coherence presents opportunities to develop new forms of interaction. Specific MOO features (naming of users, specific commands) facilitate turn tracking
Delays	Learners provided with additional time
Presence of potentially confusing multiple exchanges	Opportunities to manage multiple interactions, scrolling, language play, interactivity
Absence of prosodic cues	Anxiety over pronunciation removed
Reduced social context cues and social constraints (possibility of anti-social behaviors such as flaming)	Opportunities to experiment. Anonymity encourages risk taking
Lean text only medium presents a barrier to the formation of interpersonal relationships	Anonymity may support identity manipulation the exchange of personal information and the development of interpersonal relationships

The above table shows that MOOs represent environments with potential in CALL. However, as I have noted previously, there is clearly a need for more research into the many issues raised by their use. One important area requiring investigation raised in this chapter, is the issue of establishing how interaction management operates in these environments particularly in the context of learner-learner interaction.

6.2 Issues in learner interaction management during MOO-based CMC

The discussion in this chapter has highlighted a number of issues that are of central importance in understanding the operation of learner-learner interaction management in MOO-based CMC. These are summarized below:

Issues in learner-learner discourse management in MOO-based CMC

Issue	Specific areas
Topic management	Topic initiation Address Turn tracking Floor Keeping Feedback Identity Social cohesion

In the following chapters, I will explore the above issues in order to achieve my wider goal of establishing how interaction management worked for learners interacting over a semester in the *Schmooze University* MOO. The first issue raised in section 6.1.1, is how learners can track turns in a new and different environment where communication breakdowns appear a real possibility. How do they avoid problems occurring under circumstances where multiple overlapping interactions co-occur, delays between turns are frequent and the sequential orientation of turns differs markedly from that in face-to-face communication? The discussion in section 6.1.1 raises the issue of how attention is signaled, feedback provided and the interaction sustained in the absence of paralinguistic cues. Moreover, what floor keeping strategies do learners employ during this type of multiparticipant CMC? A further issue concerns how subjects can manage to establish, and maintain, identity in an computer-based environment where the social context cues that influence communication in face-to-face communication are either absent or greatly reduced. Another area of in need of exploration is how learners interacting in a MOO are able to build and maintain the collaborative interpersonal relationships necessary for social cohesion to prevail. Finally, the previous discussion draws attention to the need to establish if learners engaging in regular interaction in the MOO can produce

the same coherent task-focused TL interaction that has been reported in a number of studies involving tandem learning in MOOs¹¹.

In the following data analysis chapters, I will show how the subjects overcame the challenges of communicating effectively in the new environment presented by the Schmooze MOO. They achieved this considerable feat in part, by utilizing features of the MOO designed to facilitate interaction. Moreover, they used a mix of discourse management strategies designed to avoid communication problems. Some of these were the direct result of the transfer of behaviors found in conventional forms of communication, whilst others were adaptive and incorporated novel linguistic devices appropriate to the computer-based nature of the interaction.

¹¹ These studies have been reviewed in chapter 3 section 3.5.5.

Chapter 7 The discourse management strategies used by the learners in session 5

7.0 Introduction

As I observed in chapter 2 (section 2.2), in interactionist research the “tools and devices of conversational maintenance” (Smith, 2003b, p. 35), have been labeled under the broad heading of communication strategies. In this research, I have differentiated between two types of communication strategy involved in the maintenance of interaction. The first, are language use strategies utilized in an attempt to resolve communication problems¹. The second, which are a focus of analysis in this chapter, are language use strategies designed to *avoid* communication problems. To prevent confusion, I have defined these as discourse management strategies. I have argued in chapter 2 that there are two types of discourse management strategy, which are related to specific functions in discourse. The first type, transactional strategies, facilitate efficient information transfer. The second type, interactional strategies, are designed to establish and maintain positive social relations. In this and the following chapter, I will answer research question 1, namely,

- 1) What discourse management strategies do learners utilize during real time typed interaction in a MOO-based virtual world?

I decided that this should be one of my research questions as my review of the literature on learner interaction in various types of real time CMC conducted in chapter 3, had revealed that this important area has yet to be the focus of extensive research. In line with my case study research methodology outlined in chapter 4, and in order to establish if there were any differences in strategy use over time, I shall seek to answer this question by undertaking discourse analysis of the learner transcripts collected during an early stage of this research (week 5)². In interpreting the data, I shall, in addition, draw on my observations, field notes and learner responses to the post-study questionnaire. In the next section (7.1), I provide background information on the four subjects who were the main focus of my analysis³. In section 7.2, I describe the task implemented in week 5. In the following section, I report on my analysis of the data and engage in discussion of my findings.

¹ I will explore the operation of these strategies in chapter 9.

² In the following chapter, I will compare discourse management at a later stage of this project.

³ Although this chapter focuses mainly on the strategy use of these subjects, the discussion will also examine when appropriate the behavior of other learners. A transcript is provided in appendix F.

7.1 Discourse management during week 5: subjects

As I have stated in chapter 4, the MOO project that I set up for my research brought together intermediate level learners of English from two different universities in Tokyo. The subjects who will be the focus of investigation in this chapter are 4 learners, two from each of the participating universities. The subjects chosen from Waseda University were “Aoi” and “Chika”, both Japanese female second year undergraduate students. Aoi was 19 years old while Chika was 20. Their counterparts from Tokyo University of Foreign Studies were “Mahatir” and “Starbuck”. These learners were also second year undergraduates. Starbuck was a 20-year-old Thai male and Mahatir was a 19-year-old Japanese female. Responses to the pre-study questionnaire indicated that, in common with the other participants, all of the above subjects were novice MOO users. However, like their peers they were all frequent computer users. In their post-study questionnaire responses, in common with the majority of the other subjects, these learners had expressed interest in studying English⁴. I selected this particular group of learners as the subject of in-depth analysis for a number of reasons. First, due to their similar ages and test scores, I considered these learners to be a good representative sample of the participants. Second, I observed that during the project these learners frequently worked together either in pairs or as a co-operating group. Third, in examining the data, I noted that the strategy use of this group frequently reflected that of the subjects as a whole.

7.2 Discourse management during week 5: task

The task type used in week 5 was opinion-exchange and consisted of two phases⁵. In order to raise awareness and stimulate ideas for the following discussion, the subjects were first requested to read a short newspaper article on economic problems in Japan. In the second phase, they were requested to express their opinions (agree or disagree) on the views expressed in the article. I decided to implement this task type at this early stage for a number of reasons. First, as the subjects were novice MOO users who had only recently completed 3 orientation sessions, it seemed appropriate to begin with a somewhat less challenging task type. Second, this task was similar to many that are employed in conventional classrooms and I therefore hoped that the learners would be familiar with it. Third, I hoped that the relevance of this topic to the subjects’ daily life would encourage them to share their opinions. Finally, my observation of the interaction in the previous orientation sessions coupled to responses to the pre-study questionnaire indicated that the learners appeared interested in English,

⁴ Analysis of the responses to this questionnaire shall be provided in chapter 10.

⁵ This task can be found in appendix E.

making it likely that this particular topic would elicit participation from all of the subjects regardless of variations in L2 proficiency.

7.3 Findings, analysis and discussion

In my analysis of the subjects' discourse management utilizing the procedures set out in chapter 4, I identified a total of 4 transactional and 4 interactional discourse management strategies from my list. As I had anticipated, the majority of these had been identified in the literature on NS and NNS interaction in various types of real time CMC. However, I also identified strategies that have not been reported in the literature on learner-learner interaction in MOOs. In this section, I identify and define these strategies. I comment on their frequencies during the session and over the project as whole. I explore, using illustrative excerpts drawn from the data, how their use contributed to the avoidance of communication problems and facilitated successful communication that resulted in the production of coherent TL output focused on the tasks. I demonstrate on the basis of evidence from my analysis, that interaction in MOOs provides valuable TL practice and opportunities to develop discourse management skills. I also show how social cohesion was established, and maintained, through the development of supportive interpersonal relationships.

7.3.1 Strategies for topic initiation and turn tracking: Addressivity

As I have noted in chapter 6 section 6.2, users of MOOs must overcome a number of challenges in order to effectively manage their interaction in an environment where multiple exchanges overlap and scroll in real time. As Negretti (1999) has observed, in types of real time CMC that involve interaction through the use of typed text, turns are rarely displayed sequentially leading to a situation where:

..interlocutors are forced to mentally follow the logical sequence of the different strands of the interaction, relying on the *name* (italics added) of the speakers and content of their turns. (p.82)

In this new environment, learners need to initiate interaction with potential partners. Moreover, in order to produce coherent discourse they must further track their own turns and those of their interlocutors. One transactional strategy identified in the literature on interaction involving NSs designed to deal with this situation is the use of addressivity. This strategy involves the explicit naming of the intended recipient of a message. As Werry (1996) notes when discussing his study of NS interaction in IRC:

it has become entirely conventional for speakers to indicate the intended addressee by putting that person's name at the start of an utterance. (p.52)

I examined the transcripts collected in session 5 for evidence of this strategy and found that 5 types occurred. In the following discussion, I provide evidence to demonstrate that addressivity was an effective means to achieve a number of transactional functions during the interaction.

The first type was the strategy identified by Werry (1996), of placing the name of an intended recipient at the beginning of a message. I discovered a total of 15 instances of this strategy during session 5 (see table 7.1). A typical example of this form of addressivity used to initiate interaction focusing on the task occurred during the early stages of this session. This instance involved the learners Reiji and Starbuck. In the interaction, Reiji utilizes this type of addressivity in a successful attempt to initiate interaction focusing on the task with a potential partner⁶:

(1) 1. reiji [Guest] asks, "**starbuck** did you read that article??"

(1 line of text)

2. starbuck [Guest] says, "yes,I read it."

This strategy also occurred after dyads or small groups were formed as in the following interaction from the later stage of the session:

(2) 1. chika [Guest] says, "**sturbuck**, I think thailand will be one of the economic power in the near future"

(11 lines)

2. starbuck [Guest] says, "yes, because if it`s going down to crisis I have to quit school and go back to my country."

In the above excerpt, a member of the subject group Chika, makes use of this type of addressivity as a means to track turns during her ongoing interaction with Starbuck. Though there is a delay caused by the nature of the MOO messaging

⁶ Note that henceforth lines of text not relevant to the interaction under discussion such as automatic system messages are in parenthesis. Features of interest are in bold. The transcripts for this session are located in appendix F.

system⁷ this strategy is eventually effective. Although 11 turns produced by other participants scroll down the screen, Starbuck is able to identify Chika's message and respond appropriately. A further interesting individual variation in the use of this strategy can be observed in the behavior of another member of the subject group Aoi, who put her own name as opposed to her partner's name at the beginning of her messages, as in the following example that occurred in the early stages of the interaction:

(3) 1. aoi [Guest] asks, "**Aoi** Hi! everyone.i joinyou?"

Aoi continued with this strategy for the early part of the session and then dropped it later on. The reasons for this unique behavior are difficult to establish with certainty. However, I noted in my field notes that this subject took considerable time in composing and then posting her messages. Examination of the transcripts confirmed this observation. There were, on occasion, long delays between her postings particularly during the early stage of the session. Moreover, I also noted that during the session this subject appeared to experience difficulty in tracking her turns. This finding suggests that she may have adopted this strategy as a turn tracking device.

My analysis revealed the presence of another type of addressivity in the data, namely the strategy of placing a recipient's name at the end of a message. This strategy was the third most frequent type of addressivity identified in the data for the both the subject group and the other learners. As can be seen in table 7.1, 13 instances were identified. A typical example occurred during the early stage of the session when it was used to initiate interaction and in a response:

(4) 1. mahatir [Guest] says, "hi, **sen**"

(1 line of text)

2. sen [Guest] asks, "How are you today,**mahatir**?"

Another instance took place at a later stage during an on going group interaction involving Chika and Aoi:

(5) 1. aoi [Guest] asks, "oh really? did you go to thailand?"

⁷ As I have noted in chapter 6 (section 6.1.1), this situation is caused by the one way messaging system utilized in MOOs where unlike in two way systems messages are not visible as they are being composed. In MOOs messages are only posted after they have been received and processed by the server.

(7 lines of text)

2. chika [Guest] says, "twice, but I dont know about the politics... **aio**"

(6 lines of text)

3. aoi [Guest] says, "I heard in Thai , twice in a day, national song is sung in radio, and the thai people sould respect their king Pumipon. Is it true?**chika**"

The above interaction provides evidence of how this type of addressivity provided an efficient means to facilitate turn tracking. As can be seen in the above example, although there is a delay between moves 2 and 3, the use of this strategy enabled these subjects to track their turns during the real time interaction.

A further type of addressivity that appeared in the data involved placing the name of an interlocutor in the middle of an utterance⁸. In examining the data, I found that this type of addressivity was infrequent. As table 7.1 shows, the subject group made use of this strategy on only 4 occasions during the session. An example took place towards the end of the session when Aoi and Starbuck were contributing to a group discussion on the nature of the monarchy in Thailand and Japan that had developed from the earlier interaction:

(6) 1. aoi [Guest] says, "really? I think it is true that by adopting strong nationalism,japan was succeed modernization, but its lead japan wrong way; world war 2. therefore i think it is great that thai is making a prosess to modern country without falling wrong way like japan.>starbuck "

(7 lines of text)

2. Starbuck [Guest] says, "no no **aoi**. Our country King is quite different from Japan. King doesn`t concern in politics."

(30 lines of text)

3. aoi [Guest] says, "I understood that **starbuck**. i wanted to say that in japan before world war, people had respect loyal family by militaly. but Thai people respects king naturally ,doesnt it. "

(5 lines of text)

⁸ I am grateful to Dr. Hugh Trappes-Lomax (personal communication) for bringing this to my attention.

4. starbuck [Guest] says, "yes,aoi."

As can be seen above, there is a long delay between Starbuck's utterance made in move 2 that incorporates this type of addressivity and the response. However, this situation did not lead to the topic decay that has been reported in studies of NS-NS interaction in chat rooms (Herring, 1999). The response produced in move 3 also contains this type of addressivity. This interaction shows how the strategy of placing the name of an intended message recipient in the middle of a message like the other types of explicit addressivity discussed previously, enabled the learners to reconnect with the sequence of turns when delays occurred. As the above example shows, this strategy facilitated turn tracking and the production of coherent discourse.

A final type of addressivity identified in the data for this session was zero addressivity. As table 7.1 shows, this was the most frequent type of addressivity utilized by the subject group with 60 instances identified. The type was also the most frequent among the other participants. My analysis of the data revealed that zero addressivity prevailed in a number of specific circumstances. Addressivity was omitted in messages directed at the group as whole. Typical examples occurred during forms of collective address employed during greetings:

- (7) 1. starbuck [Guest] arrives through the heavy oak doors that enter from the mall.
- 2.starbuck [Guest] looks at the map of schMOOze.
- (4 lines of text)
3. starbuck [Guest] says, "hi all"

A similar convention operated during leave-takings as in the examples below:

- (8) 1. mahatir [Guest] exclaims, " good bye.see you!"
- (1 line of text)
2. chika [Guest] says, "I have to go. see you next time."
- (8 lines of text)
3. starbuck [Guest] says, "I have to go now. Bye all"

Zero addressivity further occurred during appeals to the group:

(9) moo [Guest] asks, "Can I join your conversation?"

Romy [Guest] says, "Hi everybody, what do you think about that statement? I want to know your opinions.""

This type of addressivity was prevalent during the main stage of the session after dyads and small groups had formed. During this stage of the interaction, members of the subject group and the learners as whole, frequently utilized this strategy, as can be observed in excerpt 10:

(10) 1. mahatir [Guest] says, "I don't think information is limited, specially to developed country"

(1 line of text)

2. reiji [Guest] says, "yes and no, amount is not limited, but content is bias....."

(1 line of text)

3. mahatir [Guest] asks, "I see, you means masscommunications and government handles information, right? "

(1 line of text)

4. reiji [Guest] says, "yes, sometimes they do intentionally, sometimes occasionally"

(1 line of text)

5. mahatir [Guest] says, "But, I think Japanese are tend to influenced easily"

A likely explanation for this phenomenon is provided by Werry (1996), who observes that:

Sometimes the content of a message provides sufficient cohesive force such that it is clear who a statement is intended for without them needing to be explicitly named. (p.53)

The interaction in excerpt 10 provides evidence to support this claim. As can be seen above, both subjects appear highly engaged in an on-going interaction. They respond rapidly to each other's utterances (within 1 line of text) and the

content of their messages makes clear the intended message recipient.

The data examined in this section has demonstrated that the 4 subjects (and the other learners) utilized 5 types of addressivity during the session. The frequencies of each type are provided in the following table:

Table 7.1. Frequencies of the 5 types of addressivity in session 5

Type of addressivity	Name at beginning of a message	Name at the end of a message	Name in the middle of a message	Zero	To command	Total (all types) for the 4 members of the subject group	Total (all types) for all 14 subjects
	15	13	4	60	0	92	235

As can be seen in table 7.1, addressivity was utilized extensively by the four subjects with 92 instances identified in the data. As I shall show in section 7.4, this was most the most frequent transactional strategy. My analysis further reveals the presence of 4 types of addressivity. The data in this table shows that zero addressivity was the most frequent. As I have shown in excerpt 10, it became clear that once pairs and small groups had been established the learners were, for the most part, able to track each other's messages. However, the presence of the types of addressivity that involved the naming of an intended message recipient provides evidence that there were periods of the interaction where the subjects found it necessary to resort to the more explicit types of addressivity⁹. Excerpts 1 and 2 show that the subjects employed the type of addressivity that involved placing a recipient's name at the beginning of a message during the early stages of the session, as a means to initiate interaction focusing on the task. Moreover, as I have observed in the discussion of excerpts 5 and 6, there were occasions when the learners placed the name of their interlocutor at the end or more rarely in the middle of an utterance, as a means to support turn tracking and reconnect with the sequence of turns during delays. It appears that at this early stage of the project the features of the MOO designed to facilitate discourse management such as the automatic naming of a sender and the use of quotes did not completely remove the need for these explicit types of addressivity. As noted in the discussion of excerpt 3, the subjects who were, at this stage, still novice MOO users were clearly experiencing some problems in tracking turns. Indeed one learner made the following comment during the early stages of the interaction:

⁹ This result was confirmed by my observations of the interaction.

- (11) moo [Guest] asks, "Everyone,when you say some opinion,you have to make clear to whom you talk with.Otherwise,we will get confused,right?"

However, the types of explicit addressivity identified in this section that have not been reported in the literature on learner-learner interaction in MOOs functioned as effective turn tracking devices. A further interesting feature of the data that can be observed in table 7.1, was the absence of any evidence for the type of addressivity provided by the *to* command. As I noted in chapter 5, this MOO-specific command is designed to support turn tracking by making messages more easily visible on screen. A probable explanation for the subjects failure to utilize this strategy may have been that they were unaware of its existence. This is a not unreasonable assumption as, at this stage, the learners were still novice MOO users. A further possibility may be that they found this command difficult to use. However, as I will show in the following chapter, as the project progressed the learners made extensive use of this command, a finding that provides evidence indicating how they became increasingly proficient users of the MOO environment.

7.3.2 Strategies for floor holding: Split turns

In oral communication, speakers have a number of devices at their disposal in order to display a desire to continue. For example, body language, facial expression and intonation can signal that someone has not yet finished. If these fail, a speaker can continue speaking. However, the above nonverbal and paralinguistic cues are not available to users of the MOO environment. Moreover, a user cannot simply keep typing because, as in other types of real time CMC, in MOOs there are limits on message length (Holmevik & Blanchard, 2001) imposed by the system (in the case of this research, these included server capacity and PC processor speeds). Users of MOOs must therefore find other means when they wish to hold the floor during on going multiparticipant interaction (Garcia & Jacobs,1999). The literature on NS interaction in types of text chat such as IRC has identified the transactional strategy of:

interrupting one's own sentences-typically in places where it is quite clear that they are not yet complete. (Hentschel, 1998,p.10)

It has been argued that this strategy of splitting turns is an effective means by which users can achieve this goal. This was certainly the case in Hentschel's study where it was used to prevent others contributing to the discussion. It has further been argued, most notably by Simpson (2002), that this strategy may also be beneficial. Simpson argues that its use may produce positive effects by enhancing the sense of interactivity experienced by users of a CMC system.

An example of the use of this strategy occurred in the early stages of the session, when Mahatir used a split turn in order to respond to an interlocutor and move the interaction forward:

- (12) 1. Hasan [Guest] asks, "If we keep concervative attitude,then the situation can never be better.Everyone what do you think??"

(6 lines of text)

2. mahatir [Guest] says, "hasen, you're right! now we have to do something""

3. mahatir [Guest] says, "i am worry about japanese stock market" "

In this interaction Hasan makes a statement and follows this with a question designed to elicit a response from the group. After a delay Mahatir responds. In his first move, he responds directly to the statement made previously by Hasan. In the next, he attempts to drive the interaction forward by introducing a new but relevant topic. A further use of split turns also involving Mahatir occurred in a group discussion at a later stage of the session. This instance shows how the subjects used split turns to participate in and manage different on-going exchanges:

- (13) 1. mahatir [Guest] exclaims, "Ya, That's why US want to occupy midle east!"

2. starbuck [Guest] says, "the central of Thai people is King."

3. aoi [Guest] says, "really? I think it is true that by adopting strong nationalism,japan was succeed modernization, but its lead japan wrong way; world war 2. therefore i think it is great that thai is making a prosess to modern country without falling wrong way like japan.>starbuck "

(1line of text)

4. reiji [Guest] says, "US is so big country....."

5. reiji [Guest] says, "some people in America will die without seeig abroad whole thier life"

(1 line of text)

6. mahatir [Guest] exclaims, "aoi, that's right. and if thai grow up enough, be carefull not to be individualism!"

7. mahatir [Guest] asks, "Reiji, is it true?"

8. reiji [Guest] says, "yes , even japan is so....."

In moves 4 and 5, Reiji who has been involved in an on going interaction with Mahatir, makes use of a split turn in order to provide additional information¹⁰. Mahatir responds a line later. However, the first line of his split turn is not a reaction to his interlocutors' recent statements. Instead, he first responds to a statement made previously by Aoi that was directed at another learner. Only in the next move does he react to Reiji's second utterance. This strategy appears effective in eliciting a response and moving the discourse forward, as in the next move Reiji responds with an appropriate utterance.

Another example of this use of split turns as a device to manage multiple interactions also appeared as the session was coming to a close:

(14) 1. mahatir [Guest] says, "But, I think Japanese are tend to influenced easily"

(5 lines of text)

2. starbuck [Guest] says, "`yes,mahatir Japanese are that kind of people.` said to japanese friend."

3. mahatir [Guest] exclaims, " good bye.see you!"

(2 lines of text)

4. aoi [Guest] says, "I understood that starbuck. i wanted to say that in japan before world war, people had respect loyal family by militaly. but Thai people respects king naturally ,doesnt it. "

(1 line of text)

5. mahatir [Guest] asks, "what do you mean ,star?""

(2 lines of text)

¹⁰ My analysis of the transcripts reveals that Reiji was the first and most frequent (7 instances) user of this strategy. The use of this strategy by other subjects may, in part, have been the result of them monitoring and copying his behavior.

6. starbuck [Guest] says, "whoops sorry. My Japanese friend said ` Japanese are tend to influenced easily`"

7. starbuck [Guest] says, "yes,aoi."

As can be seen in excerpt 14, Starbuck is involved in real time interactions with both Mahatir and Aoi. In line 5, Mahatir appears unsure of the meaning of Starbuck's rather ambiguous utterance made in move 2. After a short delay of 2 lines, Starbuck responds with a split turn. In the first turn, he makes a statement designed to clarify the statement he made in line 2. However, he is also involved in an on going interaction with Aoi. In his second turn, he makes an utterance (incorporating addressivity) directed to Aoi that indicates understanding and agreement.

As can be seen in table 7.2, split turns were infrequent. Members of the subject group made use of this strategy on only 5 occasions during the session.

Table 7.2 Frequency and use of split turns during session 5

	Change of function	Providing additional relevant information	Managing multiple interactions	Total for the 4 members of the subject group	Total for all 14 subjects
Frequency	2	1	2	5	14

Although the use of this transactional strategy was limited, it nonetheless contributed to the discourse management. As the instances analyzed in this section show the subjects in this session did, as suggested in the literature, use split turns as a floor holding device. However, they did not use this strategy in an attempt to prevent others from contributing as was the case in Hentschel's study (1998). On the contrary, they utilized it as an efficient means to respond, change the function of the discourse or provide additional new information relevant to the discussion. The data discussed in this section provides evidence that, in a difference from the behavior reported in some studies involving NS-NS interaction in chat, the subjects further used split turns as an efficient means to manage real time interactions with multiple interlocutors. This finding was unexpected (see discussion in chapter 4 section 4.6.3). I had anticipated that due to the subjects' limited L2 proficiency and experience of MOOs they would most likely focus mainly on interacting with one partner for the majority of the sessions. This finding highlights one of the ways in which the subjects adapted their strategy use to meet the demands of the online communication environment presented by the MOO. It further demonstrates that even at this relatively early stage of the project the learners were monitoring each

other's strategy use and responding in innovative ways in order to meet the challenge of managing their interaction in this new environment.

7.3.3 Strategies of time saving

Researchers who have studied multi-participant NS interaction in real time CMC have noted that, during occasions when messages scroll rapidly, users need to utilize transactional time saving strategies. In discussing this phenomenon Murray (2000) observes:

CMC users employ strategies that reduce the time needed to write the message. (p. 402)

Murray argues that these strategies are frequently necessary, particularly during large scale CMC in order to reduce response times and keep up with the interaction. In the above paper, she proceeds to identify a number of time saving strategies that have been identified in the literature on NS real time CMC:

the use of abbreviations-both standard back formations, such as info and tech, and acronyms, such as IMHO for in my humble opinion or F2F for face-to-face.

simplified syntax, such as subject or modal deletion. (p.402)

The above strategies have also been identified in Cherny's study (1999), of NS interaction in a social MOO environment reviewed in chapter 3 (section 3.5.3), where their prevalence was a distinctive feature of the interaction. As a result of these findings, I examined the data collected for evidence of time saving strategies.

As the data produced in table 7.3 show, I could identify no instances of the type of simplified syntax described by Murray.

Table 7.3 Time saving strategies during session 5

Strategy	Use of abbreviations	Use of acronyms	Simplified syntax	Total for 4 members of the subject group	Total all subjects
Frequency	3	0	0	3	12

During my initial examination of the data, I found a number of utterances that

appeared on first examination to be possible examples of this strategy. However, on closer examination these seemed to be typos or other errors that were later corrected within a few turns as in the following example:

(15) 1. moo [Guest] asks, "In a sense, he says we are too pessimistic but I think he wants to insist on that we are too optimistic, doesn't he?"

(2 lines of text)

2. reiji [Guest] says, "yes, hta"

3. reiji [Guest] says, "yes that is it ! moo"

There was limited evidence in the data for the use of abbreviation. The most frequent type was use of the letter *u* for you. I discovered 8 instances of this time saving abbreviation in the transcripts. A typical example can be observed in the following utterance used by Mahatir:

(16) mahatir [Guest] says, "starbuck, where are **u** from."

This learner also abbreviated the name of his interlocutor at the time (Starbuck) in an attempt to save time as the session was coming to a close:

(17) mahatir [Guest] asks, "what do you mean ,**star**?"

Another type of time saving strategy, the use of acronyms, appeared in the data, but infrequently. Only one member of the subject group, Mahatir, used it, and there were no examples of the Internet acronyms that are a well documented feature of NS chat (Murray, 2000; Werry, 1996). I could find only 2 instances of acronym use in the data. These were *LDP* (liberal democratic party) and *IT*. The infrequent use of time saving strategies identified in this research contrasts with the findings reported by Cherny (1999, p.92).

This difference may be due to a number of factors. The absence of the Internet acronyms and simplified syntax identified by Cherny most likely reflects the subjects' limited L2 proficiency and probable unfamiliarity with these aspects of NS communication conventions in real time CMC. The low incidence of abbreviation may be because that this study, unlike Cherny's, involved only a limited number of users, a situation that may have resulted in fewer messages, reducing, though not completely removing, the need for this strategy. My observations of the interaction provide evidence to support this interpretation of the data. I noted in my field notes for the session that during the main phase of the interaction the subjects seemed, for the most part, able to keep up with the discourse. I observed that messages appeared to scroll more

quickly during the opening of the interaction when the subjects were attempting to obtain partners and at the end when they were under time pressure to complete their discussions before the conclusion of the session.

This interpretation is further borne out by my analysis of the transcripts.

This revealed that the majority of time saving strategies (8) were utilized either in the opening or closing stages of the interaction.

7.3.4 Strategies of feedback

As I have noted in chapter 6, interaction in MOOs occurs through typed text in a virtual world where the forms of simultaneous feedback that facilitate oral communication such as paralinguistic cues are either absent or greatly reduced (Herring, 2001). In order to communicate, users must further utilize a number of text commands specific to the MOO messaging system. Moreover, they must manage the:

curtailment of the social context cues that are used in managing interactions. (Rintell & Pittam, 1997, p.529)

This situation raises the issue of how users of MOOs can signal attention and provide effective feedback. In her study of NS-learner interaction in a type of text chat, Negretti (1999) identified a number of what she described as “paralinguistic devices” that were utilized by the subjects to mimic the paralinguistic cues found in face-to-face communication in the online medium. The strategies she identified were as follows:

capital letters, emoticons, onomatopoeia, punctuation, little icons. (p. 85)

In the context of MOO-based CMC, researchers have further claimed to have identified the presence of similar transactional strategies. Cherny (1999) reported that the NS subjects in her study made frequent use of a number of adaptive strategies designed to provide feedback and facilitate interaction management. She defined these strategies as “back channels” and identified the following examples in her data:

In the discourse of the MOO, the routine utterances that I will call back channels are slightly different from those found in face-to-face conversation: they include some nonlexical imitations of speech sounds or laughter (“Tom hehs”), and some lexical descriptions of behaviors that are back channels “in real life” (“lynn nods”). (p.185)

In line with my research methodology outlined in chapter 4, I examined the data for the presence of feedback strategies. As table 7.4 shows, I identified 5 types of feedback strategy.

Table 7.4 Feedback strategies during session 5

Strategy	Total for 4 members of the subject group	Total all subjects
Upper case	4	5
Exclamation marks	17	39
Exclamations	1	5
Suspension dots	4	9
Emoticons	2	2
Total	28	60

One feedback strategy I identified in the data that has also been reported in a study on tandem learning in MOOs (Kötter, 2003) was the use of upper case. This strategy was designed as Negretti (1999) notes to “indicate loudness of speech” (p.84). An instance occurred during the main phase of the session in an interaction involving Ryo and Reiji:

(18) 1. ryo [Guest] says, "If u were there, u will know the Japanese economic is not bad>reiji."

(4 lines of text)

2.reiji [Guest] says, "ryo. if you go to Ueno park, or some where like that in Osaka "

3.reiji [Guest] says, "you sil"

(1 line of text)

4. reiji [Guest] says, "you will be suspicious about what the economics crisis is"

(1 line of text)

5. ryo [Guest] asks, "Are u from **OSAKA**,reiji?"

(1 line of text)

6. reiji [Guest] says, "no, but my teacher was talking about homeless people inOsaka or Ueno park"

In this segment, Ryo makes use of upper case to mimic the effects of a loud voice in what is likely an attempt to display emphasis. This strategy is successful in eliciting a response from Reiji, who replies after one line of text.

Another instance occurred during a group interaction later in the main phase of the session:

(19) 1. starbuck [Guest] says, "I think American economics is in crisis so they need **OIL**..."

(5 lines of text)

2. mahatir [Guest] exclaims, "Ya, That's why US want to occupy midle east!"

In the above excerpt, Starbuck uses upper case for emphasis and to attract attention. He succeeds in his goal, as after 5 lines Mahatir responds with a comment about America. Table 7.4 shows that this strategy was infrequent in the data with only 5 instances recorded in the transcripts. A plausible explanation for this finding lies in the possibility that the subjects were aware of the NS chat convention where using upper case is perceived as shouting (Crystal, 2002). As I will discuss at a later stage of this thesis (chapter 9), the L1 background of the subjects and the context may have acted to restrict the use of potentially risky strategies. As the majority of the subjects were Japanese learners based in Japan, a culture where maintaining face and status with interlocutors is important (Lebra, 1979), they appeared conscious of the need to avoid engaging too frequently in behaviors that carried the risk of creating a negative atmosphere¹⁰.

Analysis of the transcripts revealed the presence of another feedback strategy, which is common in NS chat (Werry, 1996), but has not been reported in the literature of learner-learner interaction in MOOs, namely, exclamation marks. This finding contrasts to results reported in Weininger & Shield (2003, p. 340). Table 7.4 reveals that this was the most frequent feedback strategy identified in the transcripts. Their use appeared to be an attempt to signal what pitch and intonation indicate in speech. As the following examples show, this strategy was further associated with the display of a positive enthusiastic attitude and with expressions of agreement:

(20) aoi [Guest] asks, "Aoi Hi! everyone.i joinyou?"

(21) chika [Guest] says, "sure!aoi"

¹⁰ This strategy was also employed by Ryo see excerpt 29 move 7.

(22) reiji [Guest] says, "yes that is it ! moo"

As can be observed above, exclamation marks were utilized during greetings presumably to show a friendly attitude.

My analysis revealed that the use of this strategy was noticeable during the opening stages of the interaction.¹¹ The other strategy associated with displaying the above types of feedback identified in the data was the use of exclamations such as *oh* and *uhhhh*. However, compared with exclamation marks, these were infrequent with only 5 instances recorded in the transcripts. An example occurred during an interaction between Chika and Aoi, when Aoi used the exclamation *oh* to display surprise:

(23) 1. chika [Guest] says, "aoi, I'm interested in the Thai politics, too"

(2 lines of text)

2. aoi [Guest] asks, "**oh** really? did you go to thailand?"

Exclamations were also used to display uncertainty as in the following example that occurred during an interaction between Romy and Reiji¹²:

(24) 1. Romy [Guest] says, "what do you think about north Korea's problem?_"

(1 line of text)

2. reiji [Guest] says, "**uhhhh**, that is complicated....."

The reasons for the absence of exclamations in much of the data are difficult to determine from the transcripts. However, a partial explanation for this finding may be that it reflects the L2 proficiency of the subjects. As intermediate level learners based in Japan, they most likely possessed only limited knowledge of NS exclamations. A further possibility that I explore in the next section may be that the subjects found alternative strategies to express these cues.

Studies of NS interaction in text chat have noted that a strategy utilized by users to display the types of feedback that occur in oral communication is the creative use of non standard typography (Werry, 1996). Simpson (2005, p. 2) claims a common example of this strategy occurs in NS chat, where subjects use strings of dots, known as suspension dots, in an apparent attempt to signal auditory

¹¹ I will examine the nature of greetings in more detail at a later stage.

¹² This interaction also contains an interesting use of typography that will be examined at a later stage of the discussion.

effects such as pauses that occur in speech¹³. Although my review of the literature on learner-learner interaction in MOOs suggested that this strategy would be unlikely, my preliminary investigation of the data revealed its presence. In subsequent examination of the data, I discovered that the learners used this strategy to signal two specific types of feedback. The first type, described previously, was the use of suspension dots to indicate a pause. I identified 5 instances of this strategy in the data. A typical example produced by Chika, can be observed in excerpt 25:

(25) chika [Guest] says, "or, some young people respect the TV stars... it's woeful>hasan"

Another slightly less frequent use of this strategy that occurred on 4 occasions during the session was to signal uncertainty. As I noted in the discussion of excerpt 24, Reiji made use of this strategy and it was identified in interaction involving other learners. Another example occurred during an earlier interaction involving Reiji and Starbuck:

(26) 1. reiji [Guest] says, "why japanese people are so pessimistic as the writer said"

(4 lines of text)

2. starbuck [Guest] says, "mm I don't know I'm not japanese..(-_-;"

(2 lines of text)

3. reiji [Guest] asks, "starbuck did you read that article??"

(1 line of text)

4. starbuck [Guest] says, "yes,I read it."

In the above segment, Starbuck uses suspension dots to signal uncertainty¹⁴. As can be seen above, this strategy is successful. After 2 lines scroll, Reiji in an appropriate response, uses a clarification request in an attempt to confirm if Starbuck has read the article that was a requirement of the task.

¹³ In his more recent work Simpson (2005) has identified a further use of suspension dots, namely, the "omission of unnecessary text" (p. 2). However, I could find only one instance of this strategy in the data for session 5.

¹⁴ He also uses an emoticon or smiley. The use of strategy will be examined in the following discussion.

Studies on NS interaction in text chat and MOOs report that users frequently implement combinations of keyboard symbols known as emoticons to replicate onscreen facial expressions and to signal related emotional states (Baym, 1995; Cherny, 1999). I discovered the presence of this feedback strategy in the data for session 5. However, it was rare with only 2 instances appearing in the data. As I noted in excerpt 26, Starbuck used an emoticon to signal uncertainty. This subject used a different emoticon at a later stage of the session, as can be seen in excerpt 27, this was intended to display a negative feeling in this case unhappiness:

(27) 1. mahatir [Guest] says, "now, all over japan, we feel that we have to save money for our future""

(6 lines of text)

2. starbuck [Guest] says, "There is a problem about saving money. Japanese Bank is so !!!!!!! :("

I have noted in chapter 4 that the presence of emoticons and suspension dots was unexpected (see discussion in section 4.6.3) and may be due to the learners being novice MOO users who were still coming to terms with the environment. Moreover, as they were intermediate learners with only limited L2 competence I had not anticipated that these strategies would occur. Although infrequent, their presence demonstrates that even at this relatively early stage of the project, the participants were adapting their strategy use in a creative way in order to meet the constraints imposed by the computer-based nature of the interaction in the MOO environment.

7.3.5 Strategies used to attract attention, establish and maintain speaker identity, presence, co-presence: use of character names

In chapter 6, I have emphasized that users of multiparticipant virtual worlds need to establish a distinct online identity in order to distinguish themselves for other users. They have to do this in a communication environment where many of the sociolinguistic and visual cues that influence communication in face-to-face encounters such as age, sex and social status are either absent or greatly reduced. As Bays (1998) observes:

Presence is needed (in CMC) on a physical and cognitive level to create interactional structures and for the creation of the self/identity within this interaction. (p.59)

Moreover, as has been noted by a number of authors (see for example Werry, 1996), users of real time CMC that involves communication through typed text have to compete for attention. They also need to signal a desire to interact and create a positive impression with potential interlocutors. Recent research suggests that users of MOOs and other types of real time CMC that involve interaction through disembodied text, must find ways to establish an individual presence if they are ultimately to engage in successful interaction involving the establishment and maintenance of co-operative interpersonal relationships (Gerhart et al., 2004; Ornberg, 2003; Schroeder, 2002). Due to the computer-based nature of MOOs users can only utilize strategies involving typed text in order to achieve the above goals. My analysis of the data suggests that one of the most effective (and efficient) interactional strategies utilized by learners to achieve these goals was the adaptive strategy of user-selected pseudonyms.

In the discussion in chapter 5, I have shown that MOOs provide for anonymity by enabling users to create individual pseudonyms known as character names. These names, which cannot be shared, provide learners with the opportunity to adopt a unique online identity. They further provide opportunities to engage in identity manipulation through experimentation with new online personae. As mentioned in chapter 3, it has been claimed this aspect of interaction in MOOs represents a potential advantage of this type of environment in CALL as it reduces risks to face¹⁵. Moreover, it has been argued that this feature of MOOs and the accompanying reduction in social constraints brings a number of advantages, including enhanced autonomy, more candid self-expression, risk taking and opportunities for experimentation that would be difficult to create in conventional classroom environments (Donaldson & Kötter, 1999; Shield, 2003; Schwienhorst, 2002; Von Der Emde et al., 2001). In contrast, the literature on multi-participant NS real time CMC emphasizes that particularly in interaction involving large numbers, users frequently resort to extreme attention gaining strategies such as the use of provocative or obscene pseudonyms (Hentschel, 1998). The absence of the social context cues described above, and the accompanying reduction in social constraints, can further lead to instances of anti-social behavior involving the posting of offensive or derogatory messages popularly known as flaming (Herring, 1994).

The selection of a name in MOOs clearly has the potential to influence the success of future interaction as Rintel & Pittam (1997) observe when discussing IRC:

¹⁵ However, my data provides evidence to suggest that interaction in MOO-based CMC does not completely remove the need for facework. See discussion in the later stage of this chapter.

In the orthographic environment of IRC, the choice of name, as the first impression making device a user has, becomes highly significant in the construction of both an IRC persona and for the perceptions about other interactants. (p.512)

Moreover, the choice of name not only shapes initial impressions and the development of interpersonal relationships, but it also provides a means to assert individuality as Bays (1998) states (in reference to IRC):

All manner of sociological cues can be surmised from the information packed in a name, for example, if the user is male or female if he has read William Shakespeare or William Gibson, for example, or what his general interests, class, or approximate age may be. (p.9)

I examined the data to establish if the subjects would make use of pseudonyms in order to establish an individual presence, attract attention, take risks and engage in candid self-expression. I explored the selection of particular online names in order to establish if any of the learners engaged in identity play as has been suggested in the literature on tandem learning (Von Der Emde et al., 2001). I further examined the data to establish if this strategy contributed to effective interaction management.

As table 7.5 shows, 4 of the learners used their real names in the MOO during session 5. A majority of the learners (8) made use of unique user selected character names.

Table 7.5 Instances of real name and pseudonym use in session 5

Number of subjects	Number of subjects who utilized a character name	Number of subjects who utilized their real name
N=12	8	4

I also examined the use of pseudonyms by the subject group. My analysis revealed that 2 members of the group made use of character names adopting the pseudonyms Starbuck and Mahatir. The other members of the group, Aoi and Chika, did not. Analysis of the transcripts revealed that the majority of the learners who utilized a character name selected one that bore no relationship to their real world name. Typical examples included *Mooo*, *Romy*, *Hasan*, *Mart* and *Starbuck*¹⁶. Moreover, there were no examples of the provocative character names that have been reported in studies of NS text chat (Hentschel, 1998). The strategy of using pseudonyms appeared an effective means to establish a unique individual identity and attract attention. Evidence in support of this

¹⁶ Two subjects utilized the Japanese male names Masao and Reiji.

interpretation can be found in the data. All of the subjects who adopted an imaginary name succeeded in attracting attention in the form of messages from other participants. As can be seen in the data samples examined in this chapter, all of these learners engaged in message exchange during the session. I could find only limited evidence in the transcripts to confirm the assertion made in the literature that the adoption of pseudonyms encourages learners to significantly increase risk taking in their L2 (Von Der Emde et al., 2001)¹⁷. However, as the majority of the learners did adopt character names, this shows that they were willing to experiment, to a degree, with new online identities. As I will show at a later stage of this discussion, there was some limited evidence in the data to support this assertion.

In an encouraging finding, that confirms the results reported in studies of tandem learning in MOOs (Von Der Emde et al. 2001), the adoption of pseudonyms supported a significant amount of candid expression. The participants in this session engaged in the frank exchange of views on occasions during the session as can be seen in the following interaction that involved Chika, Starbuck and Hasan expressing opinions on the content of the task (economic conditions in Japan):

- (28)
1. Hasan [Guest] says, "still I think all we are rich enough,I've seen more serious situation."
 2. starbuck [Guest] says, "I think that now Japanese economics is quite really bad."
 3. chika [Guest] says, "I think the optimists looks only the faces of the Japanese economy"

A further noticeable and positive feature of the interaction, were the sustained periods of lively and substantive discussion involving the exchange of personal opinions related to the task. A typical example involved Ryo, Reiji and Chika:

- (29)
1. ryo [Guest] says, "I think that Japan is not faced the economic crisis,reiji."
 2. reiji [Guest] says, "we are pessimistic but on ont"
 3. ryo [Guest] says, "Not yet."
- (1 line of text)

¹⁷ There was, however, some use of humor this will be discussed in section 7.3.6.

4. reiji [Guest] says, "ryo, yes , but noone knows it will happen or not....."

(1 line of text)

5. chika [Guest] says, "ryo, I dont think so. Japan's curcumstances will go worse and worse"

6. ryo [Guest] asks, "Have u been to the ROPPONGI HILLS,reiji?"

7. reiji [Guest] says, "who expected that crisis in Korea 1997 "

(1 line of text)

8. reiji [Guest] says, "yes only onece>ryo"

(2 lines of text)

9. ryo [Guest] says, "If u were there, u will know the Japanese economic is not bad>reiji."

(4 lines of text)

10. reiji [Guest] says, "ryo. if you go to Ueno park, or some where like that in Osaka "

(2 lines of text)

11. reiji [Guest] says, "you will be suspicious about what the economics crisis is"

The presence of this type of interaction in the data suggests that the use of pseudonyms reflected a desire on the part of the majority of the learners to express their opinions in an uninhibited manner¹⁸. There is evidence in the questionnaire data to support this interpretation. As the discussion in chapter 10 (section 10.3.6) will show, half of the participants claimed that the use of pseudonyms enabled them to express their opinions more freely than would be the case in a regular class. This finding further emphasizes that although the anonymity provided by character names reduces social context cues and encourages self-expression, it does not completely remove social restraints. I observed that through the session the subjects were eager to express opinions but at the same time, in a strategy that reflects the L1 background of the majority

¹⁸ In the above interaction, one of the participants Chika used their real name.

of the participants, they were careful to avoid conflicts and managed disagreements amicably without resort to extreme behaviors such as flaming¹⁹.

As I have stated previously, I examined the subject's choice of individual name for any evidence that the choice of a specific name reflected a desire to adopt a radically new on line persona and engage in novel behaviors that have been identified in the literature such as, for example, role play (Shield, 2003; Von Der Emde et al., 2001; Warner, 2004). I noted in my field notes, that one of the female subjects based at Waseda University utilized a male Japanese name. Moreover, I observed that the subject who adopted the Malaysian male name Mahatir was in fact a Japanese female²⁰. Analysis of the transcripts revealed that this subject made an attempt to engage in role play during the session:

(30) mahatir [Guest] says, "**In Malaysia**, university students have big admire, they said I wanna be prime minister, doctor , engineer. But I rarely meet such a Students in Japan."

However, the other learners did not respond to this aspect of the message and as a result this effort was not sustained. The presence of this strategy, coupled to the finding that most of the learners adopted character names that bore no relationship to their real world name represent encouraging findings, as although the learners did not engage in a great deal of risk taking during this early session, the data shows they were willing to experiment in their L2 by adopting new online identities.

In another case, the discovery by the group of the real nationality of a subject acted as a stimulus to discussion. In the following interaction, the real life nationality of a member of the subject group who used the American associated name Starbuck is revealed:

(31) 1. mahatir [Guest] says, "starbuck, where are u from""

(2 lines of text)

2. starbuck [Guest] says, "Thailand."

This response sparks a lively group interaction focusing on Thailand that had evolved from the early discussion on Japan. This interaction involved Chika, Mahatir, Starbuck and Aoi that was to continue until the closing stages of the session:

¹⁹ I could find no instances of flaming in the data for session 5.

²⁰ This finding was confirmed by this subject in a response in the post-study questionnaire.

(32) 1. chika [Guest] says, "I think Thai will be one of the economic power maybe by 20"

(1 line of text)

2. starbuck [Guest] says, "I hope so. "

3. chika [Guest] says, "sturbuck, I think thailand will be one of the economic power in the near future"

(4 lines of text)

4. mahatir [Guest] asks, "are student in thai thinking about there economics?"

(2 lines of text)

5. aoi [Guest] asks, "Aoi is the thailands economic power so storong??"

The data analyzed in this section indicates that the use of character names was an effective means to attract attention. The anonymity provided by pseudonyms clearly encouraged the subjects to participate and express themselves in their L2, confirming a claim made in the literature on the use of MOOs in CALL (Shield, 2003). Furthermore, due to the disembodied nature of the interaction in MOOs, the selection, and use of, character names represents one of the strategies by which the subjects established the sense of identity, telepresence and co-presence necessary for the development of the collaborative interpersonal relationships required for effective discourse management (Rintel, Mulholland & Pittam, 2001). I will now examine the other interactional discourse management strategies utilized to create the sense of social cohesion necessary for the establishment and maintenance of these interpersonal relationships.

7.3.6 Strategies used to establish and maintain social cohesion: Politeness

In chapter 6, I have examined the debate in the literature on NS interaction in CMC regarding the ability of this medium to foster social interaction. I have noted that there are two contrasting views. The "cues filtered out" model (Culknan and Markus, 1987) argues that the "lean" low bandwidth CMC medium in which verbal and other cues are absent, hinders the development of interpersonal relationships. The contrary view proposed by Walter (1996), argues that in the computer-based nature of interaction in CMC and the accompanying filtering out of cues brings many advantages such as the removal of sociocultural concerns that may, in fact, facilitate the establishment and development of relationships.

My review of the literature on learner-learner interaction in CALL projects involving the use of types of real time CMC conducted in chapter 3, has provided evidence to support the view that, in order for a beneficial communication environment to be created, learners must establish and maintain social cohesion (Chun, 1994; Darhower, 2002). In this review, I have identified evidence indicating that social cohesion is fostered through the development and maintenance of collaborative interpersonal relationships based on the exchange of messages containing personal and other information²¹. My analysis of the findings of studies involving learner interaction in MOOs based on the principles of tandem learning has mirrored these findings. The findings I examined in chapter 3 (section 3.5.5), provide evidence that most successful MOO-based CALL projects are characterized by a high degree of sustained learner interaction that facilitates the development of supportive interpersonal relationships (Donaldson & Kötter, 1999; Schwienhorst, 2002; 2004; Von Der Emde et al. 2001). I have further noted that, at present, there is only limited evidence in the literature on learner-learner interaction in MOOs to suggest that sustained interaction in MOOs may facilitate the development of the interpersonal relationships held to support social cohesion in CMC (Warner, 2004). Moreover, my review has also shown that projects in which supportive interpersonal relationships did not emerge achieved at best only partial success (Pinto, 1996). A useful means to investigate this aspect of learner-learner interaction in MOO-based CMC is provided by politeness theory.

Politeness theory is a body of work that seeks to explain language production based on a rational individual's assessment of a given social situation. As Holtgraves (2002) observes:

It is a theory about the manner in which a person phrases "things" given as assessment of the social situation. (p.3)

Politeness theory was first articulated as a distinct construct by Brown & Levinson (1978; 1987). It draws from earlier ideas proposed by Erving Goffman (1955) who emphasized the central role played by *face* in human relational interaction. Goffman (1972) defines face as:

The positive social value a person effectively claims for himself by the line others assume he has taken during a particular contact. (p.5)

Goffman views individuals as social "actors" who consistently "perform" that is, present a public self on the stage of every day life. In Goffman's view, social actors maintain collaborative relationships by both protecting their own face and the face of others through various ritual behaviors such as for example greetings.

²¹ This phenomenon also contributes to enhanced interactivity.

Brown & Levinson expanded on this to argue that face consists of two related aspects. The first, positive face, is the need to be appreciated by and approved of by others. The second, negative face, is the need to remain autonomous or independent. In the view of Brown & Levinson (1987), individuals recognize that in order to maintain one's own positive and negative face, one must meet the face needs of others. They further acknowledge (1987, p65-68) that there are occasions during communication when, for example, requests, criticisms and disagreements arise that present an intrinsic threat to face. In order to deal with such a "face threatening act" (FTA), individuals have to either resolve the situation in the most direct manner possible or attempt to mitigate the effect of the FTA on their interlocutor's positive or negative face. The strategies used to do this and maintain relationships are described as politeness strategies. Brown & Levinson have identified 3 main types of politeness strategy²¹:

1. Positive politeness- showing familiarity, rapport and a desire to be part of the group
2. Negative politeness- social distance and autonomy are stressed
3. Off record-indirectness, violation of Grice's (1975) maxims

Brown and Levinson identified 15 positive politeness strategies used to redress positive face aspects in general during face-to-face interaction. These are strategies involved claiming common ground and conveying cooperation. As table 7.6 shows they identify a total of 15 individual strategies grouped under 7 headings:

Table 7.6 Positive politeness strategies (from Brown & Levinson 1987, p.101-129 table 3)

Claim common ground	Strategy
Convey that some trait of the hearer is admirable or interesting	Notice or attend to a hearer's interests
	Exaggerate interest, approval, sympathy
	Intensify interest to hearer
Claim group membership	In-group identification markers
Claim common views, concerns & knowledge	Seek agreement
	Avoid disagreement
	Assume common ground
	Joke

²¹ Brown & Levinson 1987, (p 230-231) note that these strategies may be used alone or to mitigate a FTA they may also be mixed.

Convey cooperation	
Indicate knowledge & accounting for the hearer's concern's	Assert or presuppose knowledge & concern for wants
Claim reflexivity: speaker wants, hearer's wants	Offer promise
	Be optimistic
	Include speaker and hearer in action
	Give/ask for reasons
Claim reciprocity	Assume or assert mutual aims
Fulfill hearer's wants	Give sympathy, understanding, cooperation

They further identified a total of 10 negative politeness strategies used to display social distance and individual autonomy, which are listed in table 7.7.

Table 7.7 Negative politeness strategies (from Brown & Levinson 1987, p.129-211 table 4)

Make no presumption	Strategy
	Be indirect
	Question hedge
Use no coercion	Be pessimistic
	Minimize imposition
	Give deference
Imply no challenge or criticism	Apologize
	Avoid personal pronouns
	State FTA as a general rule that applies to everyone
	Nominalise
Redress other wants	Go on record as incurring debt or not indebting hearer

The study of learner-learner interaction in MSN Messenger conducted by Shin (2006), reviewed in chapter 3 (section 3.2.3), reported that the subjects made use of a number of positive politeness strategies²³. These included several of the strategies listed in table 7.6, including avoiding disagreement and commiseration. Darhower (2002) claimed that the subject in his study made extensive use of humor. He claimed that this positive politeness strategy contributed to a good atmosphere and the establishment and maintenance of a sense of social cohesion. Furthermore, Weininger & Shield (2003) reported the presence of politeness strategies in their data, but as I noted in chapter 3 (section 3.5.6),

²³ Smith (2003 b) also reported the presence of "a high level of politeness" in his data. However, he did not discuss this finding in any detail.

they provided little elaboration. In order to establish if the subjects in this session created and maintained supportive interpersonal relationships crucial to the facilitation of social cohesion, I examined the data for the presence of positive and negative politeness strategies²⁴.

After examining the data, I found that the 4 learners in the subject group made use of a total of 26 positive and 3 negative politeness strategies. As can be observed in the following table (7.8), the subjects made use of a total of 82 instances of positive politeness strategies designed to claim common ground and convey cooperation. The most frequent strategy was the use of utterances called *continuers* that are designed to:

express an interlocutor's interest in what the speaker is saying and to encourage the speaker to continue. (Foster & Ohta, 2005, p.421-422)

I found numerous instances of this type of positive politeness strategy in the data. This strategy was the most frequent positive politeness strategy used by the learners and it occurred on 63 occasions during the session. One type of continuer consisted of statements (or questions) that signaled interest. The other type, were questions designed to encourage a reaction and move the interaction forward.

Table 7.8 Frequency of positive and negative politeness strategy use during session 5

Type of politeness strategy	Total for all 4 members of the subject group	Total for all learners
Positive politeness	26	26+56=82
Negative politeness	3	3+ 6=9
Total	29	91

A typical instance of a continuer used by a member of the subject group to display interest occurred early on in the session during an interaction between Chika and Masao:

(33) 1. masao [Guest] says, "Now Thailand is strong to IT industry, aoi. It can be economic power."

(1 line of text)

2. chika [Guest] says, "**I think so ,too. masao**"

²⁴ I could find no instances of off-record strategies in the data for session 5.

Another instance, that highlights the positive atmosphere, occurred later in the session during an interaction involving Starbuck and Mahatir:

(34) 1. starbuck [Guest] says, "I heard that some projects in Japan wasted a lot of money.**ex**.making road in the countryside. "

(6 lines of text)

2. mahatir [Guest] says, "**you're right, starbuck**"

In this interaction, which also incorporates a rare example of a time saving contraction, Mahatir utilizes a continuer in the form of a statement expressing agreement. Not only does this utterance signal interest, it also displays a desire to establish common ground. Excerpts 33 and 34 show that the subjects were willing to express their personal opinions but at the same time meet the face needs of their interlocutors.

Among members of the subject group (and the learners as whole), the most frequent type of continuer was a question designed to signal interest, engagement and invite an interlocutor to continue. There were occasions during the interaction where this strategy was used repeatedly, as in the following extract:

(35) 1. chika [Guest] asks, "**starbuck, so, which one is the strongest, prime minister, king, or Budda?**"

(2 lines of text)

2. starbuck [Guest] says, "the central of Thai people is King."

(16 lines of text)

3. chika [Guest] asks, "**starbuck, I see. So, is the Thai king a symbol of the nation as well as Japan's loyal family?** "

(4 lines of text)

4. starbuck [Guest] says, "yes, chika.but our King work for People so we respect him."

In extract 35, Chika (in move 1) utilizes a continuer in the form of a question. After 2 lines scroll, Starbuck responds appropriately. There is then a considerable delay after which Chika again uses a continuer in order to signal her continuing interest and drive the interaction forward. As can be seen above, this strategy is

successful in encouraging a further reaction as in move 4, Starbuck again responds appropriately. There were also instances of the use of a combination of continuers utilized to display enthusiasm and to encourage a partner to elaborate. An example that also emphasizes the cordial nature of the interaction during the session occurred between Chika and Aoi²⁵:

(36) 1. chika [Guest] says, "**aoi, I'm interested in the Thai politics, too**"

(2 lines of text)

2. aoi [Guest] asks, "**oh really? did you go to thailand?**"

(7 lines of text)

3. chika [Guest] says, "twice, but I dont know about the politics... aio"

In the above interaction, Chika uses a continuer in the form of a statement designed to express interest in a comment made previously by Aoi. In the next move, Aoi first uses a continuer in the form of statement designed to display interest (oh really?) and follows this up with another continuer in the form of a question that invites her interlocutor to continue. As can be seen in move 3, this use of combining continuers is successful as after a delay Chika responds appropriately.

My analysis of the transcripts further revealed that the subjects made use of other types of positive politeness strategy that have been identified in the literature on NS interaction in CMC (Morand & Ocker, 2002). I identified the strategy of using inclusive forms. I discovered that the use of the inclusive form *we* was frequent, with 40 instances in the data. Typical examples can be seen in excerpt (37) below:

(37) 1. ryo [Guest] says, "Japan had better to trade with China more and more,I think,"

2. Hasan [Guest] asks, "If **we** keep concervative attitude,then the situation can never be better.Everyone what do you think??"

(1 line of text)

3. mahatir [Guest] asks, "if Yen become so weak, how can **we** do?"

²⁵ This type of strategy use also appeared in Foster and Ohta's data (2005, p.421).

4. chika [Guest] says, "twice, but I dont know about the politics... aio"
5. moo [Guest] says, "As a whole i agree with, but some expressions are wrong. For example, the writer says **we** are too optimistic about our future. I don't think so."
6. reiji [Guest] says, "hasan , I agree"
7. Hasan [Guest] exclaims, "**Yeah!Ryo!! I'm with you!!**"
8. mahatir [Guest] says, "**hasen, you're right!** now **we** have to do something²⁶"

As can be seen in the above excerpt, 3 of the participants in the group discussion use the inclusive form **we** to signal in-group status and assert common values or opinions. Moreover, in further positive politeness strategy, both Hasan and Mahatir make statements designed to express interest in, and agreement with, a statement made by their interlocutor. The subjects also made occasional use of another strategy to signal in-group status the use colloquialisms:

- (38) moo [Guest] says, "Hi, Romy. I **wanna** talk with you."
- (39) mahatir [Guest] says, "In Malaysia, university students have big admire, they said **lwanna** be prime minister, doctor , engineer. But I rarely meet such a Students in Japan."

Among the members of the subject group, there were also occasional instances involving the use of another positive politeness strategy namely the use of humor. An example occurred (in the form of a pun) by Starbuck:

- (40) starbuck [Guest] says, "**In money we trust = Politicians** "

However, this strategy was infrequent in the data and I could find only three other instances. This finding was not unexpected, as the learners were still at this early stage of the project becoming acquainted with each other. Extensive use of humor at this stage was therefore unlikely.

There was also evidence in the data for the presence of negative politeness strategies utilized to display social distance and respect for the addressee. An example took place early in the session during an interaction involving Sen and Mahatir:

²⁶ This final example may be group inclusive. I am grateful to Eric Glendinning (personal communication) for this observation.

(41) 1. mahatir [Guest] asks, "oh, i'm fine. and you?"

(1 line of text)

2. sen [Guest] says, "I'm ok."

(3 lines of text)

3. sen [Guest] says, "**I'm sorry but I have to go now.** I'll talk to you later, mahatir."

In this interaction, Sen uses two typical negative politeness strategies. He first uses an apology designed to show reluctance. This is followed by the giving of a reason designed to mitigate the threat to face created by his sudden departure. Another instance of the use of negative politeness can be observed in the following utterance produced by Chika:

(42) 1. chika [Guest] asks, "I finished reading just now! **may I join you?**"

(2 lines of text)

2. moo [Guest] says, "Sure, chika."

In move 1, Chika, who has been offline reading the article that was a requirement of the task, uses negative politeness in the form of a request incorporating more formal language directed at the group in order to rejoin the on-going interaction. As can be seen in move 2, this strategy that is also designed to inquire into the hearer's ability or willingness to comply is successful, as after a short delay one of the group members Moo, responds positively. A further use of negative politeness occurred during a later stage of the session during an interaction involving Chika and Starbuck:

(43) 1. chika [Guest] says, "**starbuck, may I ask a question?** in Thai, is the politics completely separated from the religion? I saw the previous kings' pictures in the temple. "

(3 lines of text)

2. starbuck [Guest] says, "Politics is separated from religion."

3. starbuck [Guest] says, "but in our Law. King must be a Buddhist."

In this excerpt Chika again utilizes a polite request that incorporates formal language designed to express respect for the addressee. As can be seen in moves 2 and 3, this strategy is successful as after a short delay Starbuck replies appropriately.

The data examined in this section provides evidence to show that the subjects made extensive and appropriate use of both positive and negative politeness strategies²⁷. As can be seen in table 7.8, positive politeness strategies were more frequent than negative ones. This finding reflects the subjects' apparent eagerness to create a largely informal and friendly atmosphere. As the data show, they largely succeeded in this goal (see for example, the previous discussion on the use of humour). The data discussed in this section provides evidence to demonstrate that as in face-to-face communication, in the MOO, politeness was an effective means of mitigating potentially face-threatening acts such as, for example, making a request. The use of politeness strategies further played an important role in signaling interest and building rapport. It also facilitated the establishment and maintenance of positive interpersonal relations with task partners that, in turn, contributed to the effective management of the interaction and the operation of social cohesion. The absence of flaming and other anti-social behaviors lends support to this interpretation. Moreover, another reason for the extensive use of this strategy may be that in the online MOO environment it provided a useful means of preventing misunderstanding due to the absence of intonation and paralinguistic cues. As interaction in MOOs is conducted solely through the medium of text, the learners were clearly aware of the need to guard against the possibility of their messages being misinterpreted. In deploying politeness behaviors learners were also attempting to maintain face, attend to the face of their interlocutors, signal group membership and at the same time foster the development of collaborative interpersonal relationships.

7.3.7 Strategies used to establish and maintain social cohesion: Greetings and leave-takings

In his discussion of the social nature of face-to-face interaction, Goffman (1972) claimed that relationships are maintained through the use of various ritual interchanges. He further identified greetings (1976), as one of the most important means by which interlocutors maintain face through the exchange of supportive verbal offerings. As I have noted in chapter 3 (section 3.2.1), in her study of learner-learner interaction in a type of real time CMC Chun (1994), reported that her subjects performed a number of what she described as "interactional speech acts" (p.17). She identified the use of various types of phatic (Malinowski, 1972) communication that enabled the subjects to demonstrate a sense of sociability.

²⁷ Additional evidence to support this conclusion will be presented in the discussion of greetings and leave-takings in the following section.

Chun observed that her subjects made appropriate use of greetings and leave-taking formulae. She claimed that these strategies contributed to the establishment and maintenance of interpersonal relationships. These in turn created social cohesion. In his study of learner-learner interaction in WebCT Darhower (2002), reported the presence of frequently lengthy greetings and leave-takings. As I have noted in chapter 3 (section 3.2.2), he argued that these strategies facilitated social cohesion and successful communication, by creating a good atmosphere.

Rintel and Pittam in their study of NS interaction in IRC (1997), which was informed by earlier work on the management of openings and closings in face-to-face interaction conducted by Laver (1975, 1981), claim that greetings along with choice of character name, represent an important impression making strategy in types of real time CMC that involve the use of typed text. They argue that this is because in the online medium greetings are one of the few strategies available to signal availability for interaction and a desire to develop interpersonal relationships. These researchers also claim that as in face-to-face interaction leave-takings play an important role in interaction management in CMC by displaying a desire to continue a relationship in the future (p.524). In a later study, Rintel, Mulholland & Pittam (2001), further argue that the study of openings is of great importance to understanding how interpersonal relationships may develop in online communication settings:

openings are an excellent starting point for investigating how interaction in IRC functions to instantiate and develop interpersonal relationships. (p3.)

Rintel and Pittam (1997) have proposed the following 4 stage model to explain how openings develop in interaction involving NS users of IRC and lead to the establishment and maintenance of the interpersonal relationships necessary for sustained interaction (p. 527-528)²⁸:

Stage 1: Server announces presence of newly joined users to all channel participants

Stage 2: Exchange of exploratory/initiatory linguistic tokens-repeat as necessary: (a)“Blind”, traditional mass greeting token to all users *or* Traditional token to individual users (followed by other phatic communication *or* the use of another strategy) *or* (b) statements or questions (interaction may follow with or without overt phatic tokens)

Stage 3: Textualized exchange of conventional nonverbal contact gestures of greeting (as appropriate to relationship)-may not occur

Stage 4: Transition signals for moving to the medial stage

²⁸ These authors note the fluidity of the above stages and that some appear optional.

I examined the data involving the 4 members of the subject group and found evidence of elements of the above model. At the opening of the session the server announces the arrival of Aoi and Chika:

- (44)
1. aoi [Guest] arrives through the heavy oak doors that enter from the mall.
 2. chika [Guest] arrives through the heavy oak doors that enter from the mall.

After a further line of text produced by another learner scrolls, both these learners make what Rintell & Pittam describe in stage 2 a of their model as mass greeting tokens, designed to gain attention and signal availability for interaction:

- (45)
1. chika [Guest] exclaims, "**hiya!**"
 2. aoi [Guest] says, "Aoi **Hi! everyone.**"

These mass greetings meet with no immediate response, because the other members of the subject group were still in the process of joining the MOO. However, as can be seen in the following interaction, other participants arrived and quickly formed dyads:

- (46)
1. ryo [Guest] says, "**hi,everyone**"
 2. reiji [Guest] exclaims, "**hi ryo!!**"
- (2 lines of text)
3. ryo [Guest] says, "**hi,reiji**"
- (1 line of text)
4. ryo [Guest] asks, "**Did we taik last week?reiji?**"
- (2 lines of text)
5. reiji [Guest] says, "**yes i guess so**"
 6. ryo [Guest] exclaims, "Nice to meet u again!"
 7. reiji [Guest] says, "nice to meet u again"
 8. reiji [Guest] asks, "**do you know today' topic??**"

The above excerpt shows how in the majority of instances the interaction followed the model for Internet greetings proposed by Rintel & Pittam. In move 2, Reiji responds to the informal mass greeting made by Ryo with an informal greeting of his own directed specifically toward Ryo (stage 2 a of the above model). This move is successful in establishing a connection. As can be observed in the following moves, the subjects quickly progress through stage 3 (textualized exchange of conventional nonverbal contact gestures of greeting). In move 8, Reiji initiates stage 4 using a question to signal his desire to complete this stage and transition to interaction focusing on the task.

After a considerable delay, the next member of the subject group to arrive is Starbuck, who after consulting the online map of the MOO campus, makes a similar informal greeting directed toward the group:

(47) **1. starbuck [Guest] arrives through the heavy oak doors that enter from the mall.**

2. starbuck [Guest] looks at the map of schMOOze.

(4 lines of text)

3. starbuck [Guest] says, "**hi all**"

(1 line of text)

4. reiji [Guest] says, "**hi starbuck**"

As can be seen in move 4, this informal greeting elicits a response in the form of a similar greeting from Reiji (token to individual user in the above model). However, Starbuck does not immediately respond to this move. There is a delay of 16 lines before Starbuck makes a statement directed at Reiji indicating that he is still reading the short article that was a requirement of the task and the following interaction unfolds:

5. starbuck [Guest] says, "I`m reading and trying to understand it but.."

(6 lines of text)

6. reiji [Guest] says, "**why japanese people are so pessimistic as the writer saids**"

(4 lines of text)

7. starbuck [Guest] says, "mm I don` t know I` m not japanese..(-_-;"

(2 lines of text)

8. reiji [Guest] asks, "starbuck did you read that article??"

(1 line of text)

9. starbuck [Guest] says, "yes,I read it."

10. reiji [Guest] asks, "**what do you think about that??**"

(1 line of text)

11. reiji [Guest] says, "any opinion will be okey"

(29 lines of text)

12. starbuck [Guest] asks, "my japanese friend said `I don` t feel like I` m in the economic crisis. I just think about my everyday life`. Sounds still optimistic,right?"

This interaction shows how the subjects quickly moved from using informal greetings designed to attract attention to collaborative message exchange focused on the content of the task. In other words, moving from stage 2 to stage 4 of the model for Internet openings proposed by Rintel and Pittam. In move 6, Reiji uses a question to explicitly signal that he wishes to move to a discussion of the task²⁹. This signaling of a transition is successful in eliciting a response from Starbuck who, in move 7, signals that he is unsure how to respond. In move 8, Reiji seeks to confirm if Starbuck has finally read the article and he receives an affirmative response in move 9. In move 10, Reiji in a further attempt to initiate task-based interaction asks Starbuck's opinion about the question raised by the article. The next move displays the supportive atmosphere that prevailed in the session. In this statement Reiji shows consideration for his partner and expresses encouragement. After a considerable delay, in move 12 Starbuck finally responds in an appropriate manner.

As the above interaction unfolded, Chika who appeared to have been engaged in reading the article, makes the following statement directed at the group and a further series of interactions unfold:

²⁹ The optional stage 3 of the model proposed by Rintel and Pittam did not occur in the above interaction.

(48) 1. chika [Guest] asks, "I finished reading just now! **may I join you?**"

(2 lines of text)

1. moo [Guest] says, "Sure, chika."

(1 line of text)

2. aoi [Guest] asks, "Aoi **Hi! everyone.i joinyou?**"

3. chika [Guest] says, "sure!aoi"

5. mahatir [Guest] says, "aoi,"

6. chika [Guest] says, "im just coming here, too. aoi"

(2 lines of text)

7. ryo [Guest] says, "I think that Japan is not faced the economic crisis,reiji."

(4 lines of text)

8. chika [Guest] says, "ryo, I dont think so. Japan's curcumstances will go worse and worse"

As excerpt 48 shows, although both Chika and then Aoi use greetings directed at the group. However, Aoi does not react to either of the statements made in response to her greeting by first Chika and then Mahatir. Furthermore, only Moo makes a response to Chika's efforts to initiate interaction and Chika does not react to this move. A possible explanation for Chika's failure to respond may be that during the opening of the session I observed that messages were scrolling fairly rapidly. This raises the possibility that Chika may have missed Moo's message as it scrolled down the screen. But in the case of Aoi, this explanation seems unlikely as the responses to her utterance follow very quickly. A further plausible reason may be that this learner had not finished reading the article that was a requirement of the task. A further contributing fact may be that as I have observed elsewhere (section 7.3.1), Aoi appeared to experience difficulties keeping up with the interaction. With her repeated efforts to gain a response from Aoi unsuccessful, Chika chooses to react to a statement made by Ryo. As can be seen in excerpt 36, it is not until much later in the session when both Chika and Aoi have contributed to the ongoing group interaction does Aoi finally respond to yet another effort by Chika to initiate task-based interaction. This interaction

provides evidence that demonstrates the fluidity of interpersonal relationships during the early stages of this research.

Table 7.9 shows that greetings involving the use of formal language were rare. I could find only two instances involved in either greetings or responses to greetings in the data. A possible explanation for this finding may be that messages were scrolling fairly rapidly at this stage of the session leading learners to avoid typing longer utterances. However, a more likely explanation may be that the subjects wanted to convey a positive impression to potential interlocutors. This led them to avoid, for the most part, utterances that emphasized social distance. The data provides further evidence to support this conclusion. As Table 7.9 shows, the most frequent of the 5 styles of greeting identified in the data was the informal hi. This strategy was utilized presumably, in part, as a low risk way to greet other users. Moreover, as Negretti (1999) observes the use of this type of greeting in real time CMC presents an efficient means to perform the action conveying “a maximum of information in the shortest way possible” (p.84). The use of this and the other types of informal greeting identified in this section appeared a useful means to signal availability, a positive attitude and a desire to interact. As the data analyzed in this section show, in line with the model proposed by Rintel & Pittam, the use of informal greetings was usually successful in obtaining an appropriate positive response in the form of either a similar informal greeting or a question displaying a friendly attitude. In most cases, when this type of response was forthcoming this appeared to verify the connection between the learners. In the following moves the subjects would move on to engage in interaction focusing on the content of the task.

Table 7.9 Frequencies of greeting formulae used in session 5

Greeting type	Total for the 4 members of the subjects group	Total used in initiating interaction (with named individual or the group)	Total used in response	Total all subjects
Hi/hi	5	3	4	11
hiya	1	1	0	1
hello	0	4	0	4
May I join you	1	1	0	1
How are you	0	0	1	1
Total	7	8	5	18

My analysis of the transcripts further revealed that the subjects made use of another strategy identified by Rintel and Pittam, namely, ritual interchanges involving leave-takings that incorporated discourse management strategies.

The closing phase of the interaction in session 5 begins with Mahatir expressing an opinion:

(49) 1. mahatir [Guest] says, "But, I think Japanese are tend to influenced easily"

In the next line, Reiji who previously has been in contact with Mahatir, signals that it is time to leave in the following split turn:

2. reiji [Guest] says, "now time to say good-bye....."

3. reiji [Guest] says, "time is up....."

These utterances alert the other subjects that the interaction is coming to a close, leading 3 lines later to the following sequences:

4. starbuck [Guest] says, "yes,mahatir Japanese are that kind of people.` said to japanese friend."

5.mahatir [Guest] exclaims, " **good bye.see you!**"

6. chika [Guest] says, "starbusk, in that meaning, Thai king is important for the people. I make sense."

7. chika [Guest] says, "**I have to go. see you next time.**"

8. aoi [Guest] says, "I understood that starbuck. i wanted to say that in japan before world war, people had respect loyal family by militaly. but Thai people respects king naturally ,doesnt it. "

(1 line of text)

9. mahatir [Guest] asks, "**what do you mean ,star?""**"

(2 lines of text)

10. starbuck [Guest] says, "**whoops sorry. My Japanese friend said ` Japanese are tend to influenced easily`"**

11. starbuck [Guest] says, "**yes,aoi.**"

(1 line of text)

12. starbuck [Guest] says, "**I have to go now. Bye all"**

13. starbuck [Guest] has disconnected.

(5 lines of text)

14. mahatir [Guest] says, " **everyone,it' nice to meet you. bye!** " "

(2 lines of text)

15. aoi [Guest] has disconnected.

The above interaction contains a number of interesting examples of strategy use. In move 4, Starbuck responds to the opinion expressed previously by Mahatir. The following lines display the use of leave-takings incorporating politeness. As Rintel and Pittam (1997), have observed in their study of closings during native speaker chat, users of a CMC system have a number of options available to close an interaction including:

simply exiting IRC altogether, using a series of minimal closing token transmissions (not waiting for response), or undergoing a prolonged closing phase similar to that of many FTF interactions. (p.524)

The above closings display examples of all three of these strategies. In a split turn (moves 6 and 7), Chika tries to continue her conversation with Starbuck. In the next move, she provides a reason (in mitigation) for her leave-taking (a phenomenon that has been reported by Negretti, 1999), and then announces her departure to the group without waiting for a response from Starbuck. Due to a lack of time, Aoi chooses to leave the interaction without engaging in a closing and the server in line 15 confirms her exit. In contrast, Mahatir engages in a prolonged closing that unfolds over 3 turns. In move 5, she utilizes a leave-taking incorporating both negative (the rather formal good bye) and positive (see you!) politeness. This move appears directed at a single learner, possibly Reiji. However, after 5 lines of text scroll Mahatir (move 9), in an utterance that displays her high level of interest and engagement in the discussion, responds to an ambiguous utterance made previously by Starbuck in move 4 (that she has probably only just seen) with an utterance that incorporate a continuer (clarification request) and addressivity. After 3 lines of text scroll, Starbuck responds with a split turn (moves 10, 11). In the first turn, he apologizes to Mahatir in an utterance that contains a feedback (whoops). In the same utterance, he clarifies his earlier statement (made in move 4). In the next move, he expresses agreement with a statement made previously by Aoi. After a further line of text scrolls, he states (in mitigation) that he has to exit and departs the interaction in a leave-taking that displays positive politeness. After a further line of text scrolls, the server announces Starbuck's disconnection. In move 14,

Mahatir makes a second leave taking-utterance this time directed at the group. This utterance incorporates positive politeness designed to achieve a harmonious parting.

The presence of ritualized interactions involving greetings and leave-takings provides evidence to demonstrate the presence and maintenance of interpersonal relationships. In the case of openings, as the interaction analyzed previously demonstrates, the subjects utilized informal greetings that incorporating both collective and individual address designed to gain attention, present a co-operative face to potential interlocutors and signal a desire to establish (and maintain) supportive interpersonal relationships. The data indicates that this strategy was, for the most part, successful in establishing interpersonal relationships. Moreover, as I have shown above, a further type of ritual exchange, leave-takings occurred. Their presence emphasizes that even at this relatively early stage of the project the subjects displayed a desire to meet the face wants of their interlocutors. In contrast to native speaker chat where abrupt departures are common particularly in large chat rooms (see Werry, 1996), the subjects in this session, with the exception of Aoi, made efforts to bring their interaction to a close in an appropriate manner. In supplying a justification why they had to leave the majority of the learners signaled that they wished to achieve a harmonious parting (similar behavior was observed by Darhower, 2002). The utilization of openings and closings played an important role in contributing to the development and maintenance of the social cohesion that was a feature of the interaction.

7.3.8 Strategies used to establish and maintain social cohesion: off-task discussion

The literature I reviewed in chapter 3 demonstrates that in some studies of learner-learner interaction in real time CMC off-task discussion contributed to the establishment and maintenance of social cohesion (Darhower, 2002). I examined the data and found that the subjects engaged in instances of off-task discussion. However, outside the opening and closing stages of the session this strategy was infrequent. I could identify only 5 instances. An example occurred after the opening exchanges, when Romy attempted to initiate off-task discussion with another learner Masao:

- (50) 1. aoi [Guest] asks, "Aoi is the thailands economic power so storong??"
2. Romy [Guest] asks, "Hi masao! How are you today?""
- (1 line of text)
4. **Romy [Guest] asks, "How did your test last week?""**

(3 lines of text)

5. masao [Guest] says, "Now Thailand is strong to IT industry, aoi. It can be economic power."

As the above interaction shows, this attempt was unsuccessful, as Masao appears engaged in interaction with Aoi. Another example of this strategy displays a further positive result, namely, although the subjects did engage in occasional off-task discussion in an effort to maintain the good atmosphere that prevailed during the session they were, for the most part, very focused on the task. Although the learners succeeded in creating a supportive atmosphere during the session they took the interaction seriously. Unlike in some studies on learner-learner interaction in MOOs (Warner, 2004) where the subjects were reported to have treated the interaction as a game, the transcripts reveal that the subjects in this study were highly focused on initiating and sustaining interaction stimulated by the task³⁰. Evidence for this focus was on display during a group interaction in the later part of the session:

(51) 1.starbuck [Guest] says, "but in our Law. King must be a Buddhist."

2. Romy [Guest] says, "what do you think about north Korea's problem?_"

3. mahatir [Guest] says, "I agree with reiji. I think American is more isolated. Seeing today's situation"

4. reiji [Guest] says, "uhhhh, that is complicated....."

5. chika [Guest] says, "mahatir, nationalism is sometimes goor for country's strength. but sometimes it's dangerous, I think"

6. starbuck [Guest] says, "I think American economics is in crisis so they needOIL..."

7. Hasan [Guest] asks, "Huuuh,stockmarket,It's a model of whole Japanese econimic situation,I guess, Ryo. What about you? "

8. Romy [Guest] says, "I think Japanese mass media about North Korea`s problem is so serious"

³⁰ My observations and field notes confirm this finding.

9. mahatir [Guest] asks, " north korean goes too much. but small nationalosm isbetter than individualism, right?"

10. chika [Guest] asks, "starbuck, so, which one is the strongest, prime minister,king, or Budda?"

11. mooo [Guest] says, "I think I don't think the situation of that country is good so that the peaple of North Korea should know more and more properiate information. **But i don't think that is today's theme.**"

As can be seen in the above excerpt, in move 8 Romy attempts to introduce a new topic (North Korea) that bears little relationship to the two themes that are a main focus of the group interaction (Thailand and nationalism). His question elicits a response from Reiji in move 4 and this leads him in move 8 to express another opinion on this topic. In move 9, Mahatir in an apparent attempt to bring Romy into the discussion, tries to link this topic to one of the on going threads. In move 11, Mooo, in an utterance containing teacher-like feedback, attempts to steer the interaction by bringing the discussion back on task.

The high degree of focus on task displayed by the participants has also been reported in a number of MOO-based tandem learning projects (see, for example, the discussion of results reported in Donaldson & Kötter, 1999 and Von Der Emde et al., 2001 in chapter 3). This positive finding may reflect a number of factors. These include the shared nationality and L1 background of the majority of the subjects. As the majority of the participants were Japanese learners based in Japan, the focus on task was to be expected, as there is evidence in the literature to suggest that this learner group has a frequent propensity to closely follow instructions in order to avoid the possibility of conflicts arising with the teacher (Anderson, 1993; Doi, 1986). Another possible explanation for this phenomenon lies in the positive motivational effects engendered by awareness of writing for an audience (Swaffar, 1998). A further partial explanation may be the format and particular content of the task. The topic selected for discussion appeared highly relevant to the subject's real life interests. In my field notes, I recorded that this particular topic stimulated learner interest and participation. Moreover, the format appealed to the learners as it enabled them to express opinions at their own pace.

7.4 Conclusions

The analysis conducted in this chapter reveals the ways in which the subjects attempted to deal with the challenges identified in chapter 6. In the online MOO environment the learners were faced with a novel single channel communication environment where multiple interactions co-occur in real time, turn adjacency is frequently disrupted, and delays can occur. Furthermore, during interaction in the

MOO the paralinguistic and social context cues that influence communication in face-to-face interaction were either absent or reduced. However, in spite of these potentially challenging conditions the learners utilized a range of transactional and interactional strategies appropriate to the online medium. These enabled them, for the most part, to manage their interaction successfully.

Table 7.10 Frequency of transactional discourse management strategy use in session 5

Strategy	Total number of transactional strategies deployed by the 4 subjects	Total for all subjects
Addressivity (all types)	92	92+143=235
Split turns	5	5+9=14
Time saving	3	3+9=12
Feedback	28	28+32=60
Total	128	321

As table 7.10 shows, during session 5 transactional strategies were the most frequent accounting for total of 321 instances. Their use facilitated efficient information exchange. The data shows that explicit types of addressivity provided the subjects, who appeared motivated by the format and content of the task, with an effective means to initiate discussion, track their turns and the turns of their interlocutors. The use of various adaptive transactional strategies, some of which have not been reported in the literature also contributed to the efficient transfer of information focused on the task. The innovative use of split turns enabled the learners to hold the floor and provide additional information while also supporting the management of multiple real time interactions. On occasion, time saving strategies were used in order to deal with periods of the interaction when messages were scrolling rapidly. The presence of feedback strategies, some of which, such as suspension dots, have not been reported previously, enabled them to signal listernership and reproduce the effects of the paralinguistic cues that influence communication in conventional classrooms.

The use of these strategies enabled the learners to engage over an extended period in in-depth discussion of substantive topics generated by the task. This was a considerable achievement given the subjects' L1 backgrounds, limited L2 proficiency and experience of MOO environments. The data examined draws attention to a further encouraging feature of the interaction, namely, the learners took an active role in managing their interaction. Indeed, they undertook on their own initiative the types of language functions that play an important role in the development of communicative competence. For example, they asked and answered questions in an appropriate manner, expanded on the original topic,

steering the discussion and expressed opinions to a far greater degree that has been reported in other studies (Pinto, 1996; Warner, 2004). These behaviors highlight the degree of monitoring and autonomy exercised by the subjects and draws attention to the valuable practice gained in TL discourse management.

Table 7.11 Frequency of interactional discourse management strategy use in session 5

Strategy	Total number of transactional strategies deployed by the 4 subjects	Total for all subjects
Character names	2	2+8=10
Politeness	29	29+62=91
Greetings and leave-takings	11	11+15=26
Off task discussion	1	1+4=5
Total	42	132

This chapter has shown that the subjects utilized interactional strategies that reflected the need to establish identity and maintain interpersonal relationships. As can be seen in table 7.11, these were less frequent than transactional strategies with a total of 132 instances identified. However, interactional strategies played an important role in the discourse management. The utilization of pseudonyms by the majority of the subjects appeared to contribute to the creation of unique online identities that were a useful means to establish presence, attract attention and signal a willingness to interact. The use of both positive and negative politeness strategies reduced the possibility of misunderstandings and contributed to the establishment and maintenance of supportive interpersonal relationships. The presence of ritual interactions involving greetings, leave-takings and off-task discussion highlight the friendly supportive atmosphere that prevailed during the session and further emphasizes the success of these strategies in fostering a sense of social cohesion vital for effective communication in online environments. The learner interaction analyzed in this chapter has provided a detailed description of the subjects' discourse management in the MOO during session 5. In order to answer research question one, and in accordance with my research design, the following chapter will analyze the discourse management strategy use of the subjects at a later stage of this research.

Chapter 8 Discourse management by the subjects during session 11

8.0 Introduction

In order to answer research question one, in this chapter I shall focus on examining the discourse management of the subjects during session 11. This session was selected, as it presented a good representative sample of learner interaction from the later stages of this research and therefore conformed to the requirements of my case study methodology that seeks to investigate learner behavior over time. A further reason for selecting this session was that the interaction displayed not only instances of recurrent strategy use that were typical of the other sessions, but also evidence of new strategies that had not been observed previously. Moreover, examining this period of the interaction provided an opportunity to analyze how the learners dealt with variations in task type, in this case, a two-way information-gap task. As in the previous data analysis chapters, excerpts of the interaction that displayed significant examples of strategy use were selected for analysis. These are accompanied by an interpretative commentary.

8.1 Discourse management during week 11: subjects

In accordance with my case study methodology, the discussion in this chapter will revolve around a detailed examination of the interaction involving the 4 four learners whose strategy use was examined in chapter 7. As in chapter 7, the dyad and small group interaction of these particular subjects will be the main focus of the analysis¹. However, when relevant, examples of interaction involving other learners will also be analyzed. In my analysis of significant findings I shall, when necessary, draw on data from my observations, field notes and other sessions.

8.2 Discourse management during week 11: task

The task type used during the above session was two-way information-gap. In this task, entitled *Word Meanings* the subjects were required to exchange information relating to the meanings of two different sets of words with the aid of their partners². In contrast to the opinion-exchange task implemented in session 5, this task required information exchange focusing on low frequency vocabulary and had a convergent as opposed to a divergent orientation. As I have noted in

¹ As I will show at a later stage, in this session, two members of the subject group changed their character names from the ones adopted previously.

² The handouts for this task are included in appendix E, transcripts in appendix G.

chapter 4, it was my view based on the available literature (section 4.4.6), that implementing this task type would be appropriate for a number of reasons. First, two-way information gap tasks require both partners in a dyad to engage in information exchange involving use of the TL. Second, the format of this particular task was designed to stimulate discussion of specific low frequency vocabulary. For these reasons, I anticipated that this task type would be a useful means to elicit the transactional and interactional strategy use that is involved in discourse management.

8.3 Findings, analysis and discussion

In my analysis of the subjects' discourse management utilizing the procedures set out in chapter 4, I identified 6 transactional and 3 interactional discourse management strategies. The majority of these had been identified in chapter 7. However, I also found that new and previously unreported strategies emerged that were absent in the earlier sessions. In this chapter, I shall investigate the use of the strategies identified with reference to the relevant literature. I will comment on their frequencies compared to session 5. I highlight the operation of medium generated effects and the continuing influence of factors such as proficiency levels, task and socio-cultural concerns. I explore, using illustrative excerpts drawn from the data, how their use contributed to the avoidance of communication problems and to social cohesion that facilitated communication resulting in the consistent production of coherent TL output focused on the tasks. I further demonstrate that interaction in the MOO is likely to be valuable, as it provides TL practice, opportunities to develop discourse management skills and the supportive interpersonal relationships necessary for effective communication in real time CMC.

8.3.1 Strategies for topic initiation and turn tracking: Addressivity

As was the case in session 5, my analysis revealed the subject group and the other learners made use of the types of addressivity identified in chapter 7. However, table 8.1 shows, there were significant differences in the frequencies of the 4 types of addressivity identified compared to the results reported in chapter 7.

Table 8.1 Frequencies of the 5 types of addressivity in session 11

Type of addressivity	Name and beginning of a message	Name at the end of a message	Name in the middle of a message	Zero	To command	Total (all types) for the 4 members of the subject group	Total (all types) for all 14 subjects
	3	4	0	78	64	149	149+414 563

The table shows that the members of the subject group, and the learners as a whole, made limited use of the types of addressivity that involved placing the name of an intended message recipient at the beginning or end of an utterance. There were no instances of the name in the middle of a message. In a finding that contrasts with that reported for session 5 (see chapter 7 section 7.3.1), the table shows that an additional type of addressivity emerged. The learners made extensive use of the type of addressivity provided by the *to* command. This command involves typing the word *to* before the name of the intended message recipient. On receiving this command, the MOO software prefixes the recipient's name and level of user status before a message within brackets followed by a colon. This command is designed to facilitate discourse management by enhancing message visibility onscreen (Holmevik & Blanchard, 2001) as can be seen below:

(1) Wing **[to aoi [Guest]]**: Is that noun or verb?

In the following discussion, I will show how the addressivity provided by this transactional strategy was utilized as an effective means to initiate interaction and also as a turn tracking device.

Analysis of the transcripts revealed that, in common with the majority of the subjects, two members of the subject group, Starbuck and Nora, (who changed her pseudonym from Mahatir), made use of the *to* command from early in the session. In the following excerpt, Starbuck utilized it in an attempt to initiate interaction with a potential task partner:

(2) 1. **Starbuck [to midoron [Guest]]**: Hi,would you mind to work with me?

(2 lines of text)

2. midoron [Guest] [to Kana]: how are you

(3 lines of text)

3. Kana [to midoron [Guest]]: I'm fine,thankyou.Let's work together.

(2 lines of text)

4. three [Guest] opens the doors and enters from the Mall.

(3 lines of text)

5. **Starbuck [to three [Guest]]**: Hi,three.

6. three [Guest] [to stabuck]: hi you!

(5 lines of text)

7. three [Guest] [to Starbuck]: start it!

8. Starbuck [to three [Guest]]: Pigeon stand for this word.

(3 lines of text)

9. three [Guest] [to Starbuck]: Do you mean peace?

(4 lines of text)

10. Starbuck [to three [Guest]]: yes.mm maybe you have the same handout as me?

(2 lines of text)

11. three [Guest] [to Starbuck]: I think so too. Byebye!

As can be seen above, Starbuck's initial attempts to obtain a partner are unsuccessful. In move 1, he contacts the *Midoron* in an utterance that incorporates the *to* command and negative politeness, in this case, the use of formal language (would you mind?) designed to display respect for the addressee. However, he is ignored as this subject is already working with another partner. Starbuck then adopts a different approach and in move 5, contacts a new arrival *Three* with an informal greeting that incorporates use of the *to* command. Although this learner responds promptly, it soon becomes apparent that both learners hold the same task sheet and therefore need to find new partners, as the subjects were requested to find a partner with a different task sheet. Three lines later, Starbuck adopts a new approach. He temporarily drops use of the *to* command and makes two rapid appeals to the group:

12. Starbuck asks, "Does anyone has no pair?"

(1 line of text)

13. Starbuck says, "I need your help"

However, this change of strategy is unsuccessful as these appeals meet with no response. After two lines of text scroll, Starbuck again reverts to utilizing the *to*

command, on this occasion, in a polite request directed towards another learner who adopted the character name Vekki:

14. **Starbuck [to Vekki]: would you be my partner?**

(3 lines of text)

15. **Vekki [to Starbuck]: We can work together, Starbuck.**

(4 lines of text)

16. **Starbuck [to Vekki]:** Thanks.Let`s start. Words we have stand for Pigeon.

As can be seen above, in move 15, Starbuck's change of strategy is successful as his utterance meets with a positive response that also incorporates the *to* command. From move 15 onwards, a dyad is formed that lasts for the duration of the session. The interaction in excerpt 2 draws attention to the effectiveness of the *to* command as a means to contact and secure a task partner. As the above interaction shows, use of this command was an efficient means to secure a prompt response. As can be seen in moves 5, 8, and 14, when Starbuck used this command a response was usually forthcoming within 3 to at most 5 turns. The above interaction not only demonstrates the effectiveness of this command in obtaining task partners, it also shows the high degree of interest, motivation and focus on task displayed by the subjects that was to be a characteristic of this session and the project as a whole. Moreover, this interaction shows how Starbuck displayed considerable persistence in both obtaining a partner and initiating task procedures in an appropriate manner.

Use of the *to* command further facilitated the turn tracking associated with the other types of addressivity identified in session 5. The effectiveness of the *to* command as a means to follow messages as they scrolled down the screen in real time can be observed in the following excerpt from a later stage of the session. This involved an on-going interaction between Nora (formally Mahatir) and her partner Aoi:

(3) 1. **Nora [to chikapon [Guest]]:** That's right.

(4 lines of text)

2. chikapon [Guest] says, "keep going, this word is a kind of subject. and this means all things that happened in the past."

(8 lines of text)

3. chikapon [Guest] says, "Nora, we can ask each other at the same time, I think it will save the time."

(1 line of text)

4. **Nora [to chikapon [Guest]]:** It is difficult. Can you give me a more hint?

(7 lines of text)

5. chikapon [Guest] says, "we study the world war 2nd or some thing like that in this subject"

(1 line of text)

6. chikapon [Guest] asks, "nora, is it absence?"

7. **Nora [to chikapon [Guest]]:** I see, It's history right?

8. chikapon [Guest] exclaims, "right!"

Excerpt 3 shows that Nora's use of the *to* command enabled her to both track her own turns and those of her partner. As can be observed, although there were considerable delays between Nora's turns, 13 lines between her utterances in moves 1 and 4 and 9 lines between moves 4 and 7, the visual saliency provided by this command enabled Nora to easily track her utterances and reconnect appropriately with the sequence of turns. Moreover, this interaction draws attention to the continuing presence of zero addressivity in the data. As can be seen above Chika, who for this session had adopted the pseudonym *Chikapon*, did not use it. This may be due to a lack of knowledge. However, a more plausible explanation for this finding may be that the use of the *to* command by one member of a dyad appeared sufficient for dyad members to track each other's turns effectively.

The extensive use of the *to* command was a noteworthy feature of the interaction in the later sessions. As table 8.2 shows, this strategy emerged during session 8 of the project and its use increased as the research progressed. I found that, from session 9 onwards, it became the most frequent type of addressivity in the data.

Table 8.2 Frequency of the *to* command weeks 4 though 13

Week	Total all dyads
4	0
5	0
6	0
7	0
8	37
9	189
10	126
11	471
12	129
13	80
Total	1032

The absence of *to* command in the data prior to session eight represents an interesting feature of the data given that the students were introduced to it during the orientation. However, its emergence from session 8 onwards is an encouraging finding, as it indicates that the learners began to exercise increasing autonomy by exploring the environment on their own initiative outside the regular sessions³. The use of this strategy further reflects the fact recorded in my field notes that, as the project progressed, the participants became more familiar and comfortable with the features of the MOO environment designed to support discourse management. A likely motivation for the use of this optional command was that it functioned as an effective visual guide. As I have noted previously, this command highlights a sender's and recipient's name onscreen. This made it easier to identify, and nominate, potential partners during the real time interaction where messages were intermixed as they scrolled down the screen. It further appeared to reduce the possibility of replies being made to other non-relevant messages. Moreover, as the examples analyzed in this section have shown, use of the *to* command assisted interaction management and the completion of the task by facilitating the tracking of turns and reconnection with the sequence of turns when delays occurred.

8.3.2 Strategies of floor holding: split turns

My analysis revealed that the subjects in session 11 made use of split turns on 10 occasions. As I reported in chapter 7 (section 7.3.2), this strategy was used as a means to change the function of the discourse and provide additional

³ No additional training in using MOO commands was provided out with the orientation period.

information relevant to the task. The data in table 8.3 shows that the frequency of split turns in session 11 was somewhat lower than that reported in session 5 where I identified a total of 14 instances. In another difference, there no examples of split turns utilized to manage multiple interactions. This finding appears due to the dyad-based nature of the interaction during session 11.

Table 8.3 Frequency and use of split turns during session 11

	Change of function	Providing additional relevant information	Managing multiple interactions	Total for the 4 members of the subject group	Total for all 14 subjects
Frequency	1	1	0	2	2+8=10

A noteworthy example of a split turn (used by Nora) occurred at a later stage of the session:

- (4) 1. chikapon [Guest] asks, "desire?"
 (2 lines of text)
 2. Nora [to chkapon]: Is it news?
 3. Nora [to chikapon [Guest]]: **pingpong!**

In the first line of this split turn, Nora reacts to a task-related utterance (hint) made several turns earlier by Chika. In move 3, she confirms that Chika's response made in move 1 is correct, through the use of the Japanese expression *pingpong* meaning *that's right*. This very rare use of L1 (I could find no other examples during the session) highlights a positive feature of the interaction revealed by my analysis of the transcripts and observations of the learners in this and the other sessions. Namely, that in contrast to the findings reported in some other studies on learner interaction in real time CMC (see results of studies conducted by Chun, 1994 and Fernandez-Garcia & Martinez-Arbelaiz, 2000 discussed in chapter 3 sections 3.2.1 and 3.3.2), all of the subjects made great efforts to conduct their interaction in the TL.

8.3.5 Strategies of time saving

In a similar finding to that reported in chapter 7, the learners made use of transactional strategies designed to save time. However, there was a significant difference in the frequencies of these strategies between the two sessions.

Table 8.4 Time saving strategies during session 11

Strategy	Use of abbreviations	Use of acronyms	Simplified syntax	Total for 4 members of the subject group	Total all subjects
Frequency	10	1	4	15	15+3 18

Table 8.4 shows that the subject group in session 11 and the learners as a whole, made greater use of time saving devices than in session 5 (see chapter 7 section 7.3.3). In session 11, the most frequent time saving strategies were the use of abbreviation (10 instances) followed by simplified syntax (4 instances). In contrast to session 5, all members of the subject group made use of the former strategy. The most frequent forms of abbreviation were the letter *u* for you and *no* for number, as can be seen in the following instances produced by members of the subject group:

- (5) chikapon [Guest] asks, "good! are **u** ready to start?"
- (6) aoi [Guest] says, "**no**.5,the opposite of fail to the goal."

Although there was no increase in acronym use, Starbuck displayed some understanding of a communication convention that prevails in NS text chat by utilizing the well-known Internet acronym *LOL* (laughing out loud) at a later stage of the session, as can be seen below:

- (7) Starbuck [to Vekki]: I have to go,give me all the answer!! **LoL** See you next time. Thanks

In comparison to the findings reported in chapter 7, the use of transactional time saving strategies increased for the subjects as whole. This finding reflects the increasing level of competence in dealing with the keyboard-based nature of the interaction displayed by the subject group and the other participants during the later stages of the project. Although the incidence of these strategies was far lower than that reported in studies of NS chat (see Murray, 2000, Werry, 1996), this finding is not unexpected, given the subjects' limited L2 proficiency and experience of virtual communication environments.

8.3.4 Strategies of feedback

The learners used various types of feedback strategy that have been reported in studies of NS interaction in MOOs (see Cherny, 1999). As was the case previously, these strategies were designed to indicate pitch and intonation. They further signaled attention and appeared a useful means to indicate that the interaction was on-going.

Table 8.5 Feedback strategies during session 11

Strategy	Total for the 4 members of the subject group	Total all subjects
Emoticons	1	1+1=2
Upper case	1	1+7=8
Exclamation marks	38	38+191=229
Exclamations	3	3+5=8
Suspension dots	7	7+7=14
Total	50	261

Table 8.5 shows that the subject group, and the other learners, greatly increased their overall use of these strategies. I identified 50 instances in total during session 11 compared to 28 in session 5 (see chapter 7 section 7.3.4). This finding mirrored the results for the learners as a whole, and suggests that the subjects found them to be a mutually effective means to both display, and ascertain, attention states during the interaction. The use of the above feedback strategies emphasizes the participants increasing level of comfort with the MOO environment and awareness of certain NS communication norms in CMC. Feedback strategies identified in the data for session 11 included the occasional use of emoticons to display emotional states. As in the previous session, these were also instances of the use of upper case to signal emphasis:

- (8) 1. Vekki [to Starbuck]: um.. maybe, 'peace'?
2. Starbuck [to Vekki]: **YES!**Now your turn.

However, the use of this strategy was limited. This finding may be a result of the subjects awareness that its over use could lead to misunderstandings (see discussion in chapter 7 section 7.3.4). There were also instances of the use of particular feedback strategies that have not been reported in the literature on learner-learner interaction in MOOs. A good example can be observed in the use of suspension dots. In contrast to session 5, where the learners utilized this strategy to signal uncertainty (see chapter 7 section 7.3.4), their most frequent use in this session was to indicate a pause. This phenomenon has been

identified in studies of NS MOO-based interaction (Cherny, 1999). An example of this use of suspension dots produced by Chika was:

- (9) chikapon [Guest] says, "didju read this sentence?...next one is noun, and it means a conversation in a book or text."

Another type of feedback strategy that occurred more frequently than previously (8 instances) was the utilization of exclamations such as *oh* and *wow* to show surprise and signal that the interaction was being monitored. A further similar type of feedback strategy that was more frequent than in session 5 (where only 39 examples occurred) was the extensive use of exclamation marks. These were used mainly to display positive feedback and a friendly attitude. A typical occurrence may be observed in excerpt 10 below⁴:

- (10) 1. chikapon [Guest] asks, "love?"
 2. Nora [to chikapon [Guest]]: yes!!!

As table 8.5 shows, the interaction was replete with examples of this strategy. A total of 229 instances were identified. My analysis shows that exclamation marks were utilized more frequently than would be the case in normal writing. This finding, coupled with the increased use of other feedback strategies during session 11, indicates that in the online MOO environment these strategies were an efficient and effective means to provide the feedback that is supplied by intonation, eye contact, gestures and facial expression in face-to-face communication.

8.3.7 New transactional discourse management strategies: Omission and quotation

In my analysis of the transcripts, I identified new transactional discourse strategies absent in session 5, which have not been reported in the literature on learner interaction in MOOs. These strategies were the use of omission and quotation.

Table 8.6 Frequencies of omission and quotation in session 11

	Total for the 4 members of the subject group	Total all subjects
Omission	9	9+15=24
Quotation	8	8+26=34

⁴ Exclamation marks were further utilized during closings to signal leave-takings this example of strategy use will be examined in section 8.3.8.

As can be observed in table 8.6, the omission of text a well-know strategy in NS chat (Murray, 2000), occurred on 24 occasions during the session. All members of the subject group utilized this strategy when supplying additional task related feedback. An interesting use occurred in an exchange involving Nora and Chika:

- (11) 1. Nora [to chikapon]: is that expression?
2. chikapon [Guest] says, "no..."
3. chikapon [Guest] says, "**it begins with d**"
- (2 lines of text)
4. chikapon [Guest] asks, "**Nora, I have no idea to your question. can I have more hints?**"
5. Nora [to chikapon [Guest]]: I give you a hint. **it start with u.**
- (5 lines of text)
6. chikapon [Guest] asks, "**understanding?**"
- (1 line of text)
7. Nora [to chikapon [Guest]]: Yes!

In excerpt 10, both of these learners appear to be experiencing difficulties coming up with the correct vocabulary item required by the task. In an attempt to provide helpful feedback, both subjects in moves 3 and 5, omit some information but in a supportive behavior characteristic of the session supply their partner with the first letter of the target vocabulary item required by the task. The use of this strategy by Nora in move 5 quickly resolves the issue. In move 7, Nora confirms that utterance produced by Chika in move 6 has provided the correct answer. The above example illustrates the effectiveness of this strategy as a means to prevent communication breakdowns.

A further interesting adaptive strategy that emerged in this session that has also yet to be reported in the literature on learner-learner interaction in MOOs was quotation. As can be seen in table 8.6, the subjects utilized it on 34 occasions. During the session two members of the subject group, Nora and Starbuck utilized this strategy. In contrast to NS text chat, where users frequently implement quotation as a form of reference (Herring, 2001), these subjects employed it in an innovative manner. They used it in combination with other strategies within a

single utterance in order to assist their partners in avoiding difficulties. This type of combined strategy use that was a notable feature of the interaction in this, and the later sessions, as can be seen in the following excerpt:

(12) 1. **Starbuck [to Vekki]: Next word.It starts with `U`. And it means to comprehend**

(2 lines of text)

2. Vekki [to Starbuck]: You mean understand?

(1 line of text)

3. **Starbuck [to Vekki]: do it in Contunious Tense +ing**

(2 lines of text)

4. Vekki [to Starbuck]: Then, understanding?

(1 line of text)

5. **Starbuck [to Vekki]: Yes :-)**

In this interaction Starbuck first uses the *to* command and then supplies assistance in the form of a hint that incorporates the strategy of quotation combined, in this example, with upper case. Although Vekki's response is close in meaning to the required target item, in move 3, Starbuck, who again uses the *to* command, quickly provides additional appropriate feedback that includes a specific grammar-based hint. This helpful teacher-like feedback is successful and in move 5 Starbuck confirms that the modified output is correct through a combination of strategies, first, the provision of positive feedback designed to display both comprehension and agreement. Then, a strategy identified previously, the use of an emoticon. The utilization of this interactional strategy contributed to the active maintenance of the supportive atmosphere than prevailed during the session, by signaling a positive feeling in this case happiness.

The emergence of these new strategies highlights the focus on task displayed by the learners. A noticeable feature of session 11 was the absence of off-task discussion. My analysis revealed that in contrast to session 5, where the subjects made occasional forays into non-task areas during the interaction (see chapter 7 section 7.3.8), the subject group and all of the other ten participants displayed a consistent focus on completing the task. As I have noted in chapter 7, this finding confirms results reported in a number of other studies involving MOO-based

tandem learning (for example see findings reported by Von Der Emde et al., 2001 in chapter 3 section 3.5.5). An example of this phenomenon can be observed in the interaction between Starbuck and Vekki, who made great efforts to complete the task by the end of the session. This encouraging finding that I observed in the other sessions, may be attributed to a number of factors. The most influential of these may have been task-induced effects. I noted in my field notes for session 11 that the subjects were clearly motivated by the content of the task. It appears that the presence of low frequency vocabulary items stimulated their interest and engagement making them eager to participate. The focus on task completion may also, in part, reflect awareness on the part of the subjects that their interaction was being observed and recorded. However, a more convincing partial explanation for the focus on task completion can be found in sociolinguistic and cultural factors. In observing the sessions conducted in this research, I recorded in my field notes that the majority of the subjects, who were Japanese with limited experience of MOO environments, transferred many of their L1 classroom practices to the online MOO environment (see discussion in chapter 9 section 9.5). Their interaction reflected the strong preference displayed by many Japanese learners for following teacher instructions carefully in order to avoid threats to the teachers' face and the possibility of breakdowns in interpersonal relationships (Lebra, 1976). The strong focus on task also reflected that unlike in some studies of learner interaction in MOOs (see, for example, Pinto 1996, and Warner 2004, discussed in chapter 3 section 3.5.6), the learners took the interaction in this session seriously for the most part. Moreover, they made commendable efforts to complete the task on their own initiative.

8.3.6 Strategies used to attract attention, establish and maintain speaker identity, presence and co-presence: use of character names

Of the interactional strategies identified in session 11, new behaviors emerged with regards to the strategy identified previously of using character names (pseudonyms) in the MOO. As can be seen in the table 8.7 below, the majority of the subjects utilized a character name during the session and this strategy increased compared to session 5 (see table 7.5 chapter 7 section 7.3.5).

Table 8.7 Instances of real name and pseudonym use in session 11

Number of subjects	Number of subjects who utilized a character name	Number of subjects who utilized their real name
N=14	12	2

In a positive finding similar to that reported in chapter 7, the majority of the subjects utilized a non-threatening character name in an attempt to create the sense of identity, telepresence and co-presence necessary for effective communication in the virtual MOO environment (Ornberg, 2003). As in session 5,

the adoption of non-threatening pseudonyms enabled the learners to create a positive impression and present a co-operative face to the group. This strategy facilitated the development of collaborative interpersonal relationships and contributed to the maintenance of the supportive atmosphere that was a characteristic of the interaction in this session and of the project as a whole. The success of this strategy can be seen in the friendly nature of the interaction that prevailed during the session and the absence of flaming in the transcripts.

There were also significant individual differences within the subject group regarding the selection of names. Of the subjects who adopted a character name, Starbuck continued with the same pseudonym as session 5. However, as I noted in section 8.1 and in contrast to session 5, two members of subject group (Chika and Mahatir) experimented with new online identities. As can be seen in excerpt 3, Chika utilized the character name Chikapon for the duration of the session. The subject who had previously adopted the male pseudonym Mahatir undertook the most radical change. In an apparent attempt to experiment with role-play, this learner adopted a female native speaker name (Nora) during the session (see excerpt 3). This strategy highlights a major advantage of learning in MOOs emphasized in the literature (Shield, 2003), namely, that unlike in conventional classrooms, in real time CMC environments where the communication is achieved through typed text learners can experiment and take risks in an environment in which threats to face and sociocultural concerns are somewhat lowered. The data analyzed in this chapter shows that the learners did indeed take advantage of the anonymity offered by the MOO to take risks, experiment with language and new online identities (see for example excerpts 10 and 11). The use of pseudonyms appears, in this session at least, to have somewhat reduced status concerns amongst the participants. However, as I will argue later, over the project as a whole, the anonymity afforded by the online nature of the interaction did not appear to fully remove these concerns⁵.

My analysis of the transcripts revealed a further positive feature of the interaction. In this later stage of the project, and in contrast to the earlier sessions, two of the learners in the subject group Nora and Starbuck applied for, and obtained, regular player status in the MOO. Their new status can be ascertained from the observation that their names no longer carried the *guest* player notation (see, for example, excerpts 2 and 10). This finding was mirrored in the group as a whole, where by this stage, a total of 6 subjects had also obtained regular player status. As I have noted in chapter 5 (section 5.2.4), obtaining a higher level of user status requires some effort on the part of an individual user. This finding reflects the exercise of a considerable degree of autonomy on the part of these learners, as there was no requirement to obtain higher levels of user status. Furthermore, this finding suggests increasing motivation. The data showed that these subjects

⁵ I will return to this important issue in the following chapter.

were clearly willing outside of regular class to invest the time and effort necessary to obtain a higher level of user status.

8.3.7 Strategies used to establish and maintain social cohesion: Politeness

The data collected in session 11 showed that the learners continued to utilize the politeness strategies identified in session 5⁶. This confirms the findings reported in Weininger & Shield (2003), which were discussed in chapter 3 (section 3.5.6). In terms of positive politeness, as can be observed in table 8.8, my analysis of the data identified the presence of a total of 160 instances of the use of positive politeness strategies. This table indicates that a total of 6 negative politeness strategies were also found.

Table 8.8 Frequency of positive and negative politeness strategy use during session 11

Type of politeness strategy	Total for all 4 members of the subject group	Total for all learners
Positive politeness	46	46+114=160
Negative politeness	5	5+1=6
Total	51	166

The above table also shows that, in contrast to session 5, where I identified a total of 91 politeness strategies (see chapter 7 table 7.8 section 7.3.6), the subject group, and the learners as a whole, made greater use of these strategies than previously. As was the case in session 5, positive politeness strategies designed to display familiarity and emphasize in-group status were significantly more frequent than negative ones. In a finding similar to that reported in chapter 7, the most frequent types of positive politeness strategies were the use of continuers followed by inclusive forms. There were also occasional instances of colloquialisms and humor. Negative politeness strategies were used mainly in making requests or apologies. As previously, these incorporated formal language used to display social distance and respect for the addressee. However, as in session 5, they were infrequent. The prevalence of positive politeness strategies reflects their success in fostering supportive interpersonal relationships and the relaxed atmosphere that prevailed during the session. The increasing use of these strategies demonstrates that as the project progressed the subjects developed cordial relationships. This finding was confirmed not only by my observations of the interaction in this, and the other sessions, but also by the absence of anti-social behaviors in the transcripts. The use of politeness strategies provided an important means to sustain the collaborative interpersonal

⁶ Politeness strategies also occurred during greetings and leave-takings this finding will be discussed in the following section.

relationships that had developed during the sessions. These strategies further supported a sense of rapport and contributed to the maintenance of a sense of continuing social cohesion.

8.3.8 Strategies used to establish and maintain social cohesion: Greetings and leave-takings

Evidence for the influence of sociocultural concerns on the participants, and the transfer of interactional discourse management strategies found in face-to-face communication, can be observed by the presence in the data of ritual interchanges involving the use of greetings and leave-takings. In a finding that echoes results reported in chapter 7 (section 7.3.7), I discovered that the learners in session 11 engaged in greetings and leave-takings similar to those identified in studies of NS interaction in real time CMC (Rintel, Mulholland & Pittam, 2001). This finding shows that the context of use and social factors influenced the subject's strategy use and lends credence to the contention made by Yates (1999) that:

CMC is affected by the numerous social structural and social situational factors which surround and define the communication taking place (p.46).

Table 8.9 Frequencies of greeting formulae used in session 11

Greeting type	Total for the 4 members of the subjects group	Total used in initiating interaction with named individual or the group (all subjects)	Total used in response all subjects	Total all subjects
Hi/hi	5	6	3	9
Hello	1	3	1	4
How are you?	1	2	3	5
Total	7	11	7	18

My analysis of the transcripts revealed that the learners utilized the strategy of informal greetings in order to obtain task partners. As table 8.9 shows, compared to session 5, the total number of greetings was unchanged (see chapter 7, table 7.9 section 7.3.7). However, the range of greetings used was fewer with only 3 types compared to 5 previously. Examples of this type of strategy use can be observed in the following excerpt:

- (13) 1. aoi [Guest] arrives through the heavy oak doors that enter from the mall.
(2 lines of text)
2. aoi [Guest] exclaims, "**hi!**"
(1 line of text)
3. Wing **[to aoi [Guest]]: how are you?**
(3 lines of text)
4. chikapon [Guest] arrives through the heavy oak doors that enter from the mall.
(3 lines of text)
5. chikapon [Guest] exclaims, "**hi, everyone!**"
6. Nora arrives through the heavy oak doors that enter from the mall.
7. aoi [Guest] says, "**iam fine. but a little sleepy. how about you?wing**"
(2 lines of text)
8. Nora says, "**Hello.**"
(2 lines of text)
9. Wing **[to aoi [Guest]]: I'm well! will you be my partner today?**
10. chikapon [Guest] asks, "**anyone can be my pertner, please?**"
11. Nora says, ""**Hello, chika.**"
(2 lines of text)
12. chikapon [Guest] asks, "**Hi, Nora! how are you today?**"
13. **Nora [to chikapon [Guest]]: I'm fine.**
(1 line of text)

14. chikapon [Guest] asks, "good! **are u ready to start?**"

15. Wing exclaims, "**aoi please be my partner!**"

(1 line of text⁹)

16. Nora says, "**Sure.**"

17. aoi [Guest] says, "**yes of course!lets work together,wing.**"

This interaction demonstrates that during the opening period of the session, learners utilized a variety of both formal, and more frequently informal greetings, directed toward either specific individuals or the group. As was the case in session 5, these were designed to attract attention and present a co-operative face. The use of these greetings further signaled a positive attitude and the desire to establish and maintain collaborative interpersonal relationships. As the above interaction shows, this strategy was an efficient and effective means to obtain a task partner. My analysis and observations indicated that the strategy of using informal greetings played an important role in contributing to the creation of a positive atmosphere in the online MOO environment, where social context cues such as age and status, are either absent or reduced. I found that as in session 5, the subject's use of greetings followed the model proposed by Rintel & Pittam (1997), which was discussed in chapter 7 section 7.3.7. However, there were also differences. In contrast to the findings reported in chapter 7, after the learners formed dyads they promptly moved to commence work on the task. Moreover, these dyads were maintained for the duration of the session. In a further difference, that reflects the focus on task displayed by the participants, group discussion was largely absent after the opening stage of the session.

My analysis of the interaction during the opening phase of session 11 revealed a further interesting finding. I discovered that a member of the subject group Starbuck, did not enter the conference center that had been the venue for the previous sessions. Close examination of the transcripts revealed that he, along with several other learners, moved to the student union in order to conduct his interaction. This finding highlights the increasing level of autonomy and planning displayed by the learners, as they had received no instructions to do this beforehand. This finding indicates that these participants had explored the MOO environment and had apparently agreed, outside of regular class time, to meet in this new location prior to the start of the session.

As was the case in session 5 leave-takings also occurred. A typical instance can be observed in the following interaction:

(14) 1. chikapon [Guest] asks, "Nora, Im **really sorry** but I gotta go to the next class in 10 minutes... **can I go now?** "

2.Nora [to chikapon [Guest]]: Nwxt one is none,means not to lie.

(5 lines of text)

3. chikapon [Guest] asks, "the last word is truth?"

(1 line of text)

4. chikapon [Guest] asks, "or honesty?"

(2 lines of text)

5. Nora [to chikapon [Guest]]: **you can go now.** last one is honesty.
Thanks chika.

(4 lines of text)

6. chikapon [Guest] says, "**Im sorry and I do appreciate you!!** the last word is yacht."

7. chikapon [Guest] exclaims, "**see you nora!**"

(2 lines of text)

8. Nora [to chikapon [Guest]]: **See you,Chikapon!**

The above sequences display a leave-taking routine that is similar to that found NS interaction (Rintel & Pittam, 1997). As in chapter 7, Nora is involved in a prolonged series of exchanges incorporating the appropriate use of both negative and positive politeness strategies that are designed to achieve what Laver (1975) describes as a "cooperative parting". In this interaction, the subjects further utilize exclamation marks as a feedback device designed to signal that the interaction is coming to a close. The above interaction displays the friendly informal tone that prevailed for the duration of the session.

Another leave-taking displays the consistent focus on task completion that was a feature of the interaction throughout the session. As can be seen in the next excerpt, although the other subjects are disconnecting or are engaged in bringing their interaction to a close both Wing and Aoi made determined attempts to complete the task:

- (15)
1. aoi [Guest] says, "next, the opposite of peace, but not war. smaller than war."
 2. aoi [Guest] asks, "car?"
 3. Wing [to aoi [Guest]]: yes!
 4. Wing [to aoi [Guest]]: battle?
 5. Keisuke asks, "to jogja sign of V is what stand for?"
 6. jogja [Guest] [to Keisuke]: victory! right? very sorry, it's time to finish up. see you.
 7. Keisuke exclaims, "to jogja Exactly!! see you again!"
 8. Wing [to aoi [Guest]]: "dispute"?
 9. jogja [Guest] has disconnected.
 10. A campus caretaker arrives, and escorts jogja [Guest] to bed.
 11. Wing [to aoi [Guest]]: **we have to finish today. thank you! bye!!**
 12. aoi [Guest] says, "no, it is a state of disagreement or argument between people, groups, countries etc. the first word is c."
 13. Wing has disconnected.
 14. The housekeeper arrives to cart Nora off to bed.
 15. aoi [Guest] says, "**see you next time!**"

In the closing stages, all of the subjects made efforts to bring their interactions to a close in an appropriate manner. Although there were differences between the dyads in how this was achieved due mainly to time pressures, there were no examples of the abrupt leave-takings that occurred in session 5 (see the behavior of Aoi reported in chapter 7 section 7.3.7). Analysis of the data also revealed that the subjects as a whole, made somewhat greater use of leave-takings than in session 5. This finding, coupled to the absence of sudden departures, provides evidence to suggest that as the project progressed the participants began to value their relations with other learners. As can be observed in excerpt 15, they made efforts to leave a good impression in order to facilitate supportive task relationships in future sessions.

8.4 Conclusions

The findings analyzed in this chapter display a number of similarities and differences from those reported in session 5. As was the case previously, all of the learners actively participated and utilized a mix of transactional and interactional discourse management strategies. As can be seen in table 8.10, the subject group and the other participants, used a total of 910 transactional strategies. This represents a significant increase compared with the total of 321 reported for session 5 (see table 7.10 chapter 7 section 7.4). The interaction analyzed in this chapter shows the effectiveness of these strategies in maintaining interaction and preventing communication difficulties. In managing their interaction, the learners undertook many of the language functions involved in the development of communicative competence, such as, asking and answering questions in an appropriate manner. They further offered helpful advice on how to manage the turn taking (see except 3 move 3). Although the data examined in 8.3.8 has shown that the subjects were not always able to satisfactorily complete the task items within the time available, the majority of the participants managed to complete the challenging task by the end of the session. This was a considerable achievement given the limited nature of the subjects' L2 proficiency. Moreover, they continued to utilize the unexpected NS discourse management strategies identified in chapter 7, including split turns and suspension dots in order to deal with the real time computer-based nature of the interaction. The data examined in this chapter provides evidence to indicate that the learners made effective use of these medium induced strategies.

Table 8.10 Frequencies of transactional discourse management strategy use in session 11

Strategy	Total number of transactional strategies for the 4 subjects	Total for all subjects
Addressivity (all types including use of the <i>to</i> command)	149	149+414=563
Split turns	2	2+8=10
Time saving	15	15+3=18
Feedback	50	50+211=261
Omission	9	9+15=24
Quotation	8	8+26=34
Total	233	910

Interesting differences also emerged. For example, the findings provided in table 8.10, show that the subjects significantly increased their use of addressivity. As table 8.10 shows, 563 instances of this strategy were identified, a higher total than the 235 reported in chapter 7 (see table 7.1 section 7.3.1). A major finding was the emergence of a strategy absent previously, namely, the MOO-specific *to* command. The analysis conducted in section 8.3.1 has demonstrated that this type of addressivity was significantly more frequent than other types. I have also shown that the learners utilized more time saving strategies (section 8.3.3). Moreover, they and increased their use feedback strategies substantially (8.3.4) compared to session 5 (section 7.3.4). In another contrast to session 5, the learners frequently employed multiple strategies in a single utterance. Taken together, these findings emphasize the participants' increasing knowledge of, and comfort with, the MOO system. Although multiple threading, delays and disrupted turn adjacency were no doubt a distraction the use of the above strategies supported turn tracking, the signaling of attention and the efficient real time exchange of information focused on the task. Evidence for this interpretation may be seen in the opening stage of the interaction, where the process of dyad formation proceeded more smoothly than previously. Furthermore, in their task work the subjects (as in session 5), answered almost all questions and succeeded admirably in moving the discourse forward while at the same time producing coherent TL output focused on the task. This aspect of the interaction represents a positive finding, that contrasts with the results reported in other studies on learner-learner interaction in MOO-based CMC (see discussion of the data reported by Pinto 1996 and Warner 2004 in chapter 3 section 3.5.6), where the subjects were frequently unable to engage in extended periods of interaction. The analysis also reveals a wider range of transactional strategies than in the previous session, and the presence of new adaptive strategies that were absent in session 5. In addition to the *to* command, the new strategies of omission and quotation emerged (section 8.3.5). These have not been reported in the literature on learner-learner interaction in MOO-based CMC. The presence of these adaptive strategies demonstrates that the subjects were not only becoming increasingly more efficient users of the MOO environment, they also displayed a developing awareness of the norms of communication in NS chat.

The subjects also significantly increased their use of interactional strategies compared to session 5 (see table 7.11 chapter 7 section 7.4). As can be observed in table 8.11, I identified a total of 210 instances for session 11 compared with 132 for session 5. The analysis in this chapter has demonstrated that there were significant increases in the use of character names, politeness, greetings and leave-takings.

Table 8.11 Frequencies of interactional discourse management strategy use in session 11

Strategy	Total number of transactional strategies deployed by the 4 subjects	Total for all subjects
Character names	3	3+9=12
Politeness	51	51+115=166
Greetings and leave-takings	13	13+19=32
Off task discussion	0	0+0=0
Total	67	210

This finding draws attention to the continuing influence of sociocultural concerns on the interaction, and indicates that these strategies were an effective means to establish and maintain supportive interpersonal relationships. The analysis in this chapter emphasizes that the learners as a group valued social relations with their peers, showed consideration for their partners and encouraged them (see for example excerpt 3 move 2). They also assisted each other by providing helpful appropriate and on occasion teacher-like feedback (excerpts 11 and 12). Indeed, the analysis in sections 8.3.7 and 8.3.8 has shown that the participants went to considerable lengths to both establish, and maintain, these relationships by meeting the face wants of their interlocutors through the appropriate use of politeness, greetings and leave-takings.

The subjects also avoided engaging in the aggressive or attention-seeking behaviors that are a well-documented feature of NS chat (Hentschel, 1998). Instead the interactional strategies used by the participants proved an effective means to reduce the risk of misunderstandings occurring. They also played an important role in the establishment and maintenance of the supportive atmosphere that was sustained for the duration of the session. Although a relaxed atmosphere prevailed, I observed that, in contrast to the findings reported in other studies involving learner interaction in CMC, the subjects took the interaction seriously. They displayed a consistent and commendable focus on the task. Although the majority of the subjects were Japanese university students, a learner group that is frequently characterized in the literature as passive and lacking motivation (McVeigh, 2002), this group appeared highly engaged in the interaction while displaying considerable motivation and autonomy. Examples of these behaviors include that they applied for, and obtained, registered user status, discovered and utilized MOO specific communication commands such as

the *to* command and explored the environment outside of regular class time, in the case of Starbuck and several other learners arranging to meet in a new location in the MOO prior to the start of the session. Furthermore, members of the subject group took advantage of the anonymity provided by the use of pseudonyms to express themselves, experiment with new online identities and take risks⁷. Utilizing unique non-threatening character names enabled the subject group to establish the sense of presence and co-presence necessary for effective communication in the absence of the many social context and paralinguistic cues that influence face-to-face to communication. The use of these strategies contributed to the creation of the strong sense of social cohesion evident in the data.

⁷ The learners largely positive views on the advantages of using pseudonyms will be examined in chapter 10 section 10.3.6.

Chapter 9 Communication strategy use and negotiation of meaning in the Schmooze MOO

9.0 Introduction

This chapter investigates the communication strategies employed by the subjects during task-based interaction. As I stated in chapter 2, these are the strategies utilized when a communication problem occurs during interaction. In the discussion, a central focus of investigation will be the communication strategies used to resolve non-understandings during a type of communicative exchange known as negotiation of meaning. From the perspective of social interactionist accounts of SLA, negotiation is perceived to be one of the most significant forms of interaction, because, it can provide the conditions in which second language acquisition may occur (Long, 1996; Pica, 1994).

In the analysis in this chapter, I shall address the following research questions that were introduced in chapter 4, namely:

- 2) What factors cause communication problems between non-native speakers during MOO-based CMC?
- 3) Do MOOs provide an environment where learners can utilize the communication strategies that play a central role in the negotiation of meaning?
- 4) Are there any differences in NNS communication strategy use in MOO-based CMC compared to face-to-face and other types of real time CMC interaction?
- 5) Is there any relationship between task type and the incidence of negotiation of meaning involving NNS interaction in MOO-based CMC?
- 6) What factors may have influenced the frequency of negotiation?

I pursue these questions, because as I have noted above, the form of interaction known as negotiation of meaning has been identified in the interactionist literature as one of the major factors that may have a positive influence on learner L2 development (Kasanga, 1996; Long, 1996; Porter, 1986; Varonis & Gass, 1985)¹. In order to investigate the above questions, and add to the literature, I examined the learner discourse in order to identify instances of the communication strategies involved in the process of negotiation. My approach was influenced by the view proposed by Chapelle (2003) that:

¹ For alternative views on the role and importance of negotiation in SLA see Van Lier & Matsuo, 2000.

One way of evaluating CMC has been to look for sequences of negotiation of meaning that have played a key role in the study of oral face-to-face communication. The idea is that sequences showing a communication breakdown and repair are indicative of points where second language acquisition may occur due to the learner's attention to language and receipt of modified output, or to the need to produce modified output. (p.4)

I investigate the data using the method and procedures outlined in chapter 4. In the analysis, I utilize an influential model of NNS negotiation proposed by Varonis and Gass (1985). This approach was adopted in order to identify the linguistic factors that could trigger negotiation of meaning during learner-learner interaction in MOO-based CMC. I also examined the data for the presence of the communication strategies associated with negotiation and investigated the possible influence, if any, of task type on the frequency and extent of learner negotiation in the Schmooze MOO environment. Finally, I attempt to account for the incidence of negotiation in the data as a whole and explore if there are any observable differences in NNS communication strategy use in MOOs compared to face-to-face interaction and other types of real time CMC.

9.1 Negotiation, communication strategies and interaction

As mentioned in chapter two, it is claimed that interaction involving negotiation of meaning plays an important role in second language development. From the perspective of interactionist research, the process of negotiation of meaning has been characterized by Pica (1994) as:

the modifications and restructuring of interaction that occurs when learners and their interlocutors anticipate, perceive, or experience difficulties in message comprehensibility. As they negotiate, they work linguistically to achieve the needed comprehensibility, whether repeating a message verbatim, adjusting its syntax, changing its words, or modifying its form and meaning in a host of other ways. (p.494)

The literature on face-to-face interaction indicates that negotiation during social interaction involves the use of communication strategies such as clarification requests, comprehension checks and confirmation checks that enable learners to better comprehend problematic input (Long, 1985; 1996). The use of these strategies "pushes" learners to improve their accuracy and further results in the production of modified output (Long, 1983; Ellis, Tanaka & Yamazaki, 1994), a process that is perceived as supporting SLA (Gass, 1997). Moreover, the process of negotiation frequently involves the production of negative feedback such as, recasts and corrections (Ellis, 1995). These strategies raise learner awareness of TL forms by helping learners to "notice the gap" (Gass, 1997 p.4), and therefore improve accuracy and support self-correction (Long, 1996). Research conducted in classroom environments suggests that learner-learner interaction during tasks may provide opportunities for learners to negotiate

meaning. For example, a study involving task-based interaction between Japanese learners of English conducted by Iwashita (2001), reported that the subjects produced modified output. Moreover, some studies have suggested that, due to limited L2 proficiency, interaction between learners results in comparable (Pica et al., 1996), or in some cases higher, levels of negotiation than interaction involving native speakers and non-native speakers (Shehadeh, 1999).

A small body of research has been conducted into the nature and extent of learner-learner negotiation in types of real time CMC where the communication is carried out by means of typed text. In my review of the literature in chapter 3, I have discussed several studies which indicate that during interaction in various types of real time CMC learners use a number of communication strategies associated with negotiation of meaning (see for example, Lee, 2001; 2002). For example, a study of the chat-based interaction of undergraduate learners of Spanish by Blake (2000), found that the learners employed communication strategies associated with negotiation of meaning. Analysis of the transcripts indicated that the subjects provided corrective feedback during tasks and that the main trigger for negotiation was unknown lexis. In an additional finding, Blake reported that tasks with a minimum possible number of outcomes resulted in higher levels of negotiation than tasks with a variety of possible outcomes. These encouraging findings suggest that learner-learner interaction in types of real time CMC may provide a communication context in which non-understandings can occur, leading to the use of communication strategies associated with negotiation of meaning. However, at the present time, as I have stated in chapter 3, very few studies have examined learner-learner interaction in MOO-based CMC.

9.2 Repair moves in face-to-face and CMC-based interaction

In the context of identifying and classifying the strategies that occur during negotiation of meaning in face-to-face interaction, there is general consensus that a limited number are applied (Ellis, 2003, p. 71). A study of NNS and NS face-to-face task-based interaction conducted by Porter (1986), reported that 4 main strategies were employed during repair. These strategies and their frequencies are outlined in the following table:

Table 9.1 NNS repair strategies during face-to-face interaction (Porter, 1986, p. 207)

Percentage of data	Type	Example
50	Confirmation check	L: ... he's better than Gregory N: <i>He's better than Gregory?</i>
18	Clarification check	L1: I think it's not too bad, not too bad. L2: <i>What?</i> L1: Bad, it's not too bad. L2: For me is terrible!
17	Comprehension check	L: To sin- uh...to sink N: To sink. <i>Do you know what that is?</i> L: To go uh- N: To go under....
5	Verification of meaning	L: <i>...is for location?</i> N: yeah, for finding your location
5	Definition request	L: <i>..what is the meaning of research?</i> N: Um, study? You study a problem and find an answer.
5	Lexical uncertainty	L1: Yes, he`s very simple one. Is, is very <i>how you say-</i> L2: I don`t know, but he take advantage of the situation

As can be seen in the table, confirmation checks accounted for 50% of total repair moves, followed by clarification requests (18%), comprehension checks (17%) and requests for help relating to lexis (15%). An interesting finding was that learners actively engaged in the negotiation of meaning by providing their

interlocutors with prompts and repairs. Moreover, the amount of repair was similar in learner-learner and native-learner interactions, a finding that led Porter (1986) to claim that:

input from learners was just as comprehensible as that from native speakers, showing no clear advantage for a native speaker as an input provider. (p.219)

However, Porter’s study was subject to a number of limitations. For example, only 10 NNS subjects participated. Moreover, the data was collected over a limited period, ten hours in total. Despite these limitations, the findings confirmed that the communication strategies hypothesized by interactionist research (Long, 1983), occur during negotiation of meaning between learners and native speakers. This study further established that negotiation also occurs during learner-learner interaction.

Drawing on studies conducted in non-CMC classrooms, researchers have attempted to explore the communication strategies used during learner-learner interaction in types of real time CMC where the communication occurs through the medium of typed text. As I have mentioned in chapter 3, Lee (2002) examined the interaction of 34 learners of Spanish in a chat room, and reported that they employed 9 types of communication strategy during negotiation. Lee described the strategies identified as “modification devices”, and her definitions are reproduced in the following table (2002, p. 279):

Table 9.2 Categories, definitions and examples for modification devices

Modification device	Definition	Example
1 Comprehension check	To make sure the message is understood	-“Do you understand me?”
2 Confirmation check	To repeat parts of the statement to ensure the understanding	-“Bird?” You mean “turkey.” -Yes, “turkey”
3 Clarification check	To express confusion or ask for help due to unfamiliar words or incomprehensible message	-I don’t understand. Which one? I’m confused.
4 Request for help	To request information for unknown lexical items or expressions	-“What is “amenaza”? -“How do you say “freedom” in Spanish?

5 Self-correction	To correct errors made on lexical items or grammatical structure	-Who paid for the story (el cuento)? -The story? -No, it should be "the bill." (la cuenta) I'm sorry.
6 Use of English	To use English to substitute words or ideas in Spanish	-El hombre "moved" a otro pais (The man moved to another country)
7 Topic shift	To give up the topic and switch to a new one due to lack of interest or unfamiliarity with the topic	-I don't know. I don't understand. Lets talk about the second reading
8 Use of approximation	To generalize the words	"pajaro" (bird)= "pavo" (turkey)
9 Use of keyboard symbols as discourse markers	To signal uncertainty or to confirm an idea or agreement	-???

Lee's findings suggest that learner-learner interaction in real time CMC produces communication strategies similar to those found in face-to-face communication. For example, Lee reported that confirmation checks and comprehension checks strategies, which were also reported by Porter, were employed when a communication problem arose. However, she found that the online nature of the interaction, where intonation and paralinguistic cues are absent, led to the use of adaptive communication strategies. An example of this phenomenon was the use of keyboard symbols such as emoticons, to display feedback. Lee further reported a wider range of communication strategies than has been described in studies of communication strategy use in face-to-face communication (Porter, 1986; Long, 1996). Although this study demonstrated that real time chat provided learners with opportunities to negotiate meaning and develop their discourse management skills it is subject to a number of limitations. The duration of the project was not specified, and there are also problems with the coding categories proposed by Lee. For example, there is considerable overlap between the definitions of "requests for help" and "clarification checks". In addition, only one task type (opinion-exchange) was used, leaving the potential of other tasks types unexplored².

² These issues highlight the need for caution when generalizing the results.

Despite these limitations, Lee's study demonstrated the potential of text chat as a form of interaction that provides opportunities for learners to negotiate meaning. In this research, I will establish in the context of the research questions outlined in chapter 4, if the learners adopted any of the communication strategies identified previously in this discussion when they attempted to overcome communication problems in MOO-based CMC. During this research, I investigated learner interaction over a longer period than did Lee, and during a greater number of task types. In accordance with the methodology and data analysis procedures outlined in chapter 4, I conducted my analysis of communication strategy use within the framework of an influential model of learner interaction that seeks to describe how negotiation of meaning takes place between NNS interlocutors in face-to-face communication (Varonis & Gass, 1985). This model will be discussed in detail in the following section.

9.3 The Varonis & Gass model of NNS-NNS interaction

In the model of negotiation proposed by Varonis and Gass (1985) interaction between learners is hypothesized as providing enhanced opportunities for learners to engage in negotiation routines. These are the result of what the above authors describe as a "shared incompetence" in the target language (1985, p. 84). The use during negotiation routines of communication strategies, allows the subjects to continue their interaction when a communication problem occurs and is acknowledged explicitly. This form of interaction further enables the subjects to negotiate and resolve a non-understanding. A non-understanding is defined as Varonis & Gass (1985) as:

those exchanges in which there is some overt indication that understanding between participants has not been complete. (p.73)

Non-understandings involve exchanges where "there was a mis-understanding, no understanding or incomplete understanding" (1985, p.73). According to this model, when learners encounter a linguistic problem in dyad-based communication the pair will suspend the normal flow of their conversation and attempt to overcome the problem, by negotiating message meaning in order to return to the task at hand. This model identifies four major elements in negotiation routines, one of which is optional. The first major component is described as a trigger (T). Triggers are the factors that initiate negotiation routines. A number of trigger types have been identified including lexical and content factors. Triggers can also be initiated through syntactic non-understandings. Researchers who support the interactionist view of SLA claim that lexical factors account for the majority of triggers (see, for example, Pica, 1994). According to Varonis and Gass, triggers can arise during questions. (The following examples are reproduced unedited from Varonis & Gass, 1985, p. 75. Significant features are highlighted in bold):

Learner 1: **What is your name?**

Learner 2: My name?

Learner 1: Yeah

They can also occur in answer to a question:

Learner 1: yeah. How long....will you be? will you be staying?

Learner 2: **I will four months**

Learner 1: four months

Learner 2: stay four months here until April

Triggers can further be neither question nor answer as can be seen below:

Learner 1:....**and the condition for uh bets my level in my company it necessary my speaking English**

Learner 2: hm you mean that English is important in your company to (indiscern.)

The second element is called the indicator (I). According to Varonis and Gass (1985):

indicators signal that an utterance has triggered a non-understanding. (p.76)

Indicators include explicit statements of non-understanding, no verbal response and inappropriate response. The following examples of these trigger types are reproduced from Varonis & Gass (1985, p. 76):

Learner 1: **Are you a student in your country?**

Learner 2: in my class?

Learner 1: in your country?

Learner 2: **Oh, I don't understand**

Learner 1: Ok Ok so what do you do in your country?

Learner 1: **What is your purpose for studying English in Ann Arbor?**

Learner 2: **silence**

Learner 1: What is your purpose for studying English?

Learner 1: **Are you a student in your country?**

Learner 2: **in my class?**

Learner 1: in your country

The third element in this model, the response (R), is any utterance that forms a reply to a statement of non-understanding. Responses may take a variety of forms including repetition, expansion, rephrasing, acknowledgement and reduction (the following examples are from Varonis & Gass, 1985, p. 77):

Repetition

Learner 1: This is your **2 term**?

Learner 2: Pardon me?

Learner 1: **2 term**, this is this term is term your 2 term

Expansion

Learner 1: yeah, How long...will you be? will you be staying?

Learner 2: I will be four months

Learner 1: four months?

Learner 2: **stay four months here until April**

Rephrasing

Learner 1: You know the heating?

Learner 2: So it is a heat exchanger

Learner 1: **radiator**

Acknowledgement

Learner 1: When can you go to visit me?

Learner 2: visit?

Learner 1: **Yes**

Reduction

Learner 1: What is the purpose for studying English in Ann Arbor?

Learner 2: silence

Learner 1: **What is your purpose for studying English?**

The final optional element is the reaction to a response (RTR). This takes the form of an explicit statement of understanding such as "OK", "yeah", "I

understand". An example of a routine incorporating an RTR is reproduced below: (this conversation adapted from Varonis and Gass, 1985, p. 77):

Learner 1: My father is now retire (T)

Learner 2: retire? (I)

Learner 1: yes (R)

Learner 2: **Oh yeah** (RTR)

Varonis and Gass (1985, p. 78), further claim that comprehension checks can optionally occur before any of the four elements (T, I, R, RTR) outlined above, as in the following examples (Varonis and Gass, 1985, p. 78):

a. Learner 1: I was born in Nagasaki

Learner 1: **Do you know Nagasaki?**

b. Learner 1: I`m from Venezuela

Learner 2: Venezuela

Learner 1: **Do you know?**

c. Learner 1: declares her ingress

Learner 2: Ingless

Learner 1: **Yes, if for example, if you. when you work you had an ingress. you know?**

d. Learner 1: and your family have some ingress

Learner 2: yes ah, Ok OK

Learner 1: **more or less OK?**

In my preliminary examination of the data, I discovered instances where communication problems arose between the participants. I identified examples of the communication strategies involved in the process of negotiation. I also noted the presence of exchange sequences that can be explained in terms of the above model. As a result of these findings, I used this model into my analysis.

9.4 Findings, analysis and discussion

During my investigation of the data, I discovered recurrent instances of the communication strategies described in the literature on NNS interaction in both face-to-face and real time text-based CMC (Blake, 2000; Kitade, 2000; Kötter, 2003; Lee, 2002; Porter, 1986; Varonis & Gass, 1985). After examining the data, in accordance with the procedures outlined in chapter 4, I found evidence that negotiation of meaning occurred. In the following discussion, I define and describe the operation of the 6 communication strategies identified in the data with reference to the relevant literature. I comment on their effectiveness and

frequencies over the project. I identify the factors that caused the highest number of communication problems and explore the relationship between task type and negotiation in MOO-based CMC. I shall further establish if there are any differences in my findings compared to findings reported in other studies involving MOOs, face-to-face interaction and other types of real time CMC. Finally, I identify some factors that may have influenced the frequency of negotiation.

9.4.1 Definition requests

As noted at an earlier stage of this discussion, Porter's study (1986) on NNS interaction in a conventional classroom environment reported that learners utilized definition requests in order to comprehend unknown lexis as in the following example (p. 207):

Learner 1: ..***what is the meaning of research?***

Learner 2: Um, study? You study a problem and find an answer

In the context of chat-based CMC, the use of definition requests has also been identified during negotiation routines, where this communication strategy acts as an indicator that a non-understanding related to lexis has occurred (see Kitade, 2000). I examined my data for requests for meaning and identified numerous examples of the use of this strategy by participants. As can be seen in table 9.3 below, in the context of negotiation of meaning, this communication strategy was the most frequent employed by the subjects with 33 instances identified accounting for 37% of the total communication strategies employed.

Table 9.3 Communication strategy use during negotiation of meaning in MOO-based CMC

	N=14 (all students)	Percentage of all communication strategies
Clarification requests	18	20%
Comprehension checks	7	8%
Confirmation checks	7	8%
Definition requests	33	37%
Self and other-initiated correction	15	17%
Non-response	9	10%
Total	89	100

This contrasts with a finding reported by Porter (1986), where definition requests accounted for only 15% of repairs. Possible reasons for this difference will be provided at a later stage of this discussion (section 9.5). Definition requests occurred in all of the sessions examined in this study, apart from those held in weeks 5,11 and 13. This strategy occurred in three of the task types utilized in this project. The task types in which it occurred were opinion-exchange (weeks 4,6,8), jigsaw (weeks 7, 10 and 12) and information-gap (week 9). There were no examples of this strategy in the data for week 5 (opinion-exchange task), week 11 (information-gap task) and week 13 (decision-making task). As is the case in face-to-face interaction, this strategy was used by learners to overcome communication problems focusing on unknown lexis and took the form of a question such as for example “What does xxxx mean?”³

An early instance of this communication strategy occurred during week 4. In this session, the subjects were invited to exchange opinions on the best ways to study English (all task sheets are included in Appendix E):

(1) 1. masao [Guest] says, “Today’s topic is ‘What is the best way to master English. I think **recitation** is a good way.”

(4 lines of text)

2. romy [Guest] says, “**sorry what is the meaning of recitation**”

(14 lines of text)

3. masao [Guest] says,” **recitation means learning some some sentences by heart and make a speech. You can learn grammer,prononciation and intnation efficiently.**”

(9 lines of text)

4. romy [Guest] says, “ **I think so** ”

Masao’s use of the word “recitation” triggers a negotiation routine. After five lines of messages produced by other learners scroll down the screen, another learner, Romy, uses a definition signaling a non-understanding of this word. After a delay of 14 lines⁴, Masao in his response to this request for modified output provides a lengthy utterance that incorporates a number of strategies identified by Varonis & Gass (1985, p. 77). These include repetition of the problematic word, rephrasing of the original utterance and an expanded explanation. This appears to resolve the non-understanding, as after a further delay, Romy produces an utterance indicating that the communication problem has been overcome.

³ In the following discussion, all learner discourse is reproduced unedited and in the original sequence. Significant features of the interaction are in bold, turns not relevant to the discourse under discussion are in parenthesis. All errors in the transcripts were produced by the subjects.

⁴ This aspect of the interaction will be discussed in sections 9.4.2 and 9.5.

A further instance of the use of a definition request that led to negotiation of meaning occurred during the jigsaw task undertaken in week 7. In this task, the subjects were required to share information in order to come to a single solution. Each learner was given a task sheet in which the directions were the same but some elements of the content were different. The task sheets contained low frequency vocabulary items related to films and a famous actor. In the following negotiation routine, a non-understanding arose over the meaning of the low frequency vocabulary item *mentor*:

- (2) 1. Tyler says, i got the answer. **Mentor** means a man who gave advices to Odysseus in the Greek"
(3 lines of text)
2. aoi [Guest] asks, "**@what does the word mentor mean?"**
(8 lines of text)
3. Tara says, "**aoi, it means an experienced person who advises and helps someone.**"
(19 lines of text)
4. aoi [Guest] exclaims, "**OK** tera thanks a lot!!"

The above series of interactions follows the trigger, initiator, response and reaction to response model of learner negotiation proposed by Varonis & Gass. In move 1, the use of the word *mentor* from a learner outside the dyad acts as a trigger for a negotiation routine involving Aoi and Tara. In the next move, Aoi responds promptly, after 3 lines of text have scrolled, with a definition request (indicator) involving repetition of the problematic word that clearly signals that a non-understanding has arisen. A further interesting feature of this utterance is the use of the *at* mark symbol at the beginning of this utterance. Although the use of this symbol could have been a typo, an alternative explanation is that Aoi wished to emphasize that a communication problem had arisen and used the *at* mark as an adaptive strategy to emphasize this fact. In move 3, Aoi's partner Tara utilizes two response strategies identified by Varonis and Gass, a rephrasing of their previous utterance and an expanded definition of the word *mentor* (response). This accuracy of this utterance indicates that during the above interaction Tara utilized the language learning strategy of consulting the on-line dictionary that is a feature of the Schmooze MOO environment. The reaction to a response provided by Aoi in line 4 (Ok) signals that the non-understanding has been resolved. The above interaction shows that the subjects not only negotiated meaning, they also employed adaptive strategies that were the product of the computer-based nature of the interaction⁵.

⁵ Other examples of adaptive strategies were examined previously in chapters 7 and 8.

9.4.2 Clarification requests

In face-to-face interaction clarification requests have been defined by Ellis, (2003) as:

any expression that elicits clarification of the preceding utterances, for example,

A I was really chuffed

B Uh?

A Really pleased. (p.71)

In the context of learner-learner interaction in real time CMC, Lee (2002) reported the use of this communication strategy during negotiation routines. In the context of negotiation, Lee (2002) defined this strategy as a means:

to express confusion or ask for help due to unfamiliar words or incomprehensible message. (p.279)

and provided the following example from her data:

I don't understand. Which one? I'm confused

Clarification requests were identified in three of the four task types: jigsaw (week 7), information-gap (weeks 9 and 11) and opinion-exchange (weeks 4,5 and 6). I found no examples in the decision-making task (week 13), or in the sessions held during weeks 8, 10 and 12. As table 9.3 shows, this strategy was the second most frequently employed communication strategy identified in the data accounting for 20% of total strategies. Clarification requests took the form of explicit statements of non-understanding such as for example, "I don't understand...", when a learner found either part or all of the content of an utterance incomprehensible. The use of a clarification request related to part of an utterance occurred in the opinion-exchange task undertaken in week 6. In this task, the subjects were asked to read a short article on education reform in Japan and then encouraged to exchange opinions on this issue:

- (3)
1. mieko [Guest] asks, "usually in Japan, we go to cram school, but how about foreign countries?"
 2. Tyler says, "I heard **they** don't go to such schools, really."
(5 lines of text)
 3. Tara asks, "**who do you mean they?**"
(3 lines of text)

4. Tyler says, “**I mean students in overseas. Especially in America.**”

(1 line of text)

5. Tara says, “**I see**”

During the above interaction, a communication problem arises over the meaning of the word *they* used by Tyler. The use of this word acts as a trigger for a negotiation. In the next move, Tara utilizes a clarification request (indicator) in order to elicit clarification of the previous utterance. This strategy produces a swift response. After 3 lines of text have scrolled, Tyler provides an explanation involving rephrasing and expansion. In the following move (reaction to a response), Tara produces an utterance (“I see”) signaling that the communication problem has been overcome.

There were further instances of the use of clarification requests to overcome communication problems relating to the content of longer utterances. An example occurred in week 4, during the opinion-exchange task in which the subjects were asked to exchange views on the best ways to improve English skills:

(4) 1. Mieko [Guest] says, "Yes right almost perfect(^_^);,mooo. I listen to the English radio program and speak during that time! **But not enough I think but not bad I hope.**"

(12 lines of text)

2. moo [Guest] says, "**I'm afraid that I don't understand what you meant in the last sentence.**"

(18 lines of text)

3. Mieko [Guest] says, "**Sorry,mooo. I mean listening to the English radio is good for my poor English ability to improve ,but it's not enough just only doing that. I must study harder and harder,I guess.**"

(12 lines of text)

4. moo [Guest] says, "**I see.**I make a habit to see the movie with title."

The above negotiation routine is triggered by the vague utterance made by Mieko (“But not enough I think but not bad I hope”). After 12 lines of text have scrolled, Moo uses a clarification request incorporating an explicit statement of non-understanding to indicate that a communication problem has occurred regarding the meaning of the previous utterance. In her response, Mieko produces an utterance incorporating a repetition (“listening to the English radio”), some rephrasing and an expansion of their original argument. This appears to resolve the non-understanding as, 12 lines later, Moo makes a statement (reaction to a response) indicating that understanding has been achieved (“I see”). The above excerpt shows a feature of the interaction that has not been reported in other studies of learner interaction in MOO-based CMC, namely, considerable delays can occur during turn sequences. In the above example, there was a lengthy

delay (12 lines of text) between the trigger and indicator. Moreover, there was a long delay (12 lines) between the response and the reaction to the response. Delays during interaction were a feature of other negotiation routines in which clarification requests were utilized to overcome communication problems related to content, as may be seen in the following interaction from a later stage of the interaction in session 4:

- (5) 1. masao [Guest] says, "**Now I hope to enter law school, which starts from April 2004. If you are graduated from it, you can pass the new bar exam than that of today.**"

(15 lines of text)

2. masao [Guest] asks, "Have you sung English song at Karaoke? Singing song sounds a good way for me. How amooout this?"

(4 lines of text)

3. romy [Guest] asks, "Oh Masao. Your English seems to be at a very very high level that **I don't understand the second sentence. I'm sorry. Could you please explain it to me?**"

(10 lines of text)

4. masao [Guest] says, **It means 'I feel that singing songs is a good way to learn English'. I think that resembles recitation.**"

(1 line of text)

5. romy [Guest] says, "**Music is my favorite! I sometimes go to Karaoke and sing English songs also**"

(8 lines of text)

6. romy [Guest] says, "**Sorry Masao! I mean the thing you've said about your bar exam**"

(2 lines of text)

7. masao [Guest] says, "I once tried to sing a English song at Karaoke, but that was miserable..."

(10 lines of text)

8. romy [Guest] asks, "Do you listen to English songs?"

(13 lines of text)

9. romy [Guest] says, "Masao, how about listen to music and try to write down the lyrics by ourselves? I think it's also an effective way of learning English"

(12 lines of text)

10. masao [Guest] says, "**I forgot the sentence. So I explain it again. law school starts from next April. It is made to raise legal specialists. You go there for 2 or 3 years after you enter. And new Bar exam is made in 2006. If you are graduated from law school, you'll pass the bar exam easier than now. I'm sorry for my poor English.**"

(8 lines of text)

11. romy [Guest] says, "Sorry for making you search the sentence. **I understand right now.**" "

In move 1, the first of two utterances made by Masao triggers a negotiation routine. After 19 lines of text have scrolled since the initial problematic utterance, Romy, in move 3, uses a clarification request (indicator). Masao's subsequent response does not resolve the situation, as he assumed that this clarification request referred to his most recent utterance made in move 2. However, the miscommunication is not immediately apparent as in move 5 Romy makes an attempt to carry on with the task. In move 6, Romy realizes the problem and attempts to refocus the interaction on the original problematic utterance by apologizing (an example of L1 transfer) and requesting further clarification. The response to this strategy made in move 7 reflects the nature of the messaging system in MOOs. It is likely that this message represents a response to Romy's previous utterance, and was posted by the server before Masao had the opportunity to observe and respond to Romy's most recent request. After another delay and with no response forthcoming, in move 8, Romy in an effort to maintain the interaction, asks a question related to his partner's most recent statement. This attempt appears to fail, and in move 9, he makes a further task-related utterance designed to elicit a response. After a further 12 lines of text have scrolled, Masao finally provides a lengthy explanation (response), designed to clarify the meaning of the utterance made previously in move 1. This involves the use of repetition, rephrasing and expansion of the original problematic utterance. This appears to resolve the non-understanding, as in move 11, the reaction to a response includes an explicit statement of understanding on the part of Romy.

Excerpts 4 and 5, show that, on occasion, long delays occurred between triggers and indicators. Moreover, delays also occurred between indicators and responses. Examination of the transcripts alone cannot confirm definitively why these delays occurred. For example, some of them may reflect periods when the learners were distracted or absent. As I have noted in the discussion of excerpt 5, they also reflect the real time computer-based nature of the interaction in MOOs where messages are only posted after the server has received them. However, the examples analyzed in this section provide evidence that delays can be perceived as a beneficial feature of the interaction during clarification (and definition) requests as they facilitated production of modified output that appeared more comprehensible, resulting in the successful resolution of non-understandings. Although delays occurred between turns, they did not appear to lead in most cases to the communication breakdowns that are a frequent feature of NS chat (Herring, 1999). Excerpts 4 and 5 provide evidence to suggest that the subjects took advantage of scrolling in order to revisit previous messages, and this enabled them to keep up with the interaction and produce coherent TL discourse relevant to the tasks. Moreover, the absence of turn-taking competition in MOO-based CMC where messages are posted in the order they are received and processed by the server, enables learners to take turns involving communication strategies such as clarification requests at will and at their own pace. This aspect of interaction in real time CMC may represent an advantage of MOO-based communication, as learners can monitor the ongoing interaction and post messages at any time without the sense of imposing on others that can occur in face-to-face interaction (Kitade, 2000).

9.4.3 Comprehension checks

As was noted at an earlier stage of this discussion, in the model of NNS negotiation in classroom environments proposed by Varonis and Gass (1985), comprehension checks can occur at any stage of the discourse and take the form of a direct question forms such as “Do you understand?”, “Do you know?” or “OK” (see examples in section 9.3). In Kötter’s 2003 study of NS-NNS tandem-based interaction in a MOO reviewed in chapter 3 (section 3.5.5), the use of this communication strategy occurred primarily during negotiations focusing on unknown lexis. Kötter provided the following example from his data:

Learner 1: Do you know what a “Auflauf” is?

Learner 2: No

Learner 1: It’s something like a grantin. Do you understand it? (p.165)

This type of communication strategy was identified in the data. This strategy appeared in week 8 (opinion-exchange task), week 9 (information gap) and week 13 (decision-making task). Two examples occurred in the jigsaw tasks implemented in weeks 7 and 10. No examples of the use of this strategy were found in any of the other sessions. As table 9.3 shows, this strategy accounted

for only 8% of total strategies. Plausible explanations for this finding will be explored at a later stage of this discussion (section 9.5). An instance of a comprehension check focusing on unknown lexis occurred during the jigsaw task implemented during week 7. In this task, the subjects were required to exchange information on a famous film star. During the interaction a non-understanding arose over the meaning of the term *rake in*:

(6) 1. aoi [Guest] says, “**do you know** what the term rake in mean?”

(8 lines of text)

2. Tara says, “”

(5 lines of text)

3. aoi [Guest] says, “**it means gather lots of audiences and make lots of money**”

As can be observed in excerpt 5, Aoi uses a comprehension check to establish that Tara has understood the meaning of the term *rake in*. After a considerable delay, Tara replies with using an empty carriage return. The reasons for this adaptive strategy are difficult to determine with certainty from the transcripts. In the study of NS MOO-based interaction conducted by Cherny (1999) examined in chapter 3, this strategy was used as a form of ritualized greeting. However, the response by Aoi in move 3 that includes a context specific explanation incorporating a rephrasing indicates that, in the above example, this adaptive strategy was taken as a signal that a non-understanding had occurred. In further interesting feature of this interaction, there is no reaction to a response. In the following moves, the subjects move on with the task. The absence of a reaction to a response during negotiation has been reported in other studies on learner interaction in real time CMC (see for example, Blake, 2000). This phenomenon reflects the real time nature of the interaction in MOOs where messages can scroll quickly, leading to a pressure to respond promptly (Cherny, 1999), as well as a desire on the part of the subjects to complete the tasks as efficiently as possible.

An additional use of comprehension checks was as a means to overcome communication problems related to content and the conduct of the tasks. This use of comprehension checks designed to maintain task-focused interaction occurred in the opinion-exchange task held in session 8. In this opinion-exchange task, the subjects were requested to exchange views on the features of an ideal university:

- (7) 1. hop [Guest] asks, "**aoi,how about your ideal university?**"
(2 lines of text)
2. aoi [Guest] says, what do you think about which location is good for a university,city or location?
(4 lines of text)
3. aoi [Guest] says, hop tody's our task discuss about such a topic of 9 by pair work,and make clear our idea of the ideal university
(5 lines of text)
4. aoi [Guest] says,"so i will tell you the topics, and talk about that,hop.**do you understand?**"
(7 lines of text)
5. hop [Guest] says,"**Thank you,aoi.I'll take part in your discussion**"

In the second move, Aoi responds to the previous question with an utterance designed to move the interaction forward. However, Hop does not immediately respond. This situation leads Aoi to make two further teacher like utterances designed to elicit a reaction by providing some ideas and additional information on the conduct of the task. In move 4, after Hop does not respond, Aoi assumes that a communication problem has arisen regarding the nature of the task and utilizes a confirmation check. This strategy appears to resolve the situation as, after a further delay, Hop makes a statement signaling a willingness to continue. In subsequent moves, the subjects engage in interaction focusing on the task. This example further shows the presence of positive features in the data identified in chapters 7 and 8, namely, the presence of teacher like feedback and the consistent focus on task completion.

9.4.4 Confirmation checks

Confirmation checks have been reported in studies of learner interaction during real time CMC. Lee, (2002) gives the following example:

NNS 1: "**Bird?**" You mean "**turkey**"

NNS 2: Yes, "turkey". (p.279)

This communication strategy appeared in the data. I found examples of this strategy in two of the four task types, in weeks 4 and 6 (opinion-exchange) and weeks 10 and 12 (jigsaw). No examples were found in the information-gap tasks (weeks 9 and 11) and the decision-making task (week 13). As may be seen in table 9.3, as was the case with comprehension checks, this strategy was infrequent, accounting for 8% of total strategies. An instance occurred during the jigsaw task administered in week 12, where the subjects were required to

exchange information relating to the selection of an apartment from a number of alternatives:

- (8)
1. Reiji asks, "Okey then which is better , downtown or contry side??"
 2. Wing [to Reiji]: I like a quite neighborhood
(2 lines of text)
 3. Reiji asks, "I see, do you mind if the building is old?"
(1 line of text)
 4. Wing [to Reiji]: **I like modern building**
 5. Reiji asks, "**do you meen new one?**"
 6. Wing [to Reiji]: **yes**

During the above interaction, the learners discuss the condition of an apartment building, which was a requirement of the task. In move 4, Wing produces an utterance containing the word *modern*. The use of this word triggers an interaction involving a negotiation. In the next move, Reiji employs a confirmation check (indicator), in order to confirm the meaning of the preceding utterance. The prompt response to this utterance indicates that the communication problem has been overcome. As noted previously, this strategy was infrequent in the data, a finding that contrasts with the results reported in Porter's study (1986), where confirmation checks were the most frequent communication strategy. Possible reasons for this difference will be a focus of discussion at a later stage of this chapter (section 9.5).

9.4.5 Non-response

The use of the above strategy has been noted in research on learner negotiation in face-to-face interaction. Varonis and Gass (1985, p.76), observed that silence frequently acts as an indicator that a non-understanding has arisen during communication. Examination of the transcripts and my field notes showed that instances of non-response took place. As table 9.3 shows, this strategy accounted for 10% of the total communication strategies identified. Non-responses were found in all of the sessions apart from those held in weeks 10, 12 and 13. However, in contrast to the findings of Varonis and Gass, the use of non-response was infrequent. Moreover, as the following examples will show, when this strategy occurred its use did not, in most cases, trigger negotiation of meaning. One partial explanation for this finding may be that the majority of non-

responses occurred at the early stages of a session when the subjects were attempting to obtain task partners. There were occasions, when learners made utterances directed at subjects who had already obtained task partners, as can be seen in the following interaction from week 4 (opinion-exchange task):

- (9) 1. Mieko [Guest] exclaims, "Bob! From Waseda,5 students came here!"
(3 lines of text)
2. Bob [Guest] says, "**mieko , What do you mean ?** "
3. Mieko [Guest] says, "Thank you!mooo! The problem is my typing speed is slow...(^_^;)"
(4 lines of text)
4. moo [Guest] says, "Don't worry. I can wait for you. By the way, today's theme is how to Master "
(1 line of text)
5. moo [Guest] says,"English"
(2 lines of text)
6. Mieko [Guest] says, "Yes other members talk about how to master ENGLISH"
(32 lines of text)
7. mart [Guest] asks, "is there somebody free?"
(4 lines of text)
8. Bob [Guest] says, "**Hi,mart , I do not have a partner now .**"

In this excerpt, Bob in move 2 responds to the statement made by Meiko. However, as can be seen above, Meiko does not respond and instead continues what appears to be a continuing interaction with Moo (turns 3,4, 5 and 6). This situation leads Bob in move 8 to seek an alternative task partner by responding to appeal made by Mart.

Non-response was further employed as a means to avoid extended discussion of challenging task-related vocabulary. However, once dyads and groups had formed this strategy was infrequent. I could identify only 3 instances. This use of non-response can be observed in the following interaction from week 7 (jigsaw task):

- (10) 1. moo [Guest] says, "**Won't you tell me the meaning of<snared>?? >Keisuke.**"
(20 lines of text)

2. Keisuke says, "I think *snared* means take part in some role keeping in mind the real purpose is the other thing."

(7 lines of text)

3. moo [Guest] asks, "**You mean <snared> is like tell a lie?**"

(14 lines of text)

4. moo [Guest] asks, "**Can anyone tell me the meaning of <snared> more clearly?**"

(14 lines of text)

5. moo [Guest] asks, "**Masao, What is your last question?**"

In the above interaction, Moo attempts to elicit the meaning of the problematic lexical item the word *snared*. In an adaptive discourse management strategy, this learner places the problematic word in brackets and uses question marks to emphasize that a problem has arisen. After a lengthy delay, Keisuke responds with a partial explanation. This utterance does not resolve the situation.

In move 3, Moo utilizes a confirmation check and repeats the adaptive strategy of enclosing the word in brackets, in order to obtain a more satisfactory response. However, Keisuke does not respond. In the next move, Moo attempts to resolve the problem by appealing to the group. This effort is unsuccessful and does not meet with a response. As a consequence, in move 5, Moo drops the issue and instead attempts to contact another learner. The above interaction was one of the few examples in the data when a subject ignored a direct question from their partner during task-based discourse. In the context of communication problems focusing on lexis, a possible explanation as to why the subjects failed to negotiate meaning when non-responses occurred may be that they were concerned with maintaining status with their interlocutors and peers. This aspect of the interaction, and its possible relationship to the frequency of negotiation, will be examined in the discussion section of this chapter (section 9.5). There were also a few instances where the subjects employed non-response as a means to avoid discussing challenging content altogether. An example of this phenomenon occurred during week 6. The task employed in this session focused on opinion-exchange regarding possible means to instigate education reform in Japan. During this session the following interaction occurred:

(11) 1. kartono [Guest] says, "so it's true univ value is important but creativity and humanity is much more important."

(1 line of text)

2. moo [Guest] asks, "**But how can we evaluate such abilities?**"

In move 2, Chika responds promptly to the utterance made by Kartono. However, there is no response from her interlocutor to this particular question for the remainder of the session. The low frequency of non-response in the data as

whole represents an interesting finding, given that some studies have claimed that in text-based CMC the reduction in paralinguistic and social cues such as, age and status, makes it easier for learners to ignore problematic utterances than would be the case in face-to-face interaction (Warner, 2004). The low level of non-response in this study compared to the findings reported in other research may, in part, reflect differences in the context in which the interaction took place. In this research, in contrast to studies with large numbers of participants, the number of subjects was limited, thus making it more difficult to ignore an interlocutor than would be the case in a busy chat room. Moreover, the subjects were requested to work in dyads or small groups on specific tasks, a project configuration that engendered a focus on task completion. In addition, the majority of the subjects were Japanese. In the Japanese educational context there are powerful social pressures on students to follow teacher instructions (Finkelstein, Imamura & Tobin, 1989). Therefore, the context of use may have been partly responsible for the low level of non-response and the consistent focus on task completion identified in the data.

9.4.6 Self and other-initiated correction

Studies of learner-learner interaction in text chat have noted the use of self-correction related to lexis (Kitade, 2000). Although this strategy is not included in the model of learner negotiation proposed by Varonis & Gass (1985), Lee (2002, p.284), points out that from the perspective of social interactionist research, the process of self and other-initiated correction facilitates second language development. Examples of self or other-initiated correction occurred in all of the sessions with the exceptions of weeks 6, 10 and 11. Self and other-initiated corrections constituted 17% of all strategies identified (see table 9.3). The most frequent occurrences of self-correction involved errors in the use of single vocabulary, and the self-correction was carried out promptly, as in the following instance from week 9 (information-gap task):

(12) 1. Nora [to Wing]: I wanna be a deplomat.

(2 lines of text)

2. Nora [to Wing]: **sorry, diplomat.**

There were however, more complex instances of self-correction involving noticing. An occurrence of this phenomenon took place during in week 7. As was mentioned previously, this jigsaw task required the subjects to share information in order to come to a single outcome:

(13) 1. chika [Guest] asks, "**duru, whats the TEAR-JERKER?**"

(28 lines of text)

2. duru [Guest] says, "**thanks, tear-jerker means the person who cuts or shreds something**"

(3 lines of text)

3. chika [Guest] asks, "duru do you have more question?"

In the above interaction, Chika utilizes a definition request in order to signal non-understanding of the term *tear-jerker*. In the absence of intonation in MOO-based CMC, she employed the adaptive strategy of utilizing upper case keyboard characters to emphasize the problem. After a considerable delay of 28 lines of text Duru replies with an erroneous response. In move 3, Chika appears to accept this definition and attempts to move the discourse forward with a question.

4. duru [Guest] says, : "**chika, sorry tear- jerker means something or someone that make a person cry or move**"

(4 lines of text)

5. chika [Guest] asks, "**duru THANKS**"

There is then a period of task-based interaction. However, as can be seen above, in a behavior that displays monitoring, Duru appears to revisit the utterance made in move 2 and realizes the error. In move 4, Duru deploys an apology and provides more accurate modified output in the form of a self-correction.

There were also instances of other-initiated corrections. An occurrence of this type of correction related to errors in grammar and spelling that involved both Duru and Chika occurred later in the same session:

(14) 1. duru [Guest] asks, "thank you. next question **is was** the movie river's Edge **populer** with movie **gores**?"

(7 lines of text)

2. chika [Guest] says, "**thanks, but I cant understand your question... duru im sorry please say it easily**"

(17 lines of text)

3. duru [Guest] asks, "chika, **was** the movie RIVER`S EDGE **popular** with movie **goers**?"

(2 lines of text)

4. chika [Guest] says, "duru **thanks!** and I found the answer. the movie wasnt as well received by audiences"

In this interaction, Duru produces an utterance that contained both tense ("is was"), and spelling errors (misspellings of the words popular and goers). In the next move, Chika signals through the use of a clarification request, that a

communication problem has arisen regarding the content of the previous utterance. Duru then takes time to respond. However, after a considerable delay, this subject replies with an utterance that contains repetition and accurate self-corrections focusing on tense (was) and spelling (popular and goers). He further makes use of upper case characters to emphasize the title of the film. These corrections appear to resolve the problem. In the next move, Chika responds positively and moves on with the task.

There were further instances in the data where correction was triggered by an interlocutor's signal from outside the dyad. An instance was identified during the opinion-exchange task held in week 4:

- (15) 1. Umber [Guest] says, "Please chat with me who is not **TUFS** student, please."
(2 lines of text)
2. reiji [Guest] asks, "Umber, what do you want to talk about ?????"
(5 lines of text)
3. reiji [Guest] asks, "what does **TUFE** stand for??"
(3 lines of text)
4. whoamI? [Guest] says, "**TUFS** is Tokyo University of Foreign Studies."
(1 line of text)
5. reiji [Guest] says, "**Hoops,TUFS,excuse me...**"

In move 4, Reiji's incorrect response to the previous utterance regarding the meaning of acronym TUFS elicits a prompt response from WhoamI. This subject, who is not a member of the dyad, provides a correction within 3 lines. This utterance leads Reiji to apologize and self-correct after one line of text has scrolled. The interactions described in this section draw attention to a major advantage of MOO-based CMC, namely, the visual saliency of text onscreen enables learners to more easily monitor their linguistic output than would be the case in face-to-face interaction. Kitade (2000, p.155), argues that this aspect of interaction in real time CMC can support noticing (Swain & Lapkin, 1995), and the associated production of modified TL output involving the correction of errors.

9.5 Conclusions

In investigating research question two (What factors cause communication problems between non-native speakers during MOO-based CMC?), my analysis of the data discussed in this chapter has shown that two main factors caused communication problems. In a finding that mirrors a result reported in studies of learner-learner interaction in face-to-face communication (Porter, 1986; Varonis & Gass, 1985), the main cause of communication difficulties during the project

was unknown lexis. As table 9.3 shows, definition requests focusing on unknown lexis were the most frequent of the communication strategies employed by the subjects, accounting for 37% of the total. When the subjects were faced with a communication problem involving lexis, their most frequent response was to request assistance by employing a definition request. This finding contrasts with the results of some other studies involving learner interaction in MOO-based CMC. For example, Kötter's 2003 study found a "relative absence of requests for lexical assistance" (2003, p.156). This difference may be due, in part, to the fact that Kötter's study involved advanced learners who took part in a tandem learning project where native speakers were present. In this study, the focus on unknown lexis may further reflect the fact that the subjects were intermediate level learners and had gaps in their vocabulary knowledge. An additional explanation for this phenomenon can be found in the influence of task induced effects on the interaction. As I noted in chapter 4, the jigsaw tasks contained low frequency vocabulary items. As noted in the discussion at an earlier stage of this chapter (section 9.4.1), the subjects frequently utilized definition requests in order to overcome communication problems focusing on these vocabulary items. Table 9.4 shows, that in this study, the majority of communication problems and resulting strategy use were related to unknown vocabulary and occurred during the jigsaw tasks. This is a similar finding to that reported by Blake (2000), in his investigation of learner-learner interaction in the *Remote Technical Assistance* real time CMC environment (see discussion in chapter 3 section 3.3.4). A further cause of communication problems was the production of longer messages that incorporated unknown content. As I noted previously (see section 9.4.2), the subjects employed clarification requests during this type of communication problem, in order to signal that a non-understanding had occurred and also as an effective means to resolve this type of communication problem.

My analysis of the data indicated that in answer to research question 3 (Do MOOs provide an environment where learners can utilize the communication strategies that play a central role in the negotiation of meaning?), the Schmooze MOO provided an environment where the subjects utilized communication strategies associated with the negotiation of meaning. As table 9.3 shows, the subjects utilized the following communication strategies: definition (a total of 33 instances) and clarification requests (18), comprehension (7) and confirmation checks (7), self and other-initiated correction (15). In addition, the learners made use of non-response (9). The data analyzed in this chapter provide evidence that learner-learner negotiation during task-based interaction in MOOs broadly follows the model of trigger, indicator, response and reaction to response proposed by Varonis and Gass (1985). During negotiation routines, the subjects used the above strategies to indicate that a problem had occurred. In their responses, the learners utilized repetition and modified their output by employing rephrasing and expansion in order to facilitate negotiation.

There were also significant differences. One of the major features of the negotiations that took place in this study was that, on occasion, considerable delays occurred between triggers and indicators and indicators and responses (see data excerpts 4 and 5). This finding confirms a result reported by Smith (2003 a), in his study of learner-learner interaction in the *ChatNet* environment (see discussion in chapter 3 section 3.3.5), that has not been reported in other studies of learner interaction in MOOs (see chapter 3 section 3.5.6). However, in this research, these delays did not appear to be signs that the interaction had broken down. Although in MOOs, as with other types of text-based real time CMC such as IRC, turn adjacency can be interrupted, there was little evidence in the data relating to task activity, for the topic decay that has been reported in some studies of learner interaction in MOOs (Pinto, 1996). On the contrary, the negotiation routines were completed with reactions to a response indicating that the communication problem had been overcome mainly through the production of more accurate comprehensible output. Moreover, the absence of turn-taking competition in MOO-based CMC, where the users can take turns at will, appeared to allow the learners to participate at their own pace and facilitated the production of coherent discourse focusing on the tasks. These delays provide evidence that the subjects were engaging in monitoring, a behavior that frequently contributes to language development. Furthermore, the persistence of the user's text onscreen (Herring, 1999), may have facilitated this language learning strategy as the subjects clearly made use of scrolling in order to revisit problematic utterances both in the context of negotiation and correction (see excerpts 4 and 13). The evidence for monitoring in the data suggests that the above aspect of real time CMC interaction can be a useful means to support language development. The findings of communication strategy use reported in this chapter, suggest that MOOs provide an environment where groups of learners can engage in learner-centered TL practice and overcome communication problems related to lexis and content through negotiation in a supportive atmosphere.

In investigating question 4 (Are there any differences in NNS communication strategy use in MOO-based CMC compared to face-to-face and other examples of real time CMC-based interaction?), analysis of the data revealed a number of significant findings. As has been reported in other studies of learner interaction in various types of real time CMC (see studies reviewed in chapter 3 for example, Blake, 2000; Fernandez-Garcia & Martinez-Arbelaz, 2002; Lee, 2002; Smith 2003 a; 2003 b), I found that the subjects employed communication strategies involved in the negotiation of meaning. However, there were differences between the findings of this study and the findings of studies involving learner-learner interaction in face-to-face communication (Porter, 1986; Varonis & Gass, 1985), and other forms of real time text-based CMC (Fernandez-Garcia & Martinez-Arbelaz, 2002; Lee, 2002; Smith, 2003 b). For example, there were significant differences in the total number of communication strategies identified.

Findings reported by Lee (2002), and (Smith 2003 b), suggest that learners employ a wide range of communication strategies during interaction in various types of real time CMC (see discussion in chapter 3). For example, Lee identified 9 communication strategies in her research, while Smith claimed the presence of 23. In contrast, in this research, I found that the subjects utilized a narrower range of communication strategies. As table 9.3 shows, I identified the presence of 6 communication strategies. This finding is similar to that reported by Fernandez-Garcia & Martinez-Arbelaiz (2002), and reflects the limited L2 proficiency of the participants.

Further differences emerge in the context of exploring the frequencies of particular strategies. As noted in section 9.2, Porter claimed that confirmation checks are the most frequent communication strategy during learner face-to-face interaction, but, in this research, as table 9.3 shows, the use of direct communication strategies such as definition requests (a strategy not reported by Varonis & Gass) and clarification requests were the most frequent strategies. Plausible explanations for this difference lie in the online nature of the interaction, the task types employed, differences in project configuration and the context of use. The online nature of the interaction in the MOO, where paralinguistic cues and intonation were absent, gave the participants few other means to signal that a problem had occurred (Kötter, 2003). These factors may offer a partial explanation for the low incidence of more indirect strategies such as comprehension and confirmation checks, as these strategies are often triggered by the aural and visual cues that regulate turn-taking in face-to-face communication. The low level of comprehension checks compared to Porter's and also Lee's results, may reflect a desire on the part of some learners to avoid too frequent engagement in a teacher-like behavior, which, in the absence of the above cues, could impact negatively on peer group perceptions. The accompanying infrequency of confirmation checks was due, in part, to the typed, onscreen nature of the interaction. In a MOO environment, unlike in oral communication, learners have the option of scrolling back to revisit a problematic utterance, making this strategy largely redundant. Another possible reason why the subjects seldom employed these indirect strategies can be found in sociolinguistic concerns. This aspect of the interaction will be examined at a later stage of the discussion.

In answer to question 5 (Is there any relationship between task type and the incidence of negotiation of meaning involving NNS interaction in MOO-based CMC?), analysis of the data revealed that the task types employed influenced communication strategy use. In contrast to the other task types used in this research, only the jigsaw tasks required the learners to formulate their own meanings while exchanging information focusing on low frequency lexical items in order to come to a single convergent outcome. Therefore, this task type could be expected to elicit higher levels of negotiation and strategy use than the other

task types (see chapter 4 section 4.4.4). This expectation was borne out by the data in table 9.5. As this table shows, the majority of communication strategies occurred during the jigsaw tasks. Moreover, as table 9.4 shows, strategies associated with the negotiation of meaning such as definition and clarification requests, were concentrated in the sessions where this task type was implemented (weeks 7, 10 and 12). This finding has been reported in other studies of text-based CMC (see, for example, the results reported in Blake, 2000). A further significant finding was that negotiation occurred during the opinion-exchange tasks. Some researchers, for example Lee (1999), have argued that in the context of conventional language classrooms, opinion-exchange tasks are a largely ineffective means to promote second language development as they focus on a question and answer format and therefore generate less sophisticated discourse management behaviors than other task types. However, as table 9.5 shows, in this research, the opinion-exchange tasks elicited the second highest level of strategy use after the jigsaw tasks.

Table 9.4 Task type, total turns and turns involving strategy use

Session and task title	Task type	Total number of turns (for all dyads)	Total number of communication strategies	Percentage of total turns involving strategy use
4. What are the best ways to study English	opinion-exchange	293	11	3.8%
5. Japans' economic crisis	opinion-exchange	275	8	2.9 %
6. Education reform in Japan	opinion-exchange	221	12	5.4 %
7. Keanu Reeves	jigsaw	382	25	6.5 %
8. My ideal University	opinion-exchange	563	6	1.1 %
9. Partner profile	information-gap	689	7	1.0 %

10.Schedules of the stars	jigsaw	377	8	2.1 %
11.Word meanings	information-gap	563	4	0.7 %
12.Finding the perfect apartment	jigsaw	310	4	1.3 %
13.Studying in MOOs	decision-making	188	4	2.1 %
Total		3783	89	

Table 9.5 Task type, total number of turns, turns involving strategy use and negotiation

Task type	Total number of turns (over all sessions)	Total turns involving use of the strategies identified in table 9.3	Total turns involving negotiation	Percentage of all turns involving negotiation
Jigsaw	1069	37	32	3.0 %
Opinion-exchange	1153	37	25	2.2 %
Information-gap	1252	11	7	0.6 %
Decision-making	188	4	1	0.5%

Moreover, this task type elicited the second highest levels of negotiation. This finding indicates, that this task format is easy for learners to manage in real time CMC where turn adjacency is frequently interrupted and therefore reduces processing constraints, facilitating the production of modified output. The questionnaire responses indicated that the most popular task with the subjects was the opinion-exchange task “My Ideal University” implemented during session 6. This finding suggests that stimulating opinion-exchange tasks focusing on learner concerns can be utilized in MOO-based CMC to elicit communication strategy use. The low level of negotiation recorded in the decision-making task is probably due to the nature of this task type. In contrast to jigsaw tasks, decision-making tasks have a variety of possible outcomes and can

be completed at individual learners' discretion without necessarily exchanging information that results in a common solution to the task. This aspect of the task reduced the possibility that communication strategies involved with negotiation such as definition and clarification requests would be employed and therefore accounts for the lack of negotiation during this task type. The findings for information gap tasks show that this task type promoted interaction in the MOO: as can be seen in table 9.5, it generated a high number of turns. However, although interaction during the information-gap tasks produced instances of negotiation table 9.5 shows the frequency was lower than in the jigsaw tasks. This finding is not unexpected, given that although information-gap tasks require information exchange, they do not, unlike jigsaw tasks, require learners to "formulate their own meanings" (Ellis, 2003, p. 214). Therefore, this task type was less successful at eliciting negotiation than the jigsaw tasks.

In answering research question 6 (What factors may have influenced the frequency of negotiation?), I found that a number of factors influenced the level of negotiation. As may be seen in table 9.4, negotiation of meaning occurred in all of the task sessions. The findings presented in table 9.5, show that the level of negotiation was highest in the jigsaw tasks with 3% of all turns employed during this task type negotiated. This finding appears to corroborate the findings of other studies of learner interaction in text-based real time CMC (Blake, 2000; Pellettieri, 2000). In the case of the opinion-exchange tasks, 2.2% of all turns were negotiated, a finding indicating that this task type can be implemented in order to elicit instances of negotiation. A lower level of negotiation was reported in the information-gap tasks with only 0.6% of all turns negotiated. As table 9.5 shows, the total number of negotiations over all tasks ranged from 0.5 to 3% of all turns.

Differences in project configurations and context of use mean that a degree of caution should be exercised when generalizing the findings of studies involving learner interaction in CMC. However, the level of negotiation reported in this study compares favorably with some other studies of learner interaction in CMC. For example, as I have noted in chapter 3, Pinto (1996) conducted a study that investigated the MOO-based interaction of 14 non-native speakers of English based at a university in Australia over a five-week period. Pinto reported that instances of negotiation were rare and that the subjects had (1996): "difficulties in sustaining the interaction" (p.183). In research conducted by Blake (2000), 50 learners of Spanish based at a university in America engaged in chat-based interaction over two quarters. In this study, jigsaw and information gap tasks were implemented. Blake reported a similar range of total turns negotiated "ranging from 0.3% to 3.8%" (p.7) to that reported in this study. In contrast, Lee's 2002 study of 34 Spanish learners chat-based interaction based at a university in America found that during the chat-based interaction the subjects employed a greater frequency of communication strategies during negotiation. For example,

Lee reported 59 clarification requests and 63 requests for help related to unknown lexical items. However, Lee failed to report the total number of turns, making comparisons in relation to the quality and quantity of negotiation difficult. In contrast, Kötter's 2003 study reported higher levels of negotiation than this study. For example, clarification requests accounted for 39.2% of all turns involving repair identified in the entire corpus. A higher figure than the 20% reported in this research. This difference in findings may be attributed to several factors. First, Kötter's study involved a larger number of students (29), over a longer duration (2 sessions per week over 3 months) and therefore provided the subjects with a longer period in which to interact⁶. This format provided enhanced opportunities to negotiate meaning. Second, Kötter's project involved native speakers interacting with learners in a tandem-learning project this configuration may, in part, account for the higher level of negotiation reported in his study.

A number of other factors appeared to influence the level of negotiation. These included, the typed onscreen real time nature of the interaction, the project configuration, sociolinguistic and cultural factors. The online context of use clearly influenced the extent of negotiation, as when interacting in the Schmooze MOO the learners had to:

make sense of words without many of the non-verbal cues that often accompany face-to-face interaction. (Ware, 2005, p. 65)

This aspect of the interaction could have influenced the extent of negotiation in a number of ways. For example, on occasions when messages were scrolling rapidly the subjects may have simplified their output and avoided difficult questions in order to maintain and keep up with the discourse. This aspect of the interaction may have limited the production of modified output and corrective feedback. Moreover, the evidence for non-response indicates that there were a limited number of occasions when, perhaps due to a pressure to respond quickly, the subjects ignored difficult topics or problematic utterances in order to focus on completing the tasks. There remains a possibility that the online nature of the interaction and absence of the above cues made this strategy in some instances easier to implement than would be the case in face-to-face communication.

Sociolinguistic and cultural factors influenced the level of negotiation. Recent studies on learner interaction in various types of CMC have emphasized the importance of these factors in determining learner behavior (Thorne, 2003; Ware, 2005). As Baym (1995) has observed:

⁶ As has been noted in chapter 4, institutional constraints limited the number of participants and duration of this study.

All interaction including CMC, is simultaneously situated in multiple external contexts. The preexisting speech communities in which interactants operate provide social understandings and practices through and against which interaction in the new computer-mediated context develops. (p.141)

The cultural background of the learners clearly influenced the level of negotiation. A striking feature of the data was the consistent focus on task completion, a phenomenon also reported by Smith (2003 a). As can be seen in excerpt 7 (section 9.4.3), the subjects made efforts to stay focused on the task at hand and this finding may be a reflection of the context of use. The majority of the subjects 12 out of the 14 were Japanese, interacting at universities in Japan, and this may be responsible for the strong focus on task completion manifest in the data. There remains a possibility that the desire to complete the task promptly and efficiently while interacting in real time led to occasions when the subjects avoided engaging in interaction that could have led to negotiation.

Moreover, the Japanese subjects as intermediate level learners, may have been unaware of native speaker discourse conventions in which information is usually conveyed as explicit statements and instead transferred many of their L1 practices to the online medium. The low incidence of comprehension checks reflects a clear unwillingness on the part of the Japanese subjects to request explicit understanding from their interlocutors. This is probably largely due to the fact that in Japan, utilizing this strategy would, in many contexts, be considered rude and a face threatening act (Hall, 1981; Lebra, 1976). The frequent use by the subjects of politeness strategies (see excerpts 3 and 4) lends support to his interpretation⁷. The absence of paralinguistic cues in the MOO, and the shared cultural background of the majority of the participants, created a communicative context where the subjects were careful not to appear domineering. Furthermore, the relatively limited number of clarification requests suggests that for the Japanese subjects there was a reluctance to signal too frequently that they did not understand their interlocutor. This is a plausible explanation for the level of negotiation in the data, due to the fact that, in Japan, maintaining face and status with interlocutors is a powerful influence on communication (Matsumoto, 1988). An additional aspect of the interaction that accounted for the low frequency of negotiation was the use of avoidance strategies (Goffman, 1967). As was noted previously, the nature of communication in real time text based CMC can produce avoidance due to time pressures. However, in this study, avoidance strategies were also utilized probably due to sociolinguistic and cultural influences. Studies of learner-learner interaction in face-to-face communication contexts have shown that when non-native speakers interact with interlocutors drawn from various nationalities there is a tendency, due to

⁷ The use of politeness strategies was investigated in chapters 7 and 8.

difference in proficiency levels and uncertainty regarding cultural norms, to frequently avoid discussing difficult or sensitive topics in an attempt to maintain face, foster collaboration and prevent embarrassment (Meierkord, 2000)⁸. As the discussion in section 9.4.5 has shown, in this research during the interaction the subjects did on occasion employ avoidance strategies in order to maintain status with interlocutors. This situation contributed to the limited number of negotiated turns. This aspect of the interaction may have further limited the frequency of self-correction, as there remains a possibility that the Japanese subjects did not want to risk losing face with their peers by engaging in too frequent self-correction.

This chapter has investigated, from the perspective of social interactionist research, the nature and extent of communication strategy use during learner-learner interaction in MOO-based CMC. The analysis has shown that negotiation routines in the MOO broadly followed the model proposed by Varonis & Gass (1985), for learner negotiation in face-to-face communication. It has further shown that unknown lexical items triggered the majority of non-understandings. There were also instances of content factors causing non-understandings. However, there were some significant differences between MOO-based and face-to-face interaction. Analysis of the findings suggests that medium specific factors influenced the interaction. In the MOO, there were occasions when long delays occurred during negotiation routines. The computer-based nature of the interaction when scrolling is available appeared to support monitoring. This aspect of the interaction, in turn, facilitated the production of modified comprehensible output including self and other-initiated correction that led to the resolution of communication problems focusing on lexis and content.

There were also differences in the frequency and acceptability of certain communication strategies. In contrast to studies of face-to-face interaction, there was a clear preference for definition and clarification requests over comprehension and confirmation checks. This finding can be explained by a desire on the part of the subjects to maintain status with peers, and avoid face-threatening utterances, in an environment where the visual and paralinguistic cues that influence face-to-face communication are absent or reduced. The subjects also utilized adaptive communication strategies including the use of keyboard symbols and made use of MOO-based study aids, such as, the online dictionary, in order to complete the tasks. Moreover, the presence of avoidance strategies in the data illustrates that just as in conventional classrooms, researchers conducting MOO-based CALL projects in Japan must carefully consider the effects of cultural norms and sociolinguistic concerns on learner

⁸ The subjects were aware that their interaction was being recorded. This realization (coupled to the above sociolinguistic concerns) may have further limited the extent of negotiation.

interaction (Richards & Sukwiwat 1985). The analysis further draws attention to the influence of task-induced effects. The requirement in the jigsaw tasks to exchange information focusing on low frequency vocabulary in order to come to a single outcome though the formulation of meanings, resulted in this task type eliciting higher levels of strategy use and negotiation than the other task types. This finding confirms a result reported in other studies on learner interaction in real time text-based CMC (Blake, 2000; Pellettieri, 2000), and highlights the value of implementing jigsaw tasks in CMC-based CALL.

Issues in comparing studies that involve different learner groups and project configurations, and the limited duration of the project, mean that it is difficult to establish if learner-learner interaction in MOOs produces higher levels of communication strategy use and negotiation than face-to-face communication and other forms of CMC. There is a possibility that the findings of this study are the product of the particular mix of variables investigated in this research. Furthermore, more studies are needed to definitively clarify if learner-learner interaction is the best format for supporting negotiation of meaning in types of real time CMC such as MOOs where the communication is carried out through typed text. The absence of native speakers may have contributed to the limited extent of the negotiation reported in this research. Although the role of native speakers in supporting learner negotiation in MOO-based CMC has yet to be fully investigated, the findings of some recent studies suggest that native speaker interlocutors play an important role in initiating negotiation and scaffolding interaction (see discussion of the results reported by Kötter, 2003 and Schwienhorst, 2004 in chapter 3). Moreover, there remains a possibility that the subjects edited their messages before sending them, thus this study may have underreported strategy use⁹. The frequency of negotiation raises the issue of the possible role of strategy training. There has been considerable debate in the literature regarding the efficacy of communication strategy training. The evidence in the data of L1 strategy transfer and the influence of sociolinguistic and cultural factors on the interaction would appear to suggest that in the context of CALL projects based in Japan involving intermediate level Japanese learners, a case can be made for limited training in communication strategy use.

The analysis in this chapter has shown that MOOs such as *Schmooze University* provide learners with an environment in which they can overcome communication problems in the TL by engaging in the negotiation of meaning. Moreover, the design of the project enabled the subjects to participate in learner-centered rather than teacher dominated interaction. The project configuration and MOO-based nature of the interaction ensured that the subjects were able to obtain valuable

⁹ It is also important to recognize that some strategies are not available for inspection to researchers investigating CMC. I am grateful to an anonymous reviewer for this observation.

practice in both controlling the discourse and writing for an audience. The MOO further provided an environment where the subjects could engage in collaborative interaction that resulted in consistent production of coherent TL output focused on the tasks. The data also shows that the subject's strategy use was influenced by variables such as limited L2 proficiency and sociolinguistic concerns. The findings draw attention to the potential of MOO-based interaction as providing a venue for monitoring and TL practice in a supportive atmosphere.

10 Participants' views on studying in the Schmooze University MOO

10.0 Introduction

In this chapter, I answer research question 7 (What are learner attitudes regarding the use of MOOs as a language learning environment?). In order to achieve this goal, and in accordance with my qualitative case study methodology, I provide an analysis of responses to the pre- and post-study questionnaires. Analysis of learner attitudes was further supported by my observations of the interaction that were recorded in my field notes, and informal discussions with the subjects. In this chapter, I provide background information gleaned from responses to the pre-study questionnaire. I then briefly describe the format of the post-study questionnaire. Finally, I supply an analysis of the subjects' responses to this questionnaire.

10.1 Subjects: Background information

In order to obtain the above information, I administered a pre-study questionnaire prior to the orientation phase of this research¹. This contained 7 questions and provided the following information on the 14 second year undergraduates who were the subjects:

Table 10.1 Participant responses to the pre-study questionnaire

Nationality	Age	Gender	Recent English proficiency test score
Japanese	19	Female	Not Available
Chinese	27	Male	Available
Thai	20	Male	Available
Japanese	21	Female	Not available
Japanese	20	Female	Not available
Japanese	19	Female	Available
Japanese	20	Male	Available
Japanese	20	Female	Available
Japanese	20	Female	Not available
Japanese	20	Male	Not available
Japanese	21	Female	Available
Japanese	19	Female	Not Available
Japanese	19	Male	Available

¹ A copy of this questionnaire is provided in appendix B.

As can be seen in table 10.1, 12 of the subjects were Japanese with the others from China and Thailand. The majority of were females (9 from 14) and the median age was 20.3 years. A minority (6), claimed that they did not possess a recent score on an English test such as TOEIC or TOEFL. Of the subjects who claimed to possess a recent test score, the majority claimed scores that indicated an intermediate level of English language proficiency. Responses to this questionnaire further revealed that all of the subjects were English majors. In response to a final question, none of learners claimed to have any prior experience of using MOOs. However, in informal conversations during the orientation phase of the project, three of the subjects based at Waseda University claimed to have accessed various types of text chat prior to this study. These learners claimed to have accessed IRC and Yahoo chat rooms.

10.2 Post-study questionnaire: Format

The post-study questionnaire consisted of 3 sections and incorporated two question types². The first section contained questions designed to confirm the identity of the subjects, followed by 2 Likert scale questions and two open questions designed to establish the learners' level of interest in English and familiarity with computers. In the next section, 10 Likert questions were employed, in order to determine the extent of the learner's agreement with statements regarding the MOO sessions. The final section contained 16 open-ended questions and a further Likert question designed to elicit detailed feedback on the learners' views on and experiences of the MOO-based interaction.

10.3 Findings, analysis and discussion

10.3.1 Level of interest in English

The subjects were requested to select from a scale of 4 "very interested" to 1 "not at all interested" their level of interest in English. A summary of learner responses is provided in the following table:

Table 10.2 Subjects level of interest in studying English

Level of interest	Number of responses
Very interested	10
Somewhat interested	4
Not very interested	0
Not at all interested	0

² A copy of this questionnaire is provided in appendix C.

As can be seen in the above table, the majority of the learners claimed to be very, or somewhat, interested in English. The questionnaire contained a follow-up question designed to establish the reasons for the above answers. A summary of responses is provided in the table below:

Table 10.3 Reasons for learners' level of interest in English

Reason	Number of responses
English is the international language	3
It is important to master English for my future	3
Speaking English helps me to make new friends	2
Ambiguous response or off topic response	2
English is useful when traveling	1
Desire to communicate with foreigners	1
Desire to better understand foreign cultures	1
I like English and learning languages	1

As can be seen, the most frequent reasons given for the subject's interest in English were that English is the international language (3 responses) and the study of English would be important for the future (3). The second most frequent reason, was the claim made by 2 of the subjects, that studying English assisted in making new friendships. Two of the respondents gave ambiguous responses to this question.

10.3.2 Computer experience

In the second Likert question in the first part of the questionnaire, they were requested to select from the following responses: 4 "I am very experienced using computers", 3 "I often use computers", 2 "I seldom use computers" and 1 "I almost never use computers". The following table provides a summary of responses:

Table 10.4 Level of participants' computer experience

Level of computer experience	Number of responses
I often use computers	13
I am very experienced in using computers	1
I seldom use computers	0
I almost never use computers	0

Table 10.4 shows that most of learners (13), often used computers, a finding supported by observations during the study. In my observations of the subjects during the orientation period, I noted in my field notes, that they were familiar with basic software tools including e-mail, web browsers and word processors.

10.3.3 Learner preferences regarding studying in MOOs

The second section of the questionnaire consisted of ten Likert scale questions. The subjects were requested to select one response for each question from the following options: 1 “strongly disagree”, 2 “disagree”, 3 “no opinion”, 4 “agree” and 5 “strongly agree”. Table 10.5 provides averages of the responses for all 14 participants:

Table 10.5 Mean scores of responses to the Likert scale items in the second section of the post-study questionnaire

Question	Mean
1. Chatting in the MOO is a good way to improve my English	4.0
2. Traditional classes are more useful than MOO-based classes	2.3
3. Most of the discussion in MOOs was not so useful	2.0
4. There was not much feedback from the instructor	2.1
5. A good point of MOOs is that I could work at my own pace	4.3
6. I could express my opinions more freely in MOOs than in a regular class	4.2
7. Being assigned a task was more useful than participating in a general discussion	3.6
8. Not being assigned a task made the conversation more interesting	2.2
9. Sometimes it was difficult to understand what other people wrote	3.2
10. Classes held in the MOO were more interesting than regular classes	4.0

As can be seen in table 10.5, the subjects considered studying in the MOO to be a beneficial experience for a number of reasons. In response to question one, responses averaged 4.0, indicating the subjects considered that chatting in a MOO was a good way to improve their English. Although this finding represents an average, it suggests that the majority of respondents considered participation in the project to be a useful activity. In response to the second statement, that non-CMC classes are more useful than MOO-based classes, learners averaged 2.3 indicating a negative response to this statement. This finding may, in part,

be due to the fact that working in a computer-based virtual world was a novel experience for this group of learners. Moreover, it may also reflect learner dissatisfaction with the translation-based methodologies that are common in many Japanese university language courses.

The responses to question three indicated that the subjects considered discussion in the MOO to be a valuable activity. In the case of question four regarding lack of instructor feedback, participants averaged 2.0. This finding suggests that the learners did not feel that lack of instructor intervention during the project was a problem. Indeed, a remarkable feature of the project was the degree to which participants took responsibility for all aspects of their interaction. As many language classrooms in Japanese universities are teacher led, the students in this study appeared to enjoy the freedom to manage their interaction provided by the MOO environment³. In the case of question five (a good point of MOOs is that I could work at my own pace), the level of learner response was 4.3, indicating a high level of agreement with this statement. This positive finding was echoed in the response to statement 6 (I could express my opinions more freely in the MOO than in a regular class), where the average was 4.2. These responses suggest that the anonymity provided by the use of pseudonyms encouraged the learners to manage their own learning and freely express their opinions in English.

In their responses to question 7, regarding the value of participating in a specific task rather than a free chat learner responses averaged 3.6. In question 8 (not being assigned a task made the conversation more interesting?) learners produced a response of 2.2. These two responses indicate that learners preferred to study a specific task. Learners averaged 3.2 in their responses to question 9 (it was difficult to understand everything that everyone wrote). This finding indicates that the subjects had no strong opinions on this question. In reaction to the final question that classes held in the MOO were more interesting than regular classes, the responses averaged 4 indicating that most participants agreed with this statement. This response reflects the fact that the MOO-based interaction motivated the learners and may further highlight negative student attitudes toward the teacher dominated methodologies that predominate in university level language classes in Japan (Hadley & Yoshioka, 1996). The remainder of the questionnaire consisted of open-ended questions and one further Likert question related to the project. This format was selected in order to obtain detailed feedback on categories of learner perceptions and, at the same time, gain the most accurate possible assessment of attitudes towards studying in the MOO.

³ My observations of the enthusiasm displayed by the subjects based at Tokyo University of Foreign Studies supports this interpretation.

10.3.4 Learner opinions on studying in the MOO: Best points and problems

Learner responses to the open questions in the third section of the questionnaire revealed a mix of attitudes regarding various aspects of studying in MOOs. In response to question 1 (What was the best point of the lessons in MOO), 5 of the participants indicated that the online nature of the interaction enabled them to express their views freely. Furthermore, 4 students indicated that participating in the project enabled them to meet a variety of new people. Moreover, 3 learners indicated that chatting in the MOO provided a good opportunity to think and write in English. In response to question 2 (Were there any problems using the MOO?), 4 respondents claimed they sometimes had problems keeping up with the discourse due to lack of typing skills. Meanwhile, 2 learners indicated that they had trouble mastering some of the commands in the early stages of the project.

10.3.5 Learner opinions on studying in the MOO: Level of comfort with the MOO environment

In response to question 3 (did you feel more comfortable using the MOO by the end of the semester?), 13 of the participants indicated that this was the case. This finding is in agreement with my field notes. These indicate that by the end of the orientation period all of the participants were comfortable for the most part, with the MOO environment. Furthermore, I observed that as the project progressed, the subjects became increasingly proficient in the use of most major MOO commands related to navigation and communication. This observation was borne out by the fact that, for example, commands such as the *to* command absent from the earlier sessions became a feature of the interaction in the later stages of this research (see discussion in chapter 8 section 8.3.1).

10.3.6 Learner opinions on studying in the MOO: Use of character names

Questions 4 (Did you apply for a character name in the MOO? And what were your reasons for doing so?) and 7 (What did you think about not using your real name in the MOO? Was this a good or bad thing?), were designed to obtain participant attitudes regarding the use of pseudonyms in the MOO. In response to question 4, a majority of the students (10), indicated that they used a pseudonym at least once. The remainder of the students claimed that they did not apply for a regular character name and instead used their real names in the MOO. Two students claimed that the use of a character name enabled them to do more in the MOO, and three respondents indicated that it was fun to use a pseudonym. Learner responses to question 7 indicated that the majority of participants (9), considered that using a character name in the MOO was a good thing. A variety of reasons were given for this opinion. Seven learners claimed that the use of a character name enabled them to talk more

freely than they would in an ordinary class. Another two respondents noted that the use of character names provided anonymity and also created a good atmosphere in the class. Five learners indicated that the application of user-defined names enabled them to engage in role-playing. Another two subjects indicated that they were not particularly interested in using a character name during the MOO sessions.

10.3.7 Learner opinions on studying in the MOO: Building in the MOO

In question 5, the participants were asked if they made use of the building features of the Schmooze MOO. As I have noted in chapter 5, obtaining permission to become a builder in a MOO enables users to create rooms and add other virtual content to the MOO environment. Although participants were introduced to this feature of the Schmooze MOO during the orientation phase, due to time limitations, this was not a required activity and none of learners made use of this feature of the MOO during the main phase. During the main phase of the project I became aware of this situation and question 5 was included in order to discover why learners were not making use of this feature of the MOO. I did this as researchers had reported that learners participating in CALL projects involving MOOs had frequently built rooms using their own initiative (Von Der Emde et al., 2001). Three subjects claimed they had no time, while 8 others claimed they had no understanding of this feature of MOOs. In informal conversations held with several of the participants based at Waseda University, I discovered that 4 learners had attempted to obtain a higher level of user privilege in order to build rooms in their free time. However, unfortunately the Schmooze MOO administrators did not respond to their requests⁴.

10.3.8 Learner opinions on studying in the MOO: Features that improved language skills

Learner reactions to question 6 (What aspect of MOOs help you to improve your English skills?), revealed a variety of positive opinions. Four of the subjects claimed that the fact that they only used English during the interaction had a general positive effect on their English skills. Another 3 learners identified improved reading skills as a benefit of the text only MOO interactions. Two subjects noted that they learned new vocabulary and another 2 learners stated that their writing skills had improved although they gave no specific details. A further two subjects observed that their language skills improved as they obtained practice in both giving, and responding to, opinions in the TL.

⁴ Discussions with learners based at Tokyo University of Foreign Studies also revealed that on occasion, it was difficult to obtain a prompt response from the administrators of the MOO.

Another learner claimed that the MOO-based interaction improved their English skills but provided no concrete examples.

10.3.9 Learner opinions on studying in the MOO: Use of study aids

In response to question 8 (Did you use any dictionaries, translation machines or text books during the MOO chat sessions. If so, were these helpful?) of the 14 participants, 11 indicated that they had used a conventional bilingual dictionary at least once during the project. Students gave a variety of reasons why they used a dictionary. In some cases, students did so in order to check a spelling. The other main use of dictionaries was to check the meaning of a word (n=3). Only one of the participants claimed to have made use of a translation machine. In an interesting finding, 5 of the learners reported they made use of the online dictionary available in the MOO and claimed that they found this a useful tool during the interactions⁵. Two claimed that they had not made use of any study aids during the project. Three of the participants stated that they did not often use dictionaries or other study aids. However, when they did, this activity was undertaken to aid task completion.

10.3.10 Learner opinions on studying in the MOO: Perceptions of the tasks

In answering question 9 (Did you notice any differences in the tasks you did in the MOO each week? If so, which task was the most interesting for you and why?), a majority of the subjects (12), claimed that they were aware of differences in the types of task that were implemented. However, two subjects gave ambiguous responses, which suggests they may not have fully understood the questions. Of the subjects who claimed to be aware of differences in the tasks, the opinion-exchange tasks appeared the most interesting. Four learners indicated that the most interesting task was “My ideal university” (week 8). These subjects reported that this topic was easy to discuss and that they enjoyed exchanging opinions on this particular topic. Another 2 learners claimed that the opinion-exchange tasks implemented in weeks 4 “What are the best ways to study English?” and 5 “Japan’s economic crisis” were the most interesting as they were able gain practice in giving their opinions on topics they found interesting. Another task identified by 3 respondents as interesting was “word meanings”. These learners noted that this two-way information-gap task undertaken in week 11, gave useful practice in using new vocabulary. A similar opinion was voiced by two subjects with regards to the one-way information gap task “Partner Profile” employed during week 9. Finally, 2 subjects noted that they found the jigsaw task “Keanu Reeves” implemented in week 7 to be very

⁵ I had not introduced this feature during the orientation phase. This finding shows how, as the project progressed, the subjects made considerable efforts to explore the MOO environment.

interesting as they could learn and gain practice in using new English expressions.

10.3.11 Learner opinions on studying in the MOO: Strategy use during communication problems

In question 10, the subjects were asked about how they dealt with communication problems. In this question, they were requested to rate their answers from 1 (what you did the most) to 4 (what you did the least) in response to the following statements: repeat what you wrote, rephrase what you wrote, ask for clarification, do something else (write what you did in the space below). A majority of the respondents (8), claimed that when a non-understanding occurred, their most frequent response was to ask for clarification. A total of two subjects claimed they rephrased a problematic utterance, while a single subject said they repeated what they had written. A further 3 learners claimed they did something else. Two of these subjects claimed that they consulted the online MOO dictionary when a communication problem occurred. These findings mirror to a degree, those reported in chapter 9. During periods of the interaction when communication problems arose the most frequent strategies I identified in the transcripts were the use of definition and clarification requests. This finding lends support to my contention made in chapter 9, that the online nature of the interaction influenced strategy use due to the fact that as many paralinguistic cues were absent the subjects had few other means to signal that a problem had occurred.

10.3.12 Learner opinions on studying in the MOO: Presence of the researcher

In question 11, the participants were requested to express their preferences regarding the presence of the researcher in the classroom. A majority of respondents (10), indicated that they preferred to have the researcher present in the classroom during the project. The main reason for this response was that many of them wanted to have the option of asking for assistance if a problem arose with their computer. In an interesting finding, none of the subjects indicated that they had needed help in managing their interaction. This finding lends further credence to the observation I made in chapter 8 (section 8.4), that as the project progressed, the subjects became increasingly proficient users of the MOO environment. Two learners indicated that they had no particular preference for the researcher to be in the room during the main phase of the project. A further 2 of respondents did not answer this question or gave an ambiguous answer.

10.3.13 Learner opinions on studying in the MOO: Use of scrolling

Question 12 explored the use of scrolling during the project. The subjects were asked to confirm if they made use of scrolling during the sessions, and if so, for

what purpose. A majority (8) stated that they made use of scrolling. In their responses, these subjects expressed a variety of views of why they did so. For the above group, the main benefit of scrolling was that it enabled them to keep up with the interaction during periods when messages were scrolling rapidly. Scrolling also enabled them to monitor their interaction for errors and provided a means to revisit their output and the output of interlocutors during the tasks. A minority of the subjects (5) reported that they made no use of scrolling. Of these subjects, the majority indicated that they were able to keep up with the interaction without the need to resort to scrolling. A further learner provided no response to this question.

10.3.14 Learner opinions on studying in the MOO: Off-task activities

In answering question 11 (Did you do any other activities not related to the class when you were in the MOO?) the majority of participants (10) indicated that they did not engage in off-task activities during the sessions. The remainder of the learners (4), claimed that they occasionally engaged in largely minor off-task activities such as, for example, reading e-mail or net surfing mainly during the orientation phase of the project. The responses of the majority provide evidence to support my contention made elsewhere (chapters 7 and 8), that the subjects remained very focused on the tasks during the main phase of the project.

10.3.15 Learner opinions on studying in the MOO: Most popular and least popular tasks

In order to gauge learner opinions towards the tasks, question 14 invited the subjects to indicate the task they liked the most and the task they liked the least. A summary of participant responses is provided in the following table:

Table 10.6 Popular and least popular tasks⁶

Task title and type	Most popular (total responses)	Least popular (total responses)	Total
“My ideal University” (open-ended opinion-exchange task)	6	1	7
“Keanu Reeves” (jigsaw task)	2	4	6
“Japans economic crisis” (open-ended)	0	4	4

⁶ One learner did not complete this section of the questionnaire.

opinion-exchange task)			
“Education reform in Japan“(open-ended opinion-exchange task)	1	2	3
“Finding the perfect apartment”(jigsaw task)	2	0	2
“Word meanings”(two-way information gap task)	1	1	2
“Studying in MOOs”(decision-making task)	0	1	1
“Partner profile”(one-way information-gap activity)	1	0	1
“What are the best ways to study English”(open-ended opinion-exchange task)	0	0	0
“Schedules of the stars”(jigsaw task)	0	0	0

The most salient finding revealed by the above table, is the popularity of the opinion-exchange task “My ideal university”. In their remarks, 6 learners noted they particularly enjoyed this task, as it was fun to exchange views and ideas on a topic that they found interesting. These subjects appeared to value the opportunities that this kind of task gave them to freely express themselves in English. Tasks based on real world situations such as “Finding the perfect apartment” also appealed to some learners. The findings also highlight the unpopularity of certain tasks. As the above table shows, for the majority the least popular tasks were the opinion-exchange tasks “Japan’s economic crisis”, “Education reform in Japan” and the jigsaw task “Keanu Reeves”. A number of subjects (4) noted that these tasks required a high level of vocabulary knowledge and were therefore, on occasion, difficult to complete. Furthermore, these learners observed that the topics covered in these tasks were rather boring and that they lacked the background knowledge to successfully complete them. Another 3 of the subjects reported that in the case of the task “Japan’s economic

crisis”, the content, that required the reading of a short newspaper article prior to the session was too difficult to understand⁷. In summary, tasks that were popular for learners contained content that the subjects found interesting or relevant. In this research, tasks with this type of content stimulated interaction. The fact that the subjects were able to identify specific reasons why a particular task was unpopular has obvious implications for task design in CALL projects utilizing types of real time CMC. These findings highlight the need to implement tasks that are appropriate both to the level and interests of learners.

10.3.16 Learner opinions on studying in the MOO: Access to transcripts and class BBS

Question 15 attempted to establish if the subjects reviewed their MOO transcripts outside of the regular sessions. In a positive finding, 6 of the participants claimed to have examined their chat transcripts outside of class time. Although the learners did not state how often they engaged in this behavior, this finding would appear to indicate that these learners were highly motivated. Of the learners who checked their transcripts outside class time, a number of them (4), commented that this was a useful activity that supported their learning. Three of these subjects claimed that checking their transcripts helped them to focus on errors. A slight majority (7) of learners did not do so (one student did not respond to this question). This finding may be due to the fact that outside class work was not a requirement of this project and these learners therefore felt there was no necessity to check their transcripts after each session. In question 16, the subjects were asked to confirm if they had accessed the class web site. In a further positive finding that reflects the degree of autonomy and engagement displayed by the majority of the subjects, 8 learners claimed to have accessed the class web site regularly in their free time.

10.3.17 Learner opinions on studying in the MOO: New vocabulary

In question 17, the learners were asked if they had learned any new words or expressions during the project. In a positive finding, 13 of the subjects claimed they had done so and in their responses they provided a number of specific examples. New expressions provided by the learners included “*come up with*”, and “*have a good command of*”. The subjects also reported that they had learned a wide range of new vocabulary including for example, *sacrifice*, *abolish*, *pupils*, *cram*, *earned*, *sacrifice*, *capitalism*, *partner* and *pigeon*. Although 4 subjects claimed to have learned new words they provided no specific examples. In their responses the subjects indicated these new words were discovered mainly

⁷ This finding is somewhat contradicted by my observations of the interaction reported in chapter 7 (section 7.3.8), where I observed that the majority of the learners, appeared highly engaged in the interaction during session 5.

through interaction with chat partners, though some learners (3) stated that they discovered new words in the task handouts and from the online MOO dictionary (3). Only one of the respondents claimed that they did not learn any new words or expressions during the project.

10.3.18 Learner opinions on studying in the MOO: Changes in learner perceptions of their general English ability

In response to question 18 (Do you think your English has changed in any way since the start of the MOO classes? If so, in what ways?), a majority of the subjects (12) answered that their English language skills had changed in a positive way to some extent due to the project. Only one student gave a negative response to this question, while a further student gave an ambiguous response. The students who felt that their English language skills had improved gave a number of examples of the benefits gained by participating in the project. For example, several learners (3) reported they developed an ability to use a wider range of more colloquial expressions. Another beneficial change was the ability to think in English and not translate. Students also reported an increase in reading speed caused by the need to keep up with the flow of the real time conversation (3), and generally improved conversational skills (4). Three of the participants also claimed that they felt relaxed during the sessions and that they gained confidence expressing their opinions in English from studying in the MOO.

10.3.19 Learner opinions on studying in the MOO: Other perceptions

The final question of the post-study questionnaire (number 19) was designed to allow the subjects to make any additional comments regarding their experiences of studying in the MOO⁸. Thirteen of the subjects provided a variety of responses to this question and their comments focused largely on the positive and negative aspects of studying in the MOO. The learners reported a number of benefits gained from participation in the project. One of the main benefits of learning in the MOO appeared to be the opportunity to engage in communicative language practice in English. On first examination, this may appear a somewhat surprising finding given the current predominance of communicative approaches in language education. However, the educational and cultural context in Japan may have influenced learner attitudes toward the value of studying in the MOO. Most Japanese universities are largely monolingual environments where even language majors frequently have few opportunities to engage in target language communication on a regular basis (McVeigh, 2002). This fact coupled to the predominance of grammar translation methodologies in Japanese university language programs (Wadden, 1993) contributed to this factor being identified as

⁸ Unfortunately due to circumstances out with my control it was not possible to schedule any post-study interviews.

an advantage of learning in the Schmooze environment. In their comments, the subjects emphasized that they valued the opportunities provided to gain practice in reading and thinking in English in real time as can be observed in the following comments, “its very useful to write my idea in English quickly”, “I can read an English sentence more quickly then before” and “using English once a week made it easier for me to chat in the next class”. Moreover, several subjects stated that the chance to learn new vocabulary and express their opinions in the TL were major advantages of taking part in the project. For example, the subjects reported “I think my vocabulary has improved”, “I got many words or expressions I didn’t know” and “exchanging opinions with other people helped me to improve my English skills”. A number of learners commented that they were able to learn a wider range of more natural expressions. One learner claimed that, “in the MOO I learned natural English”. However, only 6 of the subjects could provide concrete examples of new expressions they had learned⁹.

The subjects’ responses show the value of utilizing pseudonyms during the project. For the majority of the subjects, the anonymity provided by character names was seen as advantage as one subject a 20-year-old female stated, “I think it is a good thing because it helped me to chat more freely“. This view was echoed by another learner a 20-year-old male who observed, “I think this was a good thing because otherwise I wouldn’t have been comfortable talking freely“. Another beneficial aspect of the project, noted by several of the subjects, was that they enjoyed the MOO sessions and that it was enjoyable to interact in English with a variety of peers. These learners made comments that emphasized this point including, “ I enjoyed myself so much”, “this class is fun” and “it was fun studying English in the MOO“. This positive feedback was mirrored in the responses of the majority who claimed that studying in the MOO was more interesting than regular classes¹⁰. In their comments, the subjects indicated that they were engaged, and motivated by, regular encounters in what was, for these subjects at least, a stimulating communication environment. A learner commented on the value of learning in the MOO stating, “This system inspires me to use English”.

In other responses to question 19, the learners identified a number of difficulties they encountered during the sessions. For example, two subjects claimed that they had trouble navigating, particularly during the early sessions. These subjects further reported that it was sometimes difficult to find task partners and keep up with the interaction due to poor typing skills. One subject claimed that some of the tasks were too difficult and another reported that they sometimes felt frustrated, as they couldn’t express themselves freely due to limited L2 skills.

⁹ Examples of these are provided in section 10.3.17.

¹⁰ Seven learners claimed that their typing and general computer skills improved due to participation in this research.

The participants also made a number of recommendations on how studying in the MOO could be made a more beneficial experience. Three subjects commented that they would have preferred to chat with a wider range of learners and native speakers from other countries. Two other learners reported that they would have liked the opportunity to create their own room within the Schmooze MOO. Another subject requested that it would have been useful to have access to the tasks before each session.

10.4 Conclusions

This chapter has provided a detailed analysis of the participants' responses to the pre- and post-study questionnaires. The discussion has focused primarily on responses to the post-study questionnaire that was used in order to answer research question 7. The findings suggest that in the view of the majority of the subjects, participation in this project brought a number of specific benefits. These included enhanced reading skills, opportunities to learn new vocabulary and more natural TL expressions. The subjects reported that they enjoyed, and were motivated by, the opportunities to manage their own interaction without interference. They commented favorably on the opportunities provided to think in English. This represents an encouraging finding due to the fact that low motivation levels that are frequently identified as a major reason for the poor performance of Japanese language learners (Berwick & Ross, 1989). Other benefits identified were improved confidence and writing skills. The subjects displayed clear preferences in favour of tasks that they found interesting and enjoyable to complete. Challenging tasks requiring higher-level vocabulary knowledge appeared to be less popular. This finding emphasizes the importance of considering learner needs when designing tasks for CALL projects involving interaction in MOOs.

Another positive finding revealed in responses to the post-study questionnaire, was that a number of learners claimed to have engaged in autonomous learning behaviors, such as, studying their transcripts outside of class time and regularly visiting the class web site. Their responses emphasized a number of advantages of the computer-based nature of the interaction, namely, that the anonymity provided by pseudonyms encouraged the subjects to take risks and, to a degree, engage in more candid expression than would be the case in a conventional language class. Moreover, the visual saliency of onscreen text coupled with the ability to scroll, appeared to assist monitoring and comprehension. Several of the subjects claimed to have made use of learning support features of the MOO such as the online dictionary. The data investigated in this chapter suggests that, in the view of the subjects, the main benefit of interacting in the MOO was the opportunities provided to improve L2 fluency. In terms of specific language features, the data is not conclusive with the subjects being able to confirm only a limited number of new vocabulary. The findings further draw attention to a

number of limitations on learner reporting. On occasion, individual subjects forgot to answer specific questions. There were also instances when the subjects appeared unable to understand specific questions (see section 10.3.1), but, these occurrences were infrequent. Taken as a whole, the data examined in this chapter suggests that the learners viewed participation in this project to be an enjoyable and beneficial experience.

Chapter 11 Conclusions

11.0 Introduction

This chapter will summarize the findings of this study and discuss the conclusions that can be drawn with reference to the research questions. I shall identify the positive features of this research, and acknowledge its limitations, discuss the implications for language learning pedagogy and outline a number of areas with potential for future research. The purpose of this study was to investigate the real time MOO-based interaction of intermediate level EFL learners based at two universities in Tokyo. I analyzed, within the framework of social interactionist research, the communication strategy use of the subjects during interaction involving 4 task types. Drawing on relevant research, I further explored the discourse management strategy use of these subjects. In line with my case study methodology, when examining the participants' discourse management, I focused on analyzing the interaction of 4 subjects at an early and later stage of this project. Secondary investigation involved analysis of the subject's attitudes toward studying in the MOO environment

11.1 Summary of findings and conclusions

11.1.1 Research question 1

The data analysis conducted in chapters 7 and 8 answered research question 1. As I had anticipated, the subjects made consistent use of specific transactional and interactional strategies to manage their interaction. As I demonstrated in chapters 7 and 8, these strategies were successful in facilitating the sustained production of coherent TL output during the project sessions to a far higher degree than in other studies involving learner-learner interaction in MOOs. These strategies appear to represent, for the most part, unconscious transfer from the learners' L1 strategy use in face-to-face communication or prior language classroom experiences. However, the analysis conducted in chapter 8 has shown, that as the project progressed, the subjects utilized a greater number and wider range of strategies than in the earlier sessions. This finding, coupled with the emergence of multiple strategies within a single utterance, emphasizes the subjects' increasing level of comfort with the system. Moreover, adaptive transactional strategies emerged such as the use of the *to* command, quotation and omission. The appearance of these medium induced strategies draws attention to the subject's increasingly sophisticated attempts to deal with real time computer-based nature of the interaction. The presence of these strategies represents a significant finding, as they have not been reported in the current literature on learner-learner interaction in MOO-based CMC. Moreover, their use was similar, to a degree, to that reported in NS chat and reflected a developing awareness of at least some of the norms of communication that prevail in NS text

chat. The analysis further revealed the influence of task-induced effects and the importance of task design. The learners appeared motivated by the content of the tasks, a finding that was manifest in the encouraging focus on task completion that was a consistent feature of the sessions analyzed in chapters 7 and 8, and over the project as a whole.

Another positive finding was the opportunities for learners to exercise the kind of autonomy that has been reported in studies of tandem learning in MOOs. It became clear, that by the later sessions, the subjects had thoroughly explored the MOO environment and had become aware of and utilized features designed to facilitate effective discourse management, most notably the *to* command. Furthermore, they displayed a high degree of initiative during the interaction, agreeing to meet in new locations within the MOO, adopting new online identities, taking risks in their strategy use (attempting new strategies) and managing the TL discourse in an appropriate manner. The subjects' discourse management reflected the presence of many of the strategies associated with the development of communicative competence. These, in turn, enabled the learners for the most part, to manage their interaction effectively for the duration of the project.

A further noteworthy finding was the consistent use of strategies involved in the provision of positive feedback. This represents an encouraging finding, as it shows the high degree of interest and motivation displayed by the subjects. Moreover, it draws attention to how during the interaction the learners collaborated by provided helpful assistance, which, on occasion, incorporated teacher-like feedback. This finding suggests at least some of the subjects were willing to take responsibility for their learning by adopting, when appropriate, teacher-like roles in order to provide scaffolding and drive the interaction forward. This finding may be viewed as particularly significant, as the majority of the subjects were Japanese university students, a learner group that is frequently criticized in the literature as being passive and lacking initiative in language classes (Berwick & Ross, 1989). This finding provides evidence that the online nature of the interaction in MOOs may, in the context of Japan, raise learner confidence and encourage production of the beneficial feedback that plays an important role of language development.

A final significant finding in this study was the role played by interactional strategies. As was the case with transactional strategies, the incidence of these strategies increased over time. Throughout this study the subjects made great efforts to both establish and maintain cooperative interpersonal relationships. The success of these strategies can be seen in the positive helpful atmosphere that prevailed during the sessions, and the absence of anti-social behavior that is a frequent characteristic of NS chat (Bays, 1998). In this context, the data shows the influence of sociocultural concerns on the interaction. Although during the interaction many of the social factors that influence face-to-face communication

were either absent or reduced, the subjects clearly felt the need to consistently utilize strategies involved in ritualized interchanges such as greetings, leave-takings and politeness in order to undertake facework and secure the cooperation of their partners. The continuing use of these strategies emphasizes the importance placed by the subjects on relationship building in the online MOO environment, and the necessity of these relationships for effective communication in types of real CMC where the interaction is achieved through the medium of typed text.

11.1.2 Research question 2

In answering research question 2, (What factors cause communication problems between non-native speakers during MOO-based CMC?), analysis of the transcripts collected over this project revealed that the primary cause of communication problems between the subjects during interaction in the MOO was unknown lexis. This confirms the findings reported in other studies of learner-learner interaction in conventional classrooms (Porter, 1986; Varonis & Gass, 1985), and other types of real time CMC (Blake, 2000; Fernandez-Garcia & Martinez-Arbelaz, 2002; Lee, 2001; 2002; Smith, 2003 a). The analysis in chapter 9 has demonstrated, that when faced with a communication problem involving unknown lexis, the subjects most frequent response was to employ a definition request. The proficiency level of the subjects was, in part, responsible for this. As intermediate level learners, who had gaps in their L2 knowledge, using this strategy enabled them to effectively resolve communication problems. The task type administered further contributed to this finding. As I had anticipated, the jigsaw tasks produced the greatest number of communication problems and resulting definition requests. This finding appeared to be caused by the format of this task type, that required the learners to exchange information relating to low frequency vocabulary, pool their linguistic resources and formulate their own meanings. The analysis further revealed that another less frequent cause of communication problems were messages that contained problematic content, such as, low frequency vocabulary. When these utterances occurred, the subjects utilized clarification requests, as this strategy was an effective means to signal non-understanding and resolve the communication problem.

11.1.3 Research question 3

In answering research question 3 (Do MOOs provide an environment where learners can employ the communication strategies that play a central role in with negotiation of meaning?), the analysis conducted in chapter 9 showed that MOO environments do indeed provide an environment where language learners can employ these strategies. In a finding that confirms the value of applying social interactionist constructs to the study of learner interaction in CMC-based CALL, the learners employed 5 of the strategies identified in the literature as playing a

central role in negotiation. These strategies were definition and clarification requests, comprehension and confirmation checks, and non-response. It further appears that the model of learner-learner negotiation proposed by Varonis and Gass (1985), also broadly holds for learner-learner interaction in MOO-based CMC, but the data showed that there were two significant differences in how this model operated in comparison to face-to-face interaction. One difference concerned the use of non-response. As noted in chapter 9, in my data although non-response was present, its use rarely resulted in negotiation. In a further difference there were, on occasion, considerable delays between turns during negotiation routines. However, my analysis has demonstrated that these delays did not result in communication breakdowns. The subjects were able to take advantage of the computer-based nature of the interaction to monitor their own and their interlocutor's output onscreen in real time¹. They also made use of scrolling in order to revisit problematic utterances during periods of the interaction when messages were scrolling rapidly. These beneficial behaviors draw attention to the potential advantages of the online nature of the interaction, in that they enabled most negotiation routines to be completed successfully by encouraging the production of comprehensible TL output.

11.1.4 Research question 4

In investigating question 3 (Are there any differences in NNS communication strategy use in MOO-based CMC compared to face-to-face and other types of real time CMC-based interaction?), I found that a number of significant differences emerged. Compared to the subjects in some other studies on real time CMC-based interaction (Lee, 2002; Smith 2003 b), the participants in this research employed fewer communication strategies. Instead, my findings mirrored results reported in other research (Fernandez-Garcia & Martinez-Arbelaz, 2002) and may, in part, reflect the limited L2 proficiency of the subjects. There were also differences in the frequencies of particular strategies. In contrast to findings reported in studies of interaction in conventional non-CMC classrooms, the learners made greater use of direct rather than indirect communication strategies. This difference was caused, in part, by the computer-based nature of the interaction where, in the absence of paralinguistic cues, the subjects had few other means to signal that a problem had occurred. This explanation probably accounts for the low frequency of the more indirect communication strategies that are a characteristic of face-to-face interaction. A salient feature of the data was the low level of comprehension checks. This finding may be partly due to the subjects avoiding too frequent use of teacher-like behaviors and the availability of scrolling.

¹ See discussion of this phenomenon in chapter 10.

11.1.5 Research question 5

My analysis of the data in relation to question 5 (Is there any relationship between task type and the incidence of negotiation of meaning involving NNS interaction in MOO-based CMC?), suggests that the task type used appeared to influence the incidence of negotiation. As I had anticipated, and as has been reported in other studies, most notably Blake (2000), the jigsaw tasks elicited the highest levels of negotiation. This finding is due to this task type requiring not only information exchange, but also the active formulation of meanings on the part of learners. A further significant finding was that, contrary to some views expressed in the literature (for example Lee, 1999), opinion-exchange tasks also elicited negotiation. In this study, they produced the second highest incidence. This finding suggests that there is a place in CALL projects for carefully designed opinion-exchange tasks that learners find interesting and relevant to their real life concerns. However, the levels of negotiation in the decision-making and information gap tasks were low. This finding suggests that as these task types do not require learners to formulate their own meanings, they may be a less effective means to create the conditions in which negotiation can occur.

11.1.6 Research question 6

Regarding research question 6 (What factors may have influenced the frequency of negotiation?), a distinctive feature of the data was that the frequency of negotiation reported in chapter 9 was comparable to some studies (Blake, 2000), but lower than others (Kötter, 2003). This finding appears due, in part, to differences in project configurations. For example, in the case of Kötters' study the interaction occurred for a longer period than in this study, providing the subjects with enhanced opportunities for negotiation. Moreover, my analysis of the data suggests that a number of factors were responsible for the level of negotiation. The real time computer-based nature of the interaction, and the requirement to complete the tasks, may have contributed to this finding. During periods of the interaction when messages were scrolling rapidly, the subjects appeared, on occasion, to simplify their output and avoid negotiation due to the need to keep up with the discourse. The presence of non-response in the data supplies evidence to support his interpretation. The data analyzed in chapter 9, demonstrates that there were instances when the learners either ignored or avoided problematic utterances in order to keep up with the interaction and complete the tasks. Moreover, the online nature of the interaction where verbal and status cues were absent may have made it easier, to a degree, to ignore problematic utterances than would be the case in face-to-face interaction.

There is evidence in the data to support my contention made in chapter 9, that sociolinguistic and cultural concerns can act to limit the frequency of negotiation in CALL projects involving learner interaction in real time CMC. As the majority of

the subjects were Japanese learners, based in Japan, this situation appears to have led the subjects to transfer many of their L1 and classroom behaviors to the online MOO environment. The strong focus on task completion displayed by the participants is evidence of this phenomenon and may have led to avoidance behaviors that contributed to the lower level of negotiation reported in this study compared to research conducted in other cultural contexts. The low incidence of certain strategies involved in negotiation such as, for example, comprehension checks, suggests that sociocultural concerns influenced the interaction. The limited use of comprehension checks may be a reflection of a general desire to avoid a strategy that in Japan, would be considered face threatening and rude towards peers². Likewise the desire to maintain status with peers may have led to reluctance on the part of the Japanese subjects to avoid signaling too frequently that they did not understand. Moreover, as I have shown in chapter 9, on occasion, the subjects avoided discussing challenging vocabulary or ideas due to a desire to maintain supportive inter-personal relationships and avoid embarrassment. Finally, the learners were aware that their interaction was being observed and recorded. This realization could have led to avoidance, as due to status concerns the subjects may have been reluctant to signal non-understanding to their teacher.

11.1.7 Research question 7

In order to answer question 7 (What are learner attitudes regarding the use of MOOs as a language learning environment?), I explored by means of questionnaires, learner experiences of, and attitudes towards, interacting in the MOO. As the discussion in chapter 10 has shown, a positive finding was that the overwhelming majority of subjects reported that they enjoyed the MOO-based interaction. This may reflect the presence of a halo effect³. However, during this research I consistently observed that the subjects were clearly motivated by the chance to interact in a new and engaging real time communication environment. Furthermore, analysis of the responses identified a number of additional benefits provided by the MOO-based interaction. The first was that for the majority of the learners, a major positive feature of the interaction was the opportunities it provided to engage in TL practice and develop fluency in a low stress environment. The second was that for a number of the subjects, interacting regularly in the MOO enhanced their confidence in using the TL. Another advantage was the online computer-based nature of the interaction. Although this brought some potential drawbacks (see the discussion in previous section), the subjects reported that they appreciated the opportunities for monitoring provided by the presence of text viewable on-screen. Finally, the

² The availability of scrolling may have also contributed to this result see discussion in chapter 9 section 9.5.

³ I am grateful to an anonymous reviewer for this observation.

ability to revisit problematic utterances through scrolling was identified as a beneficial aspect of this type of interaction.

11.2 Implications for pedagogy

The findings reported in this study have a number of implications for pedagogy in network-based CALL. A major issue raised by this research is the apparent need for strategy training. My findings suggest that in the context of CMC-based CALL projects conducted in Japan, there may be a case for practitioners to employ strategy training in order to raise learner awareness and overcome potential sociocultural concerns regarding the social acceptability of certain communication strategies. A further issue raised by this research concerns the role of the teacher. This study draws attention to the crucial role played by the teacher in CALL projects involving the use of real time CMC. For language development to be supported, teacher input is crucial in the design of tasks that meet learner needs and stimulate interest. Moreover, the data recording capacities of computers provide individual educators with an ideal means to raise learner awareness of errors in their linguistic output.

11.3 Limitations of this study

A potential limitation of this study may be its relatively small sample size. This was partly the product of institutional constraints, such as restrictions on lab access and the availability of the participants, which were outside my control. However, the qualitative nature of this research a case study designed to examine the interaction of small learner groups and individual learners would have, in any case, precluded the use of a large sample. Institutional constraints were also responsible for another potential limitation of this study, the absence of a control group. The context of this study may also represent a further limitation. As in most qualitative research incorporating a case study, the external generalizability of the findings may be limited, as it is possible that a study conducted in a different context would produce varying results. Readers of this study can look to the thorough description of the participants and context provided in chapter 4, in order to determine the extent to which the findings are applicable to their particular context.

11.4 Strengths of this study

While acknowledging the limitations described in section 11.3, it is my view that overall, the research design proved successful. The use of a variety of research questions, which were motivated by a comprehensive and critical review of the literature on learner interaction in real time CMC, enabled the examination of the phenomenon under investigation from a number of different perspectives.

The use of a case study enabled the data to be examined holistically, over time, and this supported a broad macro level perspective. Furthermore, the use of discourse analysis of the transcripts, of pre- and post-study questionnaires, researcher observation and field notes provided a rich set of data and supported triangulation. The research design also enabled the complex nature of learner-learner interaction in real time CMC to be examined in-depth and supported a detailed micro level of analysis. Another strength of this study was the use of an additional coder. This provided for the verification of my interpretation of the data.

11.5 Directions for future research

This study has demonstrated the potential of MOO environments in CALL, and the findings draw attention a number of areas that may be of interest in future research. One possible area worthy of exploration is the relationship between task and learner behavior in real time CMC. Future studies may explore the role of particular task types in stimulating the use of communication strategies involved in the negotiation of meaning. More research appears needed, in order to clarify the issue of which task types are most effective in promoting the types of strategy use involved in language development. Another area of potential lies in the investigation of how learners' strategy use operates in different language and learning contexts. Research in this area would doubtless shed additional light on the role played by sociocultural factors in influencing strategy use in varying cultural contexts.

11.6 Summary

This study has reported a number of important findings on the use of a MOO environment in a CALL project. It has suggested that social interactionist research provides a robust framework for the analysis of learner-learner interaction in real time CMC, and has contributed to the literature of CMC-based CALL. Moreover, it is my hope that this research will provide a basis to motivate further studies that would contribute to pedagogy and an enhanced understanding of the nature of learner language development during interaction in CMC.

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Appendix A: A list of MOO user commands

Help

help- help texts and command features
introduction- basic MOO overview and commands
index- index to the help system

players- settings for user characteristics
movement- navigation between rooms
communication- conversing with other players
manipulation- moving or using other virtual objects

building- extending the MOO
programming- writing code in the MOO programming language
editing- editing text and code in the MOO
manners- online etiquette

Player

help registration – explanation on how to how obtain a character
@describe – set user description
@gender -- changing character's gender
@password -- changing user's password
@sethome -- changing user's designated home room
@rename -- changing user's name and/or aliases
@who – lists users currently logged on
@lastlog -- finding out when some player last connected to the MOO
@quit -- quit playing session

Communication

Say (or “)- <message> (talk to someone)
To- <character><message> (talk to a specific person in a multiparty conversation)
Whisper- <message> to <character> (private one to one communication)
Page- talk to someone in another room page <character> <message>
@who- (shows users location and the location of all other users who are logged on MOO)
emote-!/:: <perform an action>,
@quit- (leave the MOO)

Naviagtion

whereis-location of other users

@go <room name>

map (shows a map of the schmooze campus and a players location)

north (or n return)

south (or s return)

east (or e return)

west (or w return)

in (to enter a buliding or room)

out (to exit a building or room)

Manipulation

look- object description

get-pick up an object and place it in a user's inventory

drop-remove an object from a user's inventory and place it in a virtual room

give- hand an object to another player

@move to- teleport an object to a new location

@eject-remove an unwanted object from a room

Appendix B: Pre-study participant questionnaire

Student Questionnaire

Please answer the questions below. Thank you for your help.

- 1) What is your name?

- 2) How old are you?

- 3) Are you an undergraduate or graduate student?

- 4) What is your major?

- 5) Do you have a recent TOEFL or TOEIC score? If so please write down your score.

- 6) Where are you from?

- 7) Is this your first time to use a MOO environment like schmooze university?

Appendix C: Post-study participant questionnaire

MOO project Questionnaire

Please answer the following questions. Thank you for participating in this research project.

Participant information

Name: (write the name you used in the MOO)

E-mail address:

What year are you in? (circle one): first second third fourth other

How old are you?

Reasons for taking this course:

Your interest level in the English language (circle one):

- 4 very interested
- 3 somewhat interested
- 2 not very interested
- 1 not at all interested

Please write the reason for your answer to the above question:

Experience in using computers (circle one):

- 4 I am very experienced using computers (explain how you use computers)
- 3 I often use computers
- 2 I seldom use computers
- 1 I almost never use computers

Have you ever participated in a MOO chat before? If so did you chat in English or your native language?

Answer using one of the following (write a number in the brackets at the end of each sentence): (5) strongly disagree (4) agree (3) no opinion (2) disagree (1) strongly disagree

1. Chatting in MOOs is a good way to improve my English ()
2. Traditional classes are more useful than MOO-based classes ()
3. Most of the discussion in MOOs was not so useful ()
4. There was not much feedback from the instructor ()
5. A good point of MOOs is that I could work at my own pace ()
6. I could express my opinions more freely in MOOs than in a regular class ()
7. Being assigned a task was more useful than participating in a general discussion ()
8. Not being assigned a task made the conversation more interesting ()
9. It was difficult to read everything that everyone wrote ()
10. Classes held in the MOO were more interesting than regular classes ()

If you have any other comments about the above questions please write them below:

1. What was the best point of lessons in the MOO?

2. Were there any problems with using MOOs?

3. Did you feel more comfortable using MOOs by the end of the semester?

4. Did you apply for a character name to use in the MOO? If so what were your reasons for doing so? If not, why not?

5. Did you use any of the building features of MOOs? If so, what did you do? If not, why not?

6. What aspect of MOOs helped you to improve your English skills?

7. What did you think about not using your real name in the MOO? Was this a good or a bad thing, and why?

8. Did you use any dictionaries, translation machines or text books during your MOO chat sessions? If so, were these helpful for you?

9. Did you notice any difference in the tasks you did in the MOO each week? If so which task was the most interesting for you and why?

10. When you did not understand your partner, what did you do? Rank your answers from 1 (what you did most) to 4 (what you did the least)

Repeat what you wrote

Rephrase what you wrote

Ask for clarification

Do something else (write what you did in the space below):

11. Did you have any preference as to whether the instructor was in the room? Why or why not?

12. Did you scroll back to read the previous text in a conversation? If so for what purpose?

13. Did you do any other activities not related to the class (for example reading e-mail, net surfing) when you were in the MOO? If so, what were your reasons for doing this?

14. Put an x on the line for the MOO sessions you attended. Then write down the names of the task you liked the most and the task you disliked the most.

- Week 4_ (May 6th Discussion: Best ways to study English)
- Week 5_ (May 13th Discussion: Japan in crisis)
- Week 6_ (May 20th Discussion: Education reform in Japan)
- Week 7_ (May 27th Keanu Reeves)
- Week 8_ (June 3rd Ideal university)
- Week 9_ (June 10th Partner profile)
- Week 10_ (June 17th Schedules of the stars)
- Week 11_ (June 24th Word meanings)
- Week 12_ (July 1st Finding the perfect apartment)
- Week 13_ (July 7th Studying in MOOs discussion)

The task I liked most was (write here_____)

The task I liked least was (write here_____)

15. Do you study your transcripts out side of class time?

16. Did you access the class web site (yahoo group?)

17. Did you learn any new words or expressions in the MOO sessions? (if so write them down in the space below) Who did you learn them from?

18. Do you think your English has changed in any way since the start of the MOO classes? If so, in what ways?

19. Is there anything you would like to tell the researcher about your experiences of using the MOO?

Thank you for your cooperation.

Appendix D: Data collection schedule

Orientation phase

Week 1 MOO navigation task

Week 2 MOO navigation task

Week 3 MOO navigation task

Main phase

Week 4 What are the best ways to study English (opinion-exchange task)

Week 5 Japan's economic crisis (opinion-exchange task)

Week 6 Education reform in Japan (opinion-exchange task)

Week 7 Keanu Reeves (jigsaw task)

Week 8 My ideal University (opinion-exchange task)

Week 9 Partner profile (closed information-gap activity)

Week 10 Schedules of the stars (jigsaw task)

Week 11 Word meanings (2-way information-gap task)

Week 12 Finding the perfect apartment" (jigsaw task)

Week 13 Studying in MOOs (decision-making task)

MOO navigation tasks: Week 1

In this class you will be asked to carry out the following tasks. Write your answers in the space below each question. At the end of the class we will discuss your answers.

- 1) Order and eat something at the Student Union Café. Write what you ordered.

- 2) Go swimming in the pool in the Student Union. Did you change your clothes?

- 3) Write down your choice of best picture in the Administration Building Art Gallery.

- 4) Record to “pearls of wisdom” from the fountain in the Central Mall.

- 5) Take a bath in the bathroom in Dorm room 619. Write what the poster said.

- 6) Order and drink something from MOOrreys Bar. Write what you drank.

MOO navigation tasks: Week 2

Search for the answers to these questions.

Character: Apply for a character and set your gender and description (to do this see: <http://schmooze.hunter.cuny.edu:8000/cgi-bin/newplayerrequest>).

1. What is the name and object number of your character?
2. Why did you choose that name? What is your gender?
3. What is your description? Whose description do you like best? Why?
4. What is a wizard, a builder, a player? How do you become a player or a builder?

Go to the Dormitory

1. Find/Show your favorite room. Why do you like the room?
2. How do you take the **elevator**? Show how to take the elevator to different floors.
3. Where is EFI room? How do you use the room? What do you think of the room?
4. Apply for a room and set up your home. Decorate your room.
(optional)
5. Go to the Fallout Shelter in the basement. Find the innocuous-looking panel and tunnels (passages). Where can you go? Map all the ways.

MOO navigation tasks: Week 3

Go to the Culture Center

1. Go to Assistance Office. Look at the map in the assistance office. Write a message in the Guestbook. Select/show two messages in Guestbook that interest you. List all the books on the bookshelves in the **Introduction Room** and the **Advanced Room**. Read one of the books you think the most useful. Explain why you think it is useful.
2. Go to the USA room. What are Northeast, Middle Atlantic States? Read/Show the views of these states. Find the **USA Regional Cookbook**. Who creates it? Read/Show the recipes you like, and add one into the book.
3. Go to the Australia room. Show the map and flag of Australia. Read/Show the views of the **posters of Victoria, New South Wales, Tasmania, Queensland, posters of Western Australia, South Australia, Northern Territory, and Australian Capital Territory**. Where would you like to visit? Why?
4. Go to the Korea room. What books are put in Bookshelf-A, Bookshelf-B, and in Bookshelf-C in the library?. Which book do you like best? Read/show the content of the book and explain why you like it. From one of the books, find which months are the hottest in Korea. How do you eat in the restaurant? Order and eat something in the restaurant. What does the **Rainbow Bridge** look like? Do you like it? Why or why not?
5. Go to the Israel room. What kind of vehicles can you find? Can you take them? What rooms can you find in the Center of Kibbutz? Which one do you like best? Why?

MOO task: Week 4

In this class you will discuss the following topic:

“What are the best ways to master English”.

This discussion will take place at the **Conference center** in the South east corner of the campus (to see the whole campus and your location type map), so you will first have to go there before you can start the discussion. Sit at a table in a conference hall and discuss the topic. Find and chat with a partner from the **other** university if possible.

Remember that you can find a list of MOO commands at the following URL:

<http://www.hunter.cuny.edu/ieli/commands.htm>

MOO task: Week 5

This class is based on the article you were asked to read before (<http://www.asahi.com/column/funabashi/eng/TKY200305080140.html>). In today's class you will discuss the following statement from the article with your partner:

"...The greatest problem in the nation's crisis lies in the fact that the Japanese people are not aware they are facing a serious crisis, according to many Americans well-versed in Japanese affairs. " (Asahi newspaper May8th 2003)

Do you agree or disagree with this statement?

This discussion will take place at the Conference center in the South east corner of the campus (to see the whole campus and your location type map), so you will first have to go there before you can start the discussion. Sit at a table in a conference hall and discuss the topic.

Remember that you can find a list of MOO commands at the following URL:

<http://www.hunter.cuny.edu/ieli/commands.htm>

MOO task: Week 6

Read the following article. We will then discuss your opinions of this article with your chat partner

Japan gives its students a break

State school shakeup aims to foster creative thinking, but many parents are anxious. Jonathan Watts in Tokyo Friday April 5, 2002

Millions of Japanese students will be able to take a break from study this Saturday, thanks to an education reform that aims to transform the "all work, no play" reputation of the country's state schools. For decades, creativity and independence were sacrificed for a Gradgrind-like emphasis on long hours and rote-learning that enabled Japanese pupils to score among the highest marks in international tests of scholastic ability. But a breakdown in discipline and a recognition that the new economy needs a different way of thinking have prompted a shift of approach from the current school year, beginning on April 1. From this week, the academic curriculum has been slashed by 20 to 30%, students have been given more choice in selecting subjects, and weekend classes have been abolished. Until this month, students have had to go to school every other Saturday. Taking Japan in the opposite direction from Britain, the move towards yutori (comfortable) education will cut the amount of class time for maths, science and languages by about 100 hours a year. Instead, pupils will be given more time for themselves in the hope that they will become more independent. Accelerating the move from a one-pace-fits-all school structure, it will be easier for talented students to skip their final year of high school by entering university early. Grades will be decided not just by test scores, but by the willingness of pupils to take part in community service. In terms of results, it is at first hard to see why Japan should want to change a system that provides high quality, free education to an advanced level. More than 95% of children are educated to the age of 18. In a recent study of 15-year-olds in 31 countries, Japan came top in maths and second in science. The percentage of students who claim to like school is also high, compared with most countries. However, a protracted recession, rising truancy and a rash of murders by teenagers have prompted a re-evaluation of priorities.

"Our proposals were provided as an antithesis of the postwar education system, which focused too much on academic achievement," said Ryoichi Kawakami, a member of the panel that drew up the reform plans. Many students and teachers welcome the change, but it is far from certain that it will achieve its aims. Because the entrance requirements for top universities are as high as ever, anxious parents are already moving their children to private schools, most of which hold Saturday classes. Others are spending more on evening and

weekend cram schools. "The reform is good, but it may backfire on public schools unless there are changes in private schools and university entrance exams," said Yuki Omae, a high school teacher in Osaka. "When parents calculate how much they will have to spend on cram schools to get their children to the standard required by universities, more and more will think that they might just as well pay for a private education." The government has tried to address the fears of falling academic standards by introducing more homework, but students have other plans. Asked how they intended to use their free Saturdays, 48% of high school students said they would sleep.

MOO task: Week 7

Read the article. Go to the conference center and select a partner from the other university. You have one part of the article your partner has the other part. Ask your partner questions about their part of the text in order to answer the questions below. Write down you answers in the space provided.

- 1) How old is Keanu Reeves?

- 2) What is a **con artist**?

- 3) What does the name Keanu mean?

- 4) What was his father's job?

- 5) Why did his family move from New York?

- 6) Why did he drop out of high school?

- 7) What does the word **snared** mean?

- 8) Was the movie *River's Edge* popular with movie goers?

When you have finished these questions work with your partner and jointly write short a text describing the life and career of Keanu Reeves. When you have finished post your text in the MOO and also mail your paragraph to me at: mark@tufs.ac.jp

MOO text 1

Life certainly has been a most excellent adventure for Keanu Reeves. With a resume of over 40 films, the 37-year-old actor regularly turns down movie roles to go on the road with his alternative rock band, Dogstar. Fortunately for Matrix fans, Reeves completed back-to-back sequels for the franchise prior to heading out on a summer tour.

While moviegoers will have to wait until next summer for *The Matrix Reloaded* and summer 2003 for *Matrix III*, Reeves' latest film, *Hardball*, opens this month. *Hardball* tells the story of a down-on-his-luck con artist who, in exchange for a loan from his friend, agrees to coach a little league from an inner-city Chicago housing project. The film is based on the book by Daniel Coyle and co-stars Diane Lane and D. B. Sweeney.

Keanu, whose name means "cool breeze over the mountains" in Hawaiian, was born in Beirut, Lebanon in 1964 to Patricia, a showgirl, and Samuel Nowlin Reeves, a geologist. He was only two when his parents divorced and his mother moved him and his younger sister Kim to New York. Shortly thereafter, in search of a more family friendly environment, they moved again - this time to Toronto.

Due to dyslexia, Reeves was never much of an academic, but quickly found that hockey was not only something that he loved, but something he was good at. But then Reeves discovered a new love - acting - and hockey took a back seat. Against the advice of family and friends, Reeves dropped out of Toronto's High-School for the Performing Arts to pursue an acting career.

In 1986, after a few stage plays and a handful of bit parts in made-for-TV movies, Reeves landed his first big break. Bratpacker Rob Lowe was in Toronto filming *Youngblood*, a hockey-themed movie. Eager to put his hockey skills to use, Reeves snared a supporting role. *Youngblood* was just the motivation Reeves needed to give acting his best shot and after production wrapped he left Toronto and headed for Hollywood.

Reeves' brooding good looks quickly landed him auditions and, not long after, a role in *River's Edge*, co-starring Dennis Hopper. Reeves' performance in the morose teen drama caught the attention of critics, but unfortunately the movie wasn't as well received by audiences.

MOO task

Read the article. Go to the conference center and select a partner from the other university. You have one part of the article, your partner has the other part. Ask your partner questions about their part of the text in order to answer the questions below. Write down your answers in the space provided.

- 1) What does the word **bumbling** mean?
- 2) Was the movie *Little Buddha* a success?
- 3) What does the **term rake** mean?
- 4) Who was the major star who played alongside Keanu Reeves in the movie *Devi's Advocate*?
- 5) What does the word **mentor** mean?
- 6) What does the term **tear-jerker** mean?
- 7) How much money did the movie *The Matrix* make?
- 8) Why did Keanu Reeves turn down the chance to do the movie *Speed II*?

When you have finished these questions work with your partner and jointly write short a text describing the life and career of Keanu Reeves. When you have finished post your text on the MOO and also mail your paragraph to me at: mark@tufs.ac.jp

MOO text 2

Reeves immediately followed it up with an understated performance in the period drama *Dangerous Liaisons* and went on to play Martha Plimpton's bumbling boyfriend in the ensemble comedy *Parenthood*. But it wasn't until his hilarious portrayal of a totally cool teen in 1989's *Bill and Ted's Excellent Adventure* that Reeves received widespread recognition. It was an association Reeves tried unsuccessfully to shake with subsequent roles, including that of a surfer FBI agent in *Point Break* (1991), a narcoleptic male hustler in Gus Van Sant's *My Own Private Idaho* (1991), a hapless lawyer who raises the ire of the Count himself in Francis Ford Coppola's *Dracula* (1992), an ill-mannered spoiler in a film version of Shakespeare's *Much Ado About Nothing* (1993) and Prince Siddhartha in Bernardo Bertolucci's box office disaster, *Little Buddha* (1994).

In the 1994 mega-hit *Speed*, Reeves' turn as a heroic L.A. police officer battling a maniacal bomb enthusiast (played by his *River's Edge* co-star Dennis Hopper) cast a new light on the type of role he could play. Reeves' save-the-day performance opposite Sandra Bullock's damsel in distress helped *Speed* rake in over \$121 million and catapulted the previously underrated actor's paycheck past the \$10 million mark, making him a bona-fide action star.

Many questioned his decision to turn down \$12 million for *Speed II*, opting instead to go out on tour with his band. But Reeves got the last laugh when the sequel about a runaway cruise ship tanked. "The script I read sounded pretty ridiculous. I mean, just how fast can an ocean liner go?" said Reeves about his reasoning. "It hardly qualifies for speed."

In 1997, Reeves starred opposite Al Pacino in *The Devil's Advocate*. His portrayal of an enthusiastic young attorney who inadvertently chooses Satan as his mentor (chillingly played by Pacino) cast Reeves opposite ingenue Charlize Theron, with whom he would re-team on the tear-jerker *Sweet November*. In 1999, lightning struck again for Reeves with the futuristic cyber-thriller *The Matrix*, co-starring Laurence Fishburne and Carrie-Anne Moss. With an intriguing man vs. computer plotline and eye-popping digital effects, *The Matrix* earned over \$170 million and remains one of the top selling DVDs of all time.

Acting is what he does for a living, but it's not his life. He's got a new CD in the works and several film projects to choose from. Reeves may never shake his airhead *Bill & Ted* persona entirely, but at least there's a whole new generation of fans will think of him more as *The Matrix*'s Neo than an adolescent stoner. To that end, Reeves was reportedly paid \$30 million for both *Matrix* sequels plus 15 percent of the gross - and that, dude, is excellent, most excellent.

MOO task: Week 8

My ideal university

The task:

Step 1

Log on and start saving data

Step 2

Go to the student union, select and work with a partner.

Step 3

You are the president of a new university that is being set up in Scotland. Work with a partner, you will probably have to discuss the following issues in order to create **your ideal university**:

- 1) The universities name
- 2) The location of the campus (city or country?)
- 3) The size of the school (number of students/teachers)
- 4) Teaching policy
- 5) Fees for students
- 6) Entrance policy (interviews or tests?)
- 7) Provision of computers
- 8) Provision of sports/social facilities
- 9) Any other relevant points that you think are important...

Step 4

At the end of the class **save your ideas in a Microsoft word document**. Next week you will discuss your ideas with your classmates.

MOO task: Week 9

Your partner: What kind of person are they?

Step one

Log on and start **saving your data!**

Step two

Go to the conference center. Find a partner from the other university and work with them on the following task:

Develop a personality profile of your partner. Ask them lots of questions to find out what kind of person they are. When you have finished, work together and write a paragraph summarizing your opinions and post it on the MOO.

MOO task: Week 10

Step 1

Go to the **conference center**. Find and work with a partner from the other university

Step 3

Look at the diary of the famous person below. Your partner also has a diary of another famous person. Ask questions to find out when both of these people did the **same activity**. When you have done this **write a short story in the past tense** that describe the activities that BOTH of these stars did recently. When you finish, post the story on the MOO for your partner's feedback.

Jonnie Depp's schedule for last week

Monday

9am go to the gym **2pm** meet agent **4pm** photo session

Tuesday

10 am go shopping **3pm** Meet agent **10 pm** visit plastic surgeon

Wednesday

10.30 am TV interview with CNN **4pm** Photo shoot for GQ magazine

Thursday

10am Photo shoot **2pm** work out **4pm** Meeting with former wife's lawyer **7pm** dinner with film company executives

Friday

11 am go to the gym **2pm** Appointment with psychiatrist **6pm** visit brother

Saturday

11am go to the gym **7pm** attend the MTV music awards in Hollywood
11pm go to nightclub

Sunday

2am Punch photographer **1pm** Attend charity Lunch at Beverly Hills Country Club **5pm** Meet producer to discuss next acting project

Today's MOO task

Step 1

Go to the **conference center**. Find and work with a partner from the other university.

Step 2

Look at the diary of the famous person below. Your partner also has a diary of another famous person. Ask questions to find out when both of these people did the **same activity**. When you have done this **write a short story in the past tense** that describe the activities that BOTH of these stars did recently. When you finish, post the story on the MOO for your partner's feedback.

Madonna's schedule for last week

Monday

9am go to the gym **1pm** go shopping **4pm** photo session

Tuesday

11am Voice training **2pm** radio interview **3pm** Meet agent **5pm** yoga class

Wednesday

8am go to the gym **10.30 am** TV interview with CNN **3pm** Recording session

Thursday

10am Photo shoot **8pm** dinner with film company executives

Friday

11 am Modeling session **2pm** Appointment with psychiatrist **4pm** recording session

Saturday

11am go to the gym **7pm** attend the MTV music awards in Hollywood

Sunday

9am go to church **1pm** Attend charity Lunch at Beverly Hills Country Club **5pm** go to mother's house

MOO task: Week 11

MOO task

Step 1

Log on and save your data

Step 2

Go to the conference center. Find and work with a partner (remember to use the `to` command, for example `to bob how are you?`)

Step 3

Work with your partner TAKE TURNS guessing the object or concept that your partner describes (or gives synonyms for) by asking questions. For example:

A: This word means the opposite of happy

B: Do you mean sad?

A: Yeah that's correct

Remember you can give your partner a hint if they can't work it out

Your words and concepts:

Peace

Absence

Understanding

Love

Poverty

Sledge

Desire

Despair

Honesty

Car

Victory

Contentment

MOO task

Step 1

Log on and save your data

Step 2

Go to the conference center. Find and work with a partner (remember to use the to command, for example **to bob how are you?**)

Step 3

Work with your partner TAKE TURNS guessing the object or concept that your partner describes (or gives synonyms for) by asking questions. For example:

A: This word means the opposite of happy

B: Do you mean sad?

A: Yeah that's correct

Remember you can give your partner a hint if they can't work it out

Your words and concepts:

Stress

History

Democracy

Yacht

Achievement

Success

Dialogue

Conflict

Anguish

Trust

Victory

Fact

MOO task: Week 12

Today's MOO task: Finding the perfect apartment

Step 1

Log on to schmooze and start saving your data

Step 2

Go to the conference center find and work with a partner on the following problem.

Step 3

You and your partner have to rent an apartment in Edinburgh for one month this summer.

You have the following preferences:

Old building	Shared bedroom OK
Smoking	Busy neighborhood
High rent	Located near downtown
A place that accepts pets	

Look at the following newspaper advertisements, work with a partner and try and find a place you can **BOTH** agree to rent for the summer.

Property to let

“One bedroom student flat available near Edinburgh University. Old building of character in quiet location convenient for students” (rent is cheap)

“Large three bedroom modern apartment located near the city center, convenient for shopping and city center facilitates. (rent is reasonable)

“ Two bed roomed flat located above public house in Edinburgh university area. Smokers and pets welcome” (rent is low)

“Beautiful converted two bed roomed penthouse apartment located in quite residential area of central Edinburgh, short term let is available. No pets or smoking” (rent is expensive)

“New house available for immediate let. Two bedrooms available in quiet country location, 30 minutes from Edinburgh city center. Pets are OK (rent reasonable).

Step 4

When you agree on a place, **summarize the result of your conversations and write it in the MOO .**

Today's MOO task: Finding the perfect apartment

Step 1

Log on to schmooze and start saving your data

Step 2

Go to the conference center find and work with a partner on the following problem.

Step 3

You and your partner have to rent an apartment in Edinburgh for one month this summer.

You have the following preferences:

Modern building No shared bedroom
No smoking Quite neighborhood
Low rent Located near the University
A place with a no pets rule

Look at the following newspaper advertisements, work with a partner and try and find a place you can **BOTH** agree to rent for the summer.

Property to let

“One bedroom student flat available near Edinburgh University. Old building of character in quiet location convenient for students” (rent is cheap)

“Large three bedroom modern apartment located near the city center, convenient for shopping and city center facilitates. (rent is reasonable)

“ Two bed roomed flat located above public house in Edinburgh university area. Smokers and pets welcome” (rent is low)

“Beautiful converted two bed roomed penthouse apartment located in quite residential area of central Edinburgh, short term let is available. No pets or smoking” (rent is expensive)

“New house available for immediate let. Two bedrooms available in quiet country location, 30 minutes from Edinburgh city center. Pets are OK (rent reasonable).

Step 4

When you agree on a place, **summarize the result of your conversations and write it in the MOO for your partner to check.**

MOO task: Week 13

Today's discussion: Studying in MOOs

Step one: Log on and start saving your data

Step two: Go to the conference center.

Step three: Discuss the following topic with everyone in the conference center.

“What are the good point and bad points of studying English in MOOs”

Step four. When you have finished your discussion write down your views on the most important advantage and disadvantage of studying in MOOs and then post your opinion online.

Appendix F: Transcript of learner data examined in chapter 7 (session 5)

Edited transcripts of the interaction involving the 4 members of the subject group Starbuck, Aoi, Mahatir and Chika in session 5 (note that automatically generated system messages related to the log on protocol and navigation have been removed)

Opening stage

aoi [Guest] arrives through the heavy oak doors that enter from the mall.
chika [Guest] arrives through the heavy oak doors that enter from the mall.
chika [Guest] exclaims, "hiya!"

aoi [Guest] says, "Aoi Hi! everyone."

reiji [Guest] asks, "what are crisis we met.??"

ryo [Guest] says, "hi,everyone"

reiji [Guest] exclaims, "hi ryo!!"

mooo [Guest] says, "Hell, everybody."

reiji [Guest] exclaims, "hi moo!!"

ryo [Guest] says, "**hi,reiji**"

mooo [Guest] says, "Sorry, I meant <hello>."

ryo [Guest] asks, "Did we taik last week?reiji?"

starbuck [Guest] arrives through the heavy oak doors that enter from the mall.

starbuck [Guest] looks at the map of schMOOze.

reiji [Guest] says, "yes i guess so"

ryo [Guest] exclaims, "Nice to meet u again!"

reiji [Guest] says, "nice to meet u again"

reiji [Guest] asks, "do you know today' topic??"

starbuck [Guest] says, "hi all"

mooo [Guest] asks, "Can I join in your conversation?"

reiji [Guest] says, "hi starbuck"

ryo [Guest] says, "I didn't read the article,I don't know how to say,reiji."

reiji [Guest] says, "yes ofcourse moo"

mooo [Guest] asks, "So what do you think about this article?"

reiji [Guest] says, "the article is about the crisis japanese face"

reiji [Guest] says, "I aglly wi"

sen [Guest] arrives through the heavy oak doors that enter from the mall.

mahatir [Guest] arrives through the heavy oak doors that enter from the mall.

sen [Guest] says, "Hello everyone"

reiji [Guest] says, "agree with artilcle"

Hasan [Guest] arrives through the heavy oak doors that enter from the mall.

mahatir [Guest] says, "hi, sen""

reiji [Guest] says, "but I dont know what the writer say....."

sen [Guest] asks, "How are you today,mahatir?"
mahatir [Guest] asks, "did you read task?""
starbuck [Guest] says, "I`m reading and trying to understand it but.."
reiji [Guest] says, "yes>mahatir"
mahatir [Guest] asks, "oh, i'm fine. and you?""
ryo [Guest] says,"Mark maybe angry to me now,but I didn't get the mail.
sen [Guest] says, "I'm ok."

Work stage

ryo [Guest] says,"You also don't know that what the writer say?reiji
mooo [Guest] says, ""But I think the part which describes that the Japanese
are too optimistic. "
reiji [Guest] says, "why japanese people are so pessimistic as the writer saids"
sen [Guest] says, "I'm sorry but I have to go now.I'll talk to you later,mahatir."
mahatir [Guest] says, "really? i could understand that/""
ryo [Guest] says,"My parterner is reading the article now.
sen [Guest] opens an oak door and leaves for the mall.
starbuck [Guest] says, "mm I don` t know I` m not japanese..(-_-;"
Hasan [Guest] asks, "hi! can I join you?"
mahatir [Guest] looks at the map of schMOOze.
reiji [Guest] asks, "starbuck did you read that article??"
ryo [Guest] asks,"you are not Japanese,starbuck?
starbuck [Guest] says, "yes,I read it."
reiji [Guest] asks, "what do you think about that??"
mooo [Guest] asks, "In a sense, he says we are too pessimistic but I think he
wants to insist on that we are too optimistic, doesn't he?"
reiji [Guest] says, "any opinion will be okey"
chika [Guest] asks, "I finished reading just now! may I join you?"
reiji [Guest] says, "yes, hta"
reiji [Guest] says, "yes that is it ! moo"
mooo [Guest] says, "Sure, chika."
mahatir [Guest] says, "sen, i dont know how""
aoi [Guest] asks, "Aoi Hi! everyone.i joinyou?"
chika [Guest] says, "sure!aoi"
mahatir [Guest] says, "aoi,"
chika [Guest] says, "im just coming here, too. aoi"
mahatir [Guest] says, ""
mooo [Guest] says, "I think that being too optimistic or pessimistic is
depending on a person."
ryo [Guest] says, "I think that Japan is not faced the economic crisis,reiji.
reiji [Guest] says, "we are pessimistic but on ont"
ryo [Guest] says, "Not yet.
romy [Guest] arrives through the heavy oak doors that enter from the mall.

reiji [Guest] says, "ryo, yes , but noone knows it will happen or not....."

romy [Guest] walks to the double doors. It opens a door and walks through.

chika [Guest] says, "ryo, I dont think so. Japan's curcumstances will go worse and worse"

ryo [Guest] asks, "Have u been to the ROPPONGI HILLS,reiji?"

reiji [Guest] says, "who expected that crisis in Korea 1997 "

masao [Guest] says, "I think now Japan is in crisis. I do not think people lack a sense of crisis. In my view, people do not want to think Japan is in crisis. Politicians look lazy, but they are not important. Now people who support Japan are business men. They desparate."

reiji [Guest] says, "yes only onece>ryo"

aoi [Guest] says, "aoi what do you say about same questions which asked for japanese high school students in this article."

Hasan [Guest] says, "I think The situation is not so bad yet."

ryo [Guest] says, "If u were there, u will know the Japanese economic is not bad>reiji."

Hasan [Guest] says, "Ryo! I think so,too"

chika [Guest] says, "only one part of businessmen, that's really bad. I agree with you and think much more Japanese have to have skills or something like that to support Japan, masao "

mahatir [Guest] asks, "do you feel japan faces crisis?""

Hasan [Guest] says, "were still better than other countries."

reiji [Guest] says, "ryo. if you go to Ueno park, or some where like that in Osaka "

reiji [Guest] says, "you sil"

starbuck [Guest] asks, "my japanese friend said `I don`t feel like I`m in the economic crisis. I just think about my everyday life`. Sounds still optimistic,right?"

reiji [Guest] says, "you will be suspicious about what the economics crisis is"

ryo [Guest] asks, "Are u from OSAKA,reiji?"

mooo [Guest] says, "In japan,we have relatively well conditioned social insurance.So we don't have to worry about future so much."

mahatir [Guest] says, "i also think so,""

reiji [Guest] says, "no, but my teacher was talking about homeless people in Osaka or Ueno park"

ryo [Guest] asks,"Hasan, what's the crisis of Japan on earth?"

Hasan [Guest] says, "still I think all we are rich enough,I've seen more serious situation."

starbuck [Guest] says, "I think that now Japanese economics is quite really bad."

chika [Guest] says, "I think the optimists looks only the faces of the Japanese economy"

starbuck [Guest] says, "but still good than my country."

mahatir [Guest] says, "starbuck, where are u from""

ryo [Guest] says,"There are some homeless people in every country,reiji."

masao [Guest] asks, "What skills do you think are needed for supporting Japan?"
starbuck [Guest] says, "Thailand."

reiji [Guest] says, "hasan, I agree with you and that is our problem and crisis"

ryo [Guest] says, "I think it's not the problem."

chika [Guest] says, "I think Thai will be one of the economic power maybe by 20"

reiji [Guest] says, "money goes to the person who has money"

starbuck [Guest] says, "I hope so. "

chika [Guest] says, "sturbuck, I think thailand will be one of the economic power in the near future"

mart [Guest] arrives through the heavy oak doors that enter from the mall.

mart [Guest] looks at the map of schMOOze.

Romy [Guest] arrives through the heavy oak doors that enter from the mall.

Hasan [Guest] says, "in fact Japanese economy is facing a crisis, but the problem is that I think Japanese government ignores the fact other countries are more serious."

mahatir [Guest] asks, "are student in thai thinking about there economics?""

mooo [Guest] asks, "Everyone, when you say some opinion, you have to make clear to whom you talk with. Otherwise, we will get confused, right?"

mart [Guest] looks at the map of schMOOze.

aoi [Guest] asks, "Aoi is the thailands economic power so storong??"

Romy [Guest] asks, "Hi masao! How are you today?""

reiji [Guest] says, "yes, hasan I"

Romy [Guest] asks, "How did your test last week?""

starbuck [Guest] says, "yes, because if it's going down to crisis I have to quit school and go back to my country."

starbuck [Guest] says, "I think Thailand is growing up but the problem is the Old Politicians."

mahatir [Guest] says, "In Malaysia, university students have big admire, they said I wanna be prime minister, doctor, engineer. But I rarely meet such a Students in Japan.""

masao [Guest] says, "Now Thailand is strong to IT industry, aoi. It can be economic power."

reiji [Guest] says, "say starbuck, yes japanese politician are too"

chika [Guest] says, "I think so ,too. masao"

reiji [Guest] says, "yes mahatir....."

mahatir [Guest] says, "in japan old politicians cause crisis.""

reiji [Guest] says, "yes "

mooo [Guest] says, "What do you mean?>mahatir"

mart [Guest] asks, "Is there somebody who could tell me how can I enter the DORM?"

reiji [Guest] says, "but even young, that is not enough"

Hasan [Guest] arrives through the heavy oak doors that enter from the mall.

mart [Guest] says, "HELP"

ryo [Guest] asks, "Can anyone tell me why the stock market is slackening in growth, reiji? hasan? chika? starbuck?"

chika [Guest] says, "mart, type 'map' and find the dorm"

mahatir [Guest] says, "I think adults decrease young people's will."

chika [Guest] looks at the map of schMOOze.

aoi [Guest] says, "is the thailand politics bureaucratic government? i dont know well Asian Politics."

Hasan [Guest] says, "I came back"

mart [Guest] says, "I have looked the map"

reiji [Guest] says, "mahatir I agree with you"

starbuck [Guest] says, "I heard that some projects in Japan wasted a lot of money. ex. making road in the countryside. "

mart [Guest] says, "but how can I enter it? >chika"

chika [Guest] asks, "mart, to dorm?"

mahatir [Guest] says, "I think Thai land is bureaucratic, but I'm not sure.""

Romy [Guest] says, "Hi everybody, what do you think about that statement? I want to know your opinions.""

chika [Guest] says, "maybe type 'north' or 'east'"

mart [Guest] says, "yes, I want enter dorm"

mahatir [Guest] says, "you're right, starbuck"

mart [Guest] says, "thank you, I'll try it"

mooo [Guest] says, "Hi, Romy. I wanna talk with you."

Hasan [Guest] says, "I guess it's because...when we get pessmistic, we don't feel like buying things...That's why ...maybe."

mart [Guest] looks at the map of schMOOze.

starbuck [Guest] says, "yes aoi."

chika [Guest] says, "Im sorry if its wrong"

reiji [Guest] says, "hasan yes , it is one of the reason"

Romy [Guest] exclaims, "Sure! You are welcome!""

mart [Guest] opens a crystal bejeweled door and leaves for The Quartz Room.

masao [Guest] says, "I agree with you, mahatir. Do you know the average age of the tax system investigation committee in LDP? It is over 70. I think they should retire."

aoi [Guest] asks, "is the thailand politics bureaucratic government? i dont know well Asian Politics.malasia?"

mooo [Guest] asks, "Firstively in which part are you intereted in?"

reiji [Guest] says, "even though rate is low, japanese people cant stop saving"

starbuck [Guest] says, "but I think it`s not only Thai."

mahatir [Guest] says, "now, all over japan, we feel that we have to save money for our future""

Hasan [Guest] says, "We should try the world wide trade, and spread out our view."

reiji [Guest] says, "but some are good....."

Romy [Guest] says, "you mean, agree or disagree? I agree with the statement.""

Romy [Guest] asks, "And you?""

mart [Guest] enters the lobby from the glitz covered doors that lead to the Quartz Room.

mart [Guest] looks at the map of schMOOze.

starbuck [Guest] says, "There is a problem about saving money. Japanese Bank is so !!!!!!! :("

chika [Guest] asks, "aoi, may I join you?"

aoi [Guest] says, "of course!chika"

mahatir [Guest] says, "but do you think we can use it in the future?" "

chika [Guest] says, "aoi, I'm interested in the Thai politics, too"

masao [Guest] says, "Local banks are safer than mega banks, starbuck."

reiji [Guest] says, "tha balance is important,mahatir"

aoi [Guest] asks, "oh really? did you go to thailand?"

mahatir [Guest] says, "i agree with you""

mart [Guest] opens an oak door and leaves for the mall.

reiji [Guest] says, "we should better not only save but also invest,or use for other...."

ryo [Guest] says,"Japan had better to trade with China more and more,I think,

Hasan [Guest] asks, "If we keep concervative attitude,then the situation can never be better.Everyone what do you think??"

starbuck [Guest] says, "That`s good idea reiji."

mahatir [Guest] asks, "if Yen become so weak, how can we do?""

chika [Guest] says, "twice, but I dont know about the politics... aio"

mooo [Guest] says, "As a whole i agree with,but some expressions are wrong.For example,the writer says we are too optimistic about our future.I don't think so."

reiji [Guest] says, "hasan , I agree"

Hasan [Guest] exclaims, "Yeah!Ryo!! I'm with you!!"

mahatir [Guest] says, "hasen, you're right! now we have to do something""

mahatir [Guest] says, "i am worry about japanese stock market" "

masao [Guest] says, "I heard that now the stocks of Chinese companies, especially in shanghai, are good to invest. "

aoi [Guest] says, "I heard in Thai , twice in a day, national song is sung in radio, and the thai people sould respect their king Pumipon. Is it true?chika"

starbuck [Guest] says, "Yes, at 8 o`clock in the morning and 6 o`clock in the evening. aoi."

ryo [Guest] says,"Hasan, now Japan is not facing the crisis, actually is facing a chance!

reiji [Guest] says, "yes , but now there is problems about SARS"

starbuck [Guest] says, "All of Thai people love and respect our King."

mahatir [Guest] says, "the more we buy stock, the more stockmarket grows up"

ryo [Guest] says, "You can't help the SARS

chika [Guest] says, "I saw the pictures of the previous kings even in the temples. "

reiji [Guest] says, "and the company may be able to work with money we invest"

Hasan [Guest] says, "I think we have to open wider entrance for other countries to trade more easily and we can find way for future."

aoi [Guest] says, "for me, and almost all Japanese, feel strange, if same thing is done in Japan. Is it natural for Thai people?>starbuck"

mahatir [Guest] says, "whom do Japanese people respect?" "

ryo [Guest] says, "That's it! Hasan.

reiji [Guest] says, "hasan yes, but problem is always following"

chika [Guest] says, "I think none>hasan"

reiji [Guest] says, "is following"

Romy [Guest] asks, "As a foreigner who's living in Japan, may I ask you such a question?"

reiji [Guest] says, "globalization must be done gradually"

starbuck [Guest] says, "about nation song, I think it strange, too. aoi. But about our King is natural."

reiji [Guest] says, "one by one....."

chika [Guest] says, "or, some young people respect the TV stars... it's woeful>hasan"

masao [Guest] says, "I think so, mahatir. And now it is needed in Japan. We should bring up stockmarket and debenture market in Japan and get out of the occupation of indirect money and banking."

aoi [Guest] says, "I think it depends on person to person. but Japanese don't respect king and prime minister."

mahatir [Guest] says, "I think Japanese individualism cause Japanese opetimism"

reiji [Guest] says, "only rich countries are benefit if we don't do exactly"

Romy [Guest] asks, "Do you see what happens in Japan everyday through TV?"

starbuck [Guest] says, "this effect from the World-War2 to make Thai people more nationalism. Actually, we learn this from Japan."

moo [Guest] says, "I am sorry but I don't understand the part which begins with<As a"

ryo [Guest] asks, "What do you think the stock market of Japan, Hasan?"

starbuck [Guest] says, "I don't respect prime minister."

Romy [Guest] says, "I mean, I'm not a Japanese. So that my opinion may differ from Japanese's"

reiji [Guest] says, "we need your opinion, Romy"

starbuck [Guest] says, "In money we trust = Politicians "

chika [Guest] says, "starbuck, may I ask a question? in Thai, is the politics

completely separated from the religion? I saw the previous kings' pictures in the temple. "

mahatir [Guest] says, "but nationalism is useful to make country strong"

mooo [Guest] says, "You can say whatever you think>Romy."

reiji [Guest] says, "we Japanese don't live Japanese alone"

starbuck [Guest] says, "Politics is separated from religion."

starbuck [Guest] says, "but in our Law. King must be a Buddhist."

Romy [Guest] says, "what do you think about North Korea's problem?_""

mahatir [Guest] says, "I agree with reiji. I think American is more isolated.

Seeing today's situation"

reiji [Guest] says, "uhhhh, that is complicated....."

chika [Guest] says, "mahatir, nationalism is sometimes good for country's strength. but sometimes it's dangerous, I think"

starbuck [Guest] says, "I think American economics is in crisis so they need OIL..."

Hasan [Guest] asks, "Huuuh,stockmarket,It's a model of whole Japanese economic situation,I guess, Ryo. What about you? "

Romy [Guest] says, "I think Japanese mass media about North Korea`s problem is so serious" "

mahatir [Guest] asks, " north Korean goes too much. but small nationalism is better than individualism, right?""

chika [Guest] asks, "starbuck, so, which one is the strongest, prime minister,king, or Buddha?"

mooo [Guest] says, "I think I don't think the situation of that country is good so that the people of North Korea should know more and more appropriate information. But I don't think that is today's theme."

mahatir [Guest] exclaims, "Ya, That's why US want to occupy middle east!"

starbuck [Guest] says, "the central of Thai people is King."

aoi [Guest] says, "really? I think it is true that by adopting strong

nationalism,japan was succeed modernization, but its lead japan wrong way; world war 2. therefore I think it is great that Thai is making a process to modern country without falling wrong way like Japan.>starbuck "

masao [Guest] has disconnected.

reiji [Guest] says, "US is so big country....."

reiji [Guest] says, "some people in America will die without seeing abroad whole their life"

ryo [Guest] asks,"I don't know why the stock market is always slackening in growth, my major is not the economics,Hasan.

mahatir [Guest] exclaims, "aoi, that's right. and if Thai grow up enough, be careful not to be individualism!"

mahatir [Guest] asks, "Reiji, is it true?"

reiji [Guest] says, "yes , even Japan is so....."

starbuck [Guest] says, "no no aoi. Our country King is quite different from Japan. King doesn't concern in politics."

Hasan [Guest] asks, "Me neither.It's kind of complicated. now shall we join nationalism arguement?"

reiji [Guest] says, "if I were they, I might be like them....."

mahatir [Guest] asks, "is it important to separete politics and religion?"

ryo [Guest] says,"I just think that if the stock market will be well, the money of other countries will come to Japan.....Hasan.

mahatir [Guest] says, "Ya, If I were living in big country,such as US, I would be like that. I think ,after all, everyone can't think about others."

starbuck [Guest] says, "I think it`s important to seperate that,mahatir."

chika [Guest] asks, "starbuck, I see. So, is the Thai king a symbol of the nation as well as Japan's loyal family? "

reiji [Guest] says, "and information we can got is limited....."

reiji [Guest] says, "so we could har"

Romy [Guest] asks, "moo, why do you think that that problem is not the theme today?"

Hasan [Guest] asks, "I hope it'll be better but I just think it's not so easy.What do you think we can do for that? Ryo?"

starbuck [Guest] says, "yes, chika.but our King work for People so we respect him."

reiji [Guest] says, "we could hardly think anything "

reiji [Guest] says, "correctly"

mahatir [Guest] says, "I don't think information is imited, specially to developed country"

ryo [Guest] says,"We sould buy some stock like as MORI BIRU.Hasan

reiji [Guest] says, "yes and no, amount is not limited, but content is bias....."

mooo [Guest] says, "Because we should have talk about the economic crisis of Japan and North Korea doesn't seem concerning the economic of Japan to me."

mahatir [Guest] asks, "I see, you means masscommunications and government handles inormation, right? "

Romy [Guest] says, "I think that that problem is one of the problem which Japan is facing to. It affects to the economy relationship between the North Korea and Japan""

reiji [Guest] says, "yes, sometimes they do intensionaly, someteimes occasionally"

starbuck [Guest] says, ""

mahatir [Guest] says, " But, I think Japanese are tend to influenced easily"

Closing stage

reiji [Guest] says, "now time to say good-bye....."

reiji [Guest] says, "time is up....."

ryo [Guest] says, "Bye,reiji.

Hasan [Guest] says, "yeah..that's a good idea. that maybe one thing.It might change with some other countries surrounding Japan,especialy Asian countries."

mooo [Guest] says, "But Japan hasn't established the relation with North Korea so that we don't have any economic relationship with N-Korea."

starbuck [Guest] says, "'yes,mahatir Japanese are that kind of people.` said to japanese friend."

mahatir [Guest] exclaims, " good bye.see you!"

chika [Guest] says, "starbusk, in that meaning, Thai king is important for the people. I make sense."

chika [Guest] says, "I have to go. see you next time."

aoi [Guest] says, "I understood that starbuck. i wanted to say that in japan before world war, people had respect loyal family by militaly. but Thai people respects king naturally ,doesnt it. "

reiji [Guest] has disconnected.

mahatir [Guest] asks, "what do you mean ,star?""

Hasan [Guest] exclaims, "we have to go now!! Bye people!! I really enjoyed it!!!"

Hasan [Guest] has disconnected.

starbuck [Guest] says, "whoops sorry. My Japanese friend said ` Japanese are tend to influenced easily`"

starbuck [Guest] says, "yes,aoi."

ryo [Guest] says,"Thank u for chat with me,Hasan. I get to go.See u next time.

starbuck [Guest] says, "I have to go now. Bye all"

starbuck [Guest] has disconnected.

Romy [Guest] asks, "Don't you think about the future?"

ryo [Guest] has disconnected.

mooo [Guest] exclaims, "I have to go. I wanted to talk more with you Romy, but I enjoyed this conversation. See you!!!"

mooo [Guest] has disconnected.

mahatir [Guest] says, " everyone,it' nice to meet you. bye! "

mahatir [Guest] has disconnected.

Romy [Guest] has disconnected.

aoi [Guest] has disconnected.

Appendix G: Transcripts of learner data examined in chapter 8 (session 11)

Edited transcripts of the dyad-based interaction involving the 4 members of the subject group in session 11 (note that messages not relevant to the interaction in the dyads and automatically generated system messages related to the log on protocol and navigation have been removed)

Aoi and Wing

Opening stage

aoi [Guest] exclaims, "hi!"

Wing [to aoi [Guest]]: how are you?

aoi [Guest] says, "I am fine. but a little sleepy. how about you? wing"

Wing [to aoi [Guest]]: I'm well! will you be my partner today?

aoi [Guest] says, "yes of course! lets work together, wing."

Wing [to aoi [Guest]]: Ok, let's start!

Work stage

Wing [to aoi [Guest]]: the first word means opposite of war.

aoi [Guest] says, "its peace."

Wing [to aoi [Guest]]: That's right! It's your turn, aoi.

aoi [Guest] says, "mental pressure or physical pressure or illness"

Wing [to aoi [Guest]]: what is that? is that stress?

aoi [Guest] exclaims, "yes, that's right!"

Wing [to aoi [Guest]]: wow!

Wing [to aoi [Guest]]: this word means opposite of attend.

aoi [Guest] says, "next one. all things that happened in the past. and I am thinking about that..."

Wing [to aoi [Guest]]: "remember"?

aoi [Guest] says, "absence? not remember."

Wing [to aoi [Guest]]: you are right!

Wing [to aoi [Guest]]: "memory"?

Wing [to aoi [Guest]]: Is that noun or verb?

aoi [Guest] says, "the things which especially the political, social, or economic development of a nation."

Wing [to aoi [Guest]]: "history"?

aoi [Guest] exclaims, "yes that's right!"

Wing [to aoi [Guest]]: ok!

aoi [Guest] says, "next, the opposite of autocracy"

Wing [to aoi [Guest]]: no.3, this is the knowledge that you have about something. @

Wing [to aoi [Guest]]: "democracy"?

aoi [Guest] exclaims, "its right!"

aoi [Guest] asks, "experiment?"
Wing [to aoi [Guest]]: no. hint! if you don't know any particular subject, that means you don't have this.
Wing [to aoi [Guest]]: this is noun start with "u".
aoi [Guest] exclaims, "unfamiliar things ? i cant suggest!"
Wing [to aoi [Guest]]: no,this is a bit difficult to give you hints.I'm sorry.Let's do this word at the last!
aoi [Guest] says, "no4. a large expensive boat,used for racing or traveling for pleasure."
aoi [Guest] says, "ok. please tell me next 1."
Wing [to aoi [Guest]]: no4. All you need in the world is!
aoi [Guest] says, "love?"
Wing [to aoi [Guest]]: "ferry"?
Wing [to aoi [Guest]]: Great!!
aoi [Guest] says, "you are getting hot!not big as ferry. for rich person. and it has big sail."
Wing [to aoi [Guest]]: no5.this means opposite of rich.
Wing [to aoi [Guest]]: sailboat?
aoi [Guest] asks, "poverty?"
Wing [to aoi [Guest]]: Correct!
Wing [to aoi [Guest]]: "ship"?
Wing [to aoi [Guest]]: "moterboat"?
aoi [Guest] says, "its a kind of ship. the innitial word is y."
Wing [to aoi [Guest]]: "yacht"?
Wing [to aoi [Guest]]: no.6 you use this vehicle to ride on tne ice or snow.
aoi [Guest] exclaims, "its right!"
aoi [Guest] asks, "snow mobile?"
Wing [to aoi [Guest]]: no, this works without engine.but sometimes dogs or deers..
Wing [to aoi [Guest]]: santa rides this on X'mas!
Keisuke exclaims, "to jogja oh. conflict is the answer! "
aoi [Guest] says, "no.5,the opposite of fail to the goal."
Wing [to aoi [Guest]]: "lose"?
aoi [Guest] says, "sled"
Wing [to aoi [Guest]]: that's right!
aoi [Guest] says, "no, opposite of lose. means you can get the aim."
Wing [to aoi [Guest]]: "victory"?
Wing [to aoi [Guest]]: "win"?
Wing [to aoi [Guest]]: no7. we have 3 of this naturally,eat ,sleep and sex.
aoi [Guest] says, you are getting correct answer.the first word is a.
aoi [Guest] asks, "desire?"
Wing [to aoi [Guest]]: "ability"?
Wing [to aoi [Guest]]: good,aoi!! that's right!
aoi [Guest] says, "well,no.5 doagain last."

aoi [Guest] says, "no6. means opposite of failure."
Wing [to aoi [Guest]]: " achievement" ?
Wing [to aoi [Guest]]: no6 "success" ?
aoi [Guest] says, "yes you are great! but it is the answer of no.5.no6 is more happy."
aoi [Guest] exclaims, oh yes! success is no6!
Wing [to aoi [Guest]]: no8. this means you don't have any happiness.
aoi [Guest] says, "unhappiness,misfortune."
Wing [to aoi [Guest]]: no, you have tried something hard but you couldn't success,and you are feeling this..
aoi [Guest] says, "sad,or sorrowful."
Wing [to aoi [Guest]]: you don't even have any hope.
Wing [to aoi [Guest]]: this begins with "d"!
aoi [Guest] asks, "dispair,dismay?"
Wing [to aoi [Guest]]: the first one is right!
aoi [Guest] says, "no7.means conversation."
Wing [to aoi [Guest]]: no9.this means you don't tell a lie.
aoi [Guest] says, "trust"
aoi [Guest] says, "no,a conversation in a book,play,or movie."
Wing [to aoi [Guest]]: no,you can trust this person because he has not liar. it's a noun.
aoi [Guest] says, "or a formal discussion between countries or groups in order to solve problems."
Wing [to aoi [Guest]]: "line" ?
aoi [Guest] says, "honest"
Wing [to aoi [Guest]]: this is the noun of honest! close!
aoi [Guest] exclaims, "honesty!"
Wing [to aoi [Guest]]: "dialogue" ?
Wing [to aoi [Guest]]: well done,aoi!
aoi [Guest] says, "yes,you are clever."
Wing [to aoi [Guest]]: no.10 this is a vehicle with 4 wheels.
aoi [Guest] says, "next, the opposite of peace,but not war. smaller than war."
aoi [Guest] asks, "car?"
Wing [to aoi [Guest]]: yes!
Wing [to aoi [Guest]]: battle?
Wing [to aoi [Guest]]: "dispute" ?

Closing stage

Wing [to aoi [Guest]]: we have to finish today. thank you! bye!!
aoi [Guest] says, "no,it is a state of disagreement or argument between people,groups,countries etc. the first word is c."
aoi [Guest] says, "see you next time!"

Nora (previously Mahatir) and Chikapon (previously Chika)

Opening stage

Nora says, "Hello."

chikapon [Guest] asks, "anyone can be my pertner, please?"

Nora says, ""Hello, chika."

chikapon [Guest] asks, "Hi, Nora! how are you today?"

Nora [to chikapon [Guest]]: I'm fine.

chikapon [Guest] asks, "good! are u ready to start?"

Nora says, "Sure."

Work stage

chikapon [Guest] says, "this word is noun, and means to suceed."

Nora [to chikapon [Guest]]: Is that mean success?

chikapon [Guest] asks, "yes!! do u have some words? or do I have to continue?"

Nora [to chikapon [Guest]]: It is a noun, and the situation there is no war and violence.

chikapon [Guest] asks, "Peace? "

Nora [to chikapon [Guest]]: That's right.

chikapon [Guest] says, "keep going, this word is a kind of subject. and this means all things that happened in the past."

chikapon [Guest] says, "Nora, we can ask each other at the same time, I think it will save the time."

Nora [to chikapon [Guest]]: It is difficult. Can you give me a more hint?

Nora [to chikapon [Guest]]: " Ok. I give you a hint. Next one is a noun, means don't attend.

chikapon [Guest] says, "we study the world war 2nd or some thing like that in this subject"

chikapon [Guest] asks, "nora, is it absence?"

Nora [to chikapon [Guest]]: I see, It's history right?

chikapon [Guest] exclaims, "right!"

Nora [to chikapon [Guest]]: That's right. Next one is a verb, means to know or realize things.

chikapon [Guest] says, "next one is noun, and it means a conversation in a book or text."

Nora [to chikapon [Guest]]: sorry, I made mistake. It is a noun.

chikapon [Guest] asks, "notice?"

Nora [to chikapon [Guest]]: No.

chikapon [Guest] says, "didju read this sentence?...next one is noun, and it means a conversation in a book or text."

Nora [to chilkapon]: is that expression?

chikapon [Guest] says, "no..."

chikapon [Guest] says, "it begins with d"

chikapon [Guest] asks, "Nora, I have no idea to your question. can I have more hints?"

Nora [to chikapon [Guest]]: I give you a hint. it start with u.

chikapon [Guest] asks, "understanding?"

to chikapon Yes!

Nora [to chikapon [Guest]]: Yes!

Nora [to chikapon]: Can you give me a more hint.

chikapon [Guest] says, "Sure! may be it was in the book , play or movie. "

Nora [to chikapon [Guest]]: Is it dialogue?

chikapon [Guest] exclaims, "yeeeees!"

chikapon [Guest] says, "keep going, next word is noun and verb, to believe something"

Nora [to chikapon [Guest]]: Next one is also noun, to like with passion.

chikapon [Guest] asks, "love?"

Nora [to chikapon [Guest]]: yes!!!

chikapon [Guest] asks, "do u need nore hints?"

Nora [to chikapon [Guest]]: Yes, I need...

chikapon [Guest] says, "to believe something or someone honestly. in the movie Titanic, Dicaprio used this word to Kate."

Nora [to chikapon [Guest]]: Next one is none .This word is opposite of richs.

chikapon [Guest] asks, "poverty?"

Nora [to chikapon [Guest]]: Is that trust? I

chikapon [Guest] exclaims, "right!!!"

aoi [Guest] asks, "snow mobile?"

to Chikapon That's right!

Nora [to chikapon [Guest]]: That's right!

chikapon [Guest] says, "next one is noun, it means to win."

Nora [to chikapon [Guest]]: Next one is none. A vehicle for travelling over snow and ice.

chikapon [Guest] asks, "is it sled?"

chikapon [Guest] asks, "Nora, can I give u more hints?"

Nora [to chikapon [Guest]]: is that victory?

chikapon [Guest] exclaims, "exactly!"

Nora [to chikapon [Guest]]: yes, but what do you say in american english?

chikapon [Guest] says, "Im sorry I dont know..."

Nora [to chikapon [Guest]]: it is sledge.

chikapon [Guest] exclaims, "Thanks!"

chikapon [Guest] says, "next word is noun. it is a piece of imformtion that is known to be true"

Nora [to chikapon [Guest]]: Next one is verb, means "to want to do something from heart".

chikapon [Guest] asks, "is it eager?"

Nora [to chikapon [Guest]]: No... It is a strong wish to have or do.

chikapon [Guest] asks, "desire?"
Keisuke asks, "to jogja it is wish or desire?"
Nora [to chikapon]: Is it news?
Nora [to chikapon [Guest]]: pingpong!
chikapon [Guest] says, "no. I think its a kind of reality, actuality"
Nora [to chikapon [Guest]]: Is it "truth"?
chikapon [Guest] says, "no. it begins F"
to chika I gota it . it's fact!
Nora [to chikapon [Guest]]: I gota it . it's fact!
chikapon [Guest] exclaims, "well done!"
chikapon [Guest] says, "keep going! next word is noun. it is a system of government in which every citizen in the country can vote to elect its goverment officials."
Nora [to chikapon [Guest]]: Next one is none and verb,means the feeling oh having lost all hope.
chikapon [Guest] asks, "despair?"
Nora [to chikapon [Guest]]: Is it democracy?
chikapon [Guest] exclaims, "exactly!"
Nora [to chikapon [Guest]]: That's right.
chikapon [Guest] says, "next one is a large expensive boat."

Closing stage

chikapon [Guest] asks, "Nora, Im really sorry but I gotta go to the next class in 10 minutes... can I go now? "
Nora [to chikapon [Guest]]: Nwxt one is none,means not to lie.
chikapon [Guest] asks, "the last word is truth?"
chikapon [Guest] asks, "or honesty?"
Nora [to chikapon [Guest]]: you can go now. last one is honesty. Thanks chika.
chikapon [Guest] says, "Im sorry and I do appreciate you!! the last word is yacht."
chikapon [Guest] exclaims, "see you nora!"
Nora [to chikapon [Guest]]: See you,Chikapon!

Starbuck and Vekki

Opening stage

Starbuck [to midoron [Guest]]: Hi,would you mind to work with me?
Starbuck [to three [Guest]]: Hi,three.
three [Guest] [to stabuck]: hi you!
three [Guest] [to Starbuck]: start it!
Starbuck [to three [Guest]]: Pigeon stand for this word.
three [Guest] [to Starbuck]: Do you mean peace?
Starbuck [to three [Guest]]: yes.mm maybe you have the same handout as me?
three [Guest] [to Starbuck]: I think so too. Byebye!
Starbuck asks, "Does anyone has no pair?"
Vekki [to Starbuck]: We can work together, Starbuck.
Starbuck [to Vekki]: Thanks.Let`s start. Words we have stand for Pigeon.

Work stage

Vekki [to Starbuck]: um.. maybe, 'peace'?
Starbuck [to Vekki]: YES!Now your turn.
Vekki [to Starbuck]: The first word means something like pressure starting with 's'.
Starbuck [to Vekki]: do you mean `Stress`?
Vekki [to Starbuck]: Yes, that's right. The next word please.
Starbuck [to Vekki]: It means not to go to school.And it starts with `A`.
Lazy student likes to do this.
Vekki [to Starbuck]: Absence !.
Starbuck [to Vekki]: Great!Ok,next word please.
Vekki [to Starbuck]: The 2nd word is an ancient memory everything has in it.
Starbuck [to Vekki]: History?
Vekki [to Starbuck]: That's right! Good!
Starbuck [to Vekki]: Next word.It starts with `U`. And it means to comprehend
Vekki [to Starbuck]: You mean understand?
Starbuck [to Vekki]: do it in Contunious Tense +ing
Vekki [to Starbuck]: Then, understanding?
Starbuck [to Vekki]: Yes :-)
to Vekki Let`s hurry. we have no time.
Vekki [to Starbuck]: 3rd word is the opposite of 'Socialism'
Starbuck [to Vekki]: Democracy?
Vekki [to Starbuck]: Yes!
Starbuck [to Vekki]: this word means more than `like` And this word is my favourite word. *>_<*
Vekki [to Starbuck]: Love!! right? 4th word: to complete something
Starbuck [to Vekki]: Right! Would you give us more hint?

Vekki [to Starbuck]: It starts with 'a', and ends with 'ment'.

Starbuck [to Vekki]: Achievement!

Vekki [to Starbuck]: That's right ! The next word is the opposite of failure.

Starbuck [to Vekki]: success?the next is the opposite word of richness

Vekki [to Starbuck]: Right! and, Poverty.

Starbuck [to Vekki]: You`re genius! the next word is Thing that small children who cannot ski ride when we go skiing.

Vekki [to Starbuck]: With which character does it start?

Starbuck [to Vekki]: it starts with `S`. Santaclause also ride it.

Vekki [to Starbuck]: Slider?

Starbuck [to Vekki]: no..it`s not correct english. it`s a `Sl**g**`

Vekki [to Starbuck]: I understood what it is but didn't know how they say...another letter please!

Starbuck [to Vekki]: ok. the vehicle that bigger than bike but smaller than truck.

Vekki [to Starbuck]: Is this the hint of the next word? car?

Starbuck [to Vekki]: Yes, a car.

Starbuck [to Vekki]: next word`s hint please.for mine is `to win`.

Vekki [to Starbuck]: the next word is a set of story by two or more than two persons. to win... Victory?

Starbuck [to Vekki]: that`s correct. would you give me more hint?

Vekki [to Starbuck]: It begins With 'd' . and You often find this word on the textbook of foreign language.

Starbuck [to Vekki]: dialogue?

Vekki [to Starbuck]: That's right!!! The next word please.

Starbuck [to Vekki]: the next word means not to lie. Starts with `H`.

Vekki [to Starbuck]: Honest?

Starbuck [to Vekki]: yes,right and add `y`.

Starbuck [to Vekki]: next word,please.

Vekki [to Starbuck]: It seems it happened when people disagree with each other.

Starbuck [to Vekki]: fight?

Starbuck [to Vekki]: the feeling that come with Passion. It`s starts with `D`

Closing stage

Starbuck [to Vekki]: I have to go,give me all the answer!! LoL See you next time. Thanks

Vekki [to Starbuck]: I'm sorry not to catch up with you. See you!