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EFL STUDENTS GO MOOING: A CASE STUDY OF PROJECT-BASED TECHNOLOGY SUPPORTED LANGUAGE LEARNING

by

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A thesis submitted in conformity with the requirements for the degree of Master of Art
Department of Curriculum, Teaching and Learning
Ontario Institute for Studies in Education of the University of Toronto

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Abstract

This thesis is aimed at exploring the use of MOO (Multi-user domain, Object Oriented), a network-based virtual environment, in supporting language learning through a collaborative project which involved six college students from Taiwan. To examine the process and outcomes of learner interactions and productions, this research adopted a qualitative, field-based case study methodology which offers a detailed description of the project members' experience and language use promoted by this MOO-based collaborative project. The outcomes of the study reflect the mediation role of online tools and written language for learners' construction of virtual spaces and their communication with others. Within the context of technology-supported language learning, it was possible to describe the varied language learning activities in the MOO environment using Cummins' analytical framework in turn focusing on language, meaning and use. Four of the six participants' viewpoints toward MOOing and language learning, technical issues and their project work were investigated.
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Chapter 1

Introduction

1.1 Statement of Problem and Goal

The rapid growth of network technologies has placed human connection and information retrieval at one's fingertips. In addition, the role of computers in language learning has changed from being the stimulator of drills and practice to being the mediator of information and interaction. Combining the features of synchronous chatting and asynchronous writing, Multi user domain, Object Oriented (MOO) environments attract language researchers and educators for their potential to facilitate EFL students' learning and use of English through a text-based virtual environment. However, due to the novelty of MOOs, the studies found in the literature are either limited in their scale of investigation, or they fail to provide systematic documentation of the process and product of teaching and research projects. Moreover, the learners' individual performances and reactions to this innovative medium are rarely reported or examined in detail. To address these issues, the present study aims to document participation and performance of six students in a summer project held in an educational MOO and to investigate how their use and learning of English can be promoted through a collaborative online project. Furthermore, the study investigates
what their viewpoints are regarding their experience of participating in this virtual environment.

Content and Organization

This thesis consists of six chapters. The first chapter introduces CMC and MOOs as an alternative access to the target language learning and use for EFL students. The first chapter begins with a description of the development of CMC technology in language teaching. Then I provide an introduction to different communication tools used in the networked environment, followed by a specific focus on the MOO, its environment and brief history. The second chapter consists of a review of literature in two areas. The first part is a review of research related the network technologies and language learning involving the use of synchronous and asynchronous tools, integrated environments, and MOOs. In the latter part, I provide the theoretical orientation of the present study based on a review of literature. The third chapter details the methods used in the research and describes the means and procedures of data collection. In the fourth chapter, detailed information about the research project is provided through descriptions of the project site, the participants, the education tools provided, and the project timeline. The fifth chapter presents the outcomes of the project starting with a description of the project, analysis of speech events and activities, and viewpoints of the participants. It documents the findings of the
quantitative analysis conducted to answer my research questions. The final chapter summarizes the present study and discusses the significance and implications of project-based learning through the virtual space created by MOO.

1.2 Language Learning, Computers, and Networking Technologies

1.2.1 Learning English as a Foreign Language

In the countries where it is regarded as a foreign language, English is mostly spoken in the language classroom, and is not used for the purpose of communication in people's daily lives. Therefore, there are very few chances for language learners to practice or use what they have learned in a meaningful context within their own country (Brown, 1994).

For implementing a communicative activities syllabus, Stern (1992) stresses the importance of contact with a variety of target language speakers, access to various target language settings and use of authentic language. However, in recognizing the limitations of foreign language settings, he suggests the recreation of some characteristics of the target language environment as “the next best thing”. Examples of such artificial environments could include such things as a school where the target language is spoken, a class instructed in the target language, a house, a camp or a meeting and even a sports activity that is specially arranged for use of the target language.
1.2.2 Network Technologies and Foreign Language Learning

In recent years, the advance of computer and network technologies has provided more options to language learners and educators. In particular, the Internet provides opportunities for accessing information and for the meeting of people in different physical locations. Through this technology, it is possible to recreate a virtual space that simulates the target language environment and to further provide chances for language learners to use the target language meaningfully while interacting with their peers or native speakers. In other words, the advance of computer and network technologies has also provided what Stern called “the next best thing” for foreign language education. In the next section, we will look at the development of network technologies and the opportunities they provide for foreign language education.

1.2.2.1 CALL

Computer-assisted language learning (CALL) has been affected both by the advance of network technologies and the shifting perspectives of theoretical orientations (Warschauer, Turbee and Roberts, 1996; Ortega, 1997; Kern and Warschauer, 2000). Earlier instructional foci were affected by structural perspectives, which led to the stress on drill and practice of formal aspects of the language. More recent CALL programs view language learners as active agents and often provide a simulated environment for learners to explore and construct their own worlds. With
the development of network technology, network based language teaching (NBLT) has served a critical role in CALL’s evolution (Chapelle, 2000). Therefore, a current approach to CALL tries to place language learners on a sociocultural plane, which stresses the importance of contextualized, meaningful engagement of interaction.

According to Kern and Warschauer (2000), computer networking in the language classroom arises from two important technical developments, computer-mediated communication (CMC) and globally linked hypertext (e.g. World Wide Web). They foster opportunities for active participation and learner collaboration across physical boundaries. For foreign language learners, these developments provide an alternative access of reaching out and interacting with either native speakers or non-native speakers in the target language.

1.2.2.2 CMC

To access the target language community and interact with its speakers, foreign language learners and teachers can use CMC either in synchronous or asynchronous modes. Synchronous CMC tools allow users to interact with either one or many users in real time. With their help, foreign language learners may connect to their peers in the same classroom or school through the establishment of a local area network (LAN). They may also connect to the outer world through the Internet and interact with other users of the communicating client. Both chat rooms and Internet Relay
Chat (IRC) provide this kind of function. On the other hand, asynchronous tools do not require users to be on-line at the same time. Their communications are carried out through tools such as electronic mail (e-mail) or discussion boards.

1.2.2.3 Hypertext and Hypermedia

Another powerful development of network technology, globally linked hypertext and hypermedia provide foreign language learners a wide range of information access and exchange. Appearing in the form of the World Wide Web, the combination of sounds images and texts generate a great number of authentic materials on the Internet such as recipes, travel guides, and news reports with video clips. Language learners may also participate in projects that perform research on the Internet through the use of search engines, online dictionaries and encyclopedias. The product of the learning projects, for example, can be a web page created by learners for sharing with their community.

The tool which is the focus of this study, MOO, is an example of an integrated network environment. The interface of the particular MOO where this research took place incorporates asynchronous and synchronous communication and hypertext capabilities. These characteristics will be introduced in the next section about the history and the environments of MOOs.
1.3 MOOving Ahead

1.3.1 The History

MOOs originated from MUDs (Multi-User Domain/Dungeon), real time text-based environments that were originally developed as a type of adventure game in which the players gain experience and power by finding treasures, collecting money, killing monsters and dragons or becoming, a wizard at the end of the game (Turkle, 1998; Hynes & Holmevik, 1998). In the late 80’s, Steven White first incorporated the Object-oriented programming ability into the MUD program and termed it “MOO”. In this new generation, the users are allowed to construct their own world by writing descriptions for their places and objects and they were even given the ability to add functionality to these objects through programming. Later, the major development and documentation of the programming language of MOOs was taken over by Pavel Curtis, a researcher in Xerox Palo Alto Research Center (PARC). His MOO, LambdaMOO, has been running since 1991 and is a popular social place in which thousands of users connect from different places around the world.

The creation of LambdaMOO inspired its early visitors to think of the potential applications of this text-based, virtual environment. For instance, Amy Bruckman started a meeting place for media researchers called Media MOO, which took the
development of MOOs in a new direction for professional use. Similarly, Gustavo Glusman and Jaime Prilusky founded BioMOO in 1993 as a meeting place for biologists. ATHEMOO, an educational and professional MOO created by Juli Burk, was prepared for the Association for Theater in Higher Education (ATHE). Simulating the physical setting of a campus, Diversity University, created by Jeanne MacWhorter, was made to incorporate multiple disciplines.

The potential of language education envisioned by language educators inspired the creation of language learning MOOs such as SchMOOze University for English (e.g. Frizler 1995; Pinto, 1996; Sanches, 1996; Baker, 1999; Shield et al, 1999), MUNDO Hispano for Spanish (Hall, 1998), Little Italy for Italian and Dreistadt MOO for German. These MOOs provide language learners a place to use their target language, to meet with native speakers, and to collaborate in language learning activities.

1.3.2 The Structure

The physical structure of a MOO appears as a database housed on a server¹. Users from different locations of the world may access the database via the Internet through their own client software. Therefore, to connect to a MOO, one needs a

¹ A server is a computer and its associated application of hardware and software applications that act as a repository for information files or software programs. The server sends this information by request across the network to users of client software. A client is the software that operates on a user's computer for accessing information distributed from servers (December, 1996).
computer with Internet capacity and appropriate client software that is suitable for their operating systems².

1.3.2.1 Text-Based Interface

Basically, the MOO world is constructed by text; in other words, every object in the MOO comes into its existence through a string of words that describe it. Here is what a player can see in a room from a text-based MOO client:

**Figure 1-1. A MOO Room in the Text-Based Interface**

² See Appendix A for a list of MOO clients for different operating systems and the web sites of their manufacturers.
As figure 1-1 displays, one can input commands in the lower dialogue box for the purpose of synchronous communication, object creation, and programming. The results will then appear in the text area. In a typical room, one first sees the name of the room, followed by its description, the objects inside it and exits to other rooms. Based on the object-oriented concept, everything one can see in the MOO is an object. By looking more closely at various objects, through the use of a specific command, one can see separate descriptions for different objects, including the characters, furniture and exits. Players can also interact with the objects through the use of associated commands; they can, for example, open a treasure box and take a necklace from it. Through the use of exits and other commands, one can travel from one room to another and interact with the objects inside it. Each player is an active participant in this virtual community and is in control of using, creating and deleting objects. In other words, things happening in real life can be visualized and simulated in this virtual world through texts created for and by its residents.

1.3.2.2 Graphical User Interface (GUI)

The introduction of globally linked hypertext and hypermedia into the MOOs' interface provides a new visual presentation of the objects of this virtual world. The implementation of web page-integrated GUI allows the users to 'examine' objects and visit adjacent rooms through a mouse click. In addition, users may apply images and
icons on their own objects and characters to strengthen the visual presentation of their characteristics. Moreover, the web page area of the interface also allows its users to import information and images from other web resources, which transforms the MOO into an integrated networking environment equipped with synchronous, asynchronous CMC, hypertext and hypermedia (See figure 1-2).

**Figure 1-2. A MOO in GUI** - an Integrated Networking Environment

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3 Figure 1-2 represents a GUI of MOO core called Encore Express that is adopted by Achieve, the project site. This form of GUI was developed at LinguAMOO by Cynthia Haynes and Jan Rune Holmevik. For more information, see Haynes and Holmevik (2000).
In Figure 1-2, the upper window presents some basic commands in the form of buttons. The window on the right is the web area that shows the description of the room and objects inside of it. As explained above, each object not only has an icon to represent it but the icon can also be further examined by clicking its hyperlinked names or images. In addition, clicking the hyperlinked exits will take one to the room indicated. The window on the left hand side is the area that displays the record of synchronous communication and results of commands use, which is similar to the traditional text-based interface as showed in Figure 1-1.

Either through text-based interface or GUI, the whole construct of a MOO reflects a particular environment where the identities of both users and objects can be created through narrative forms. The generation of space, characters and text is endless and the players in MOOs are both readers and writers. Moreover, the features of these texts are multi-linear and co-constructive (Haynes & Holmevik, 1998). For foreign language learners, this virtual environment provides a great potential for language use in a meaningful context.

Summary

Learning English as a foreign language rarely includes opportunities for target
language use in meaningful contexts. However, the development of network technologies may offer some remedies for this situation. In this chapter, I introduced the basic concepts of several networking tools including asynchronous CMC, synchronous CMC, hyperlinks/hypermedia and integrated networking environments.

Then, selecting MOOs as the focal research tool, I first briefly reviewed its history of development and then its concepts and structure. Along with the introduction of two interfaces, I also explained its features as an integrated networking environment. To understand how this networking tool has been used in language teaching and the outcomes of that use, in the next chapter, I will review the research literature of different kinds of networking tools and their underlying theoretical frameworks.
Chapter 2

Literature Review

In this chapter, I will provide a review of literature in two sections. In the first part, my focus will be on how networking tools have been used in language teaching in the literature. In the second part, I will introduce the theory that guides the current study.

2.1 Research on Network-based Language Teaching

Since networking tools may create opportunities of meaningful communication and authentic use of the target language, language researchers and educators have been making use these technologies. In the following section, I will review the studies on the use of asynchronous and synchronous CMC tools. Then, I will review how integrated environments have been used in language classrooms and the outcomes. Finally, as the main research focus, existing documents on the application of MOOs in language teaching will be presented.
2.1.1 Asynchronous CMC and Foreign Language Education – The Use of E-Mail

Since the early 90's, the asynchronous exchange of e-mail has been receiving wide interest (Appel, 1999; Barson, Frommer & Schwartz, 1993; Gonzalez-Bueno, 1998; Lunde, 1990; Kern, 1996; Kroonenberg, 1995; Soh & Soon, 1991). Since then, e-mail has been used as a tool for promoting learner interaction, collaboration, and the exchange of languages and cultures. As Gonzalez-Bueno (1998) summarized from previous studies, the use of this medium generates (a) a greater number of linguistic exchanges among participants; (b) more variety in topics and language functions; (c) higher level of linguistic accuracy; (d) a style of writing that has similarity with oral language; (e) more student-initiated interactions; and (f) more personal and expressive language use.

2.1.2 Synchronous CMC and Foreign Language Education – The Use of Interchange

Along with the development of research in the use of e-mail, the application of synchronous CMC tools also has received attention from researchers. Many researches have been drawn to a real-time communicating software named Daedalus InterChange that is operated on a local area network (LAN) such as a computer-equipped classroom environment (Beauvois, 1992, 1998; Yun, 1994; Kern, 1995; Sullivan & Pratt, 1996; Warschauer, 1996b; Schultz, 2000). More target
language production and less teacher intervention are the common findings of these studies. In Yun’s (1994) study, the students took more initiative than in the normal classroom. Kern (1995) found students were in favour of the Interchange session. He also outlined the following characteristic features of the sessions: decentralization of the teacher’s position, less attention paid to grammatical accuracy, and less coherence and continuity in discussions. However, Sullivan & Pratt (1996) suggested that students produced more focused comments during the on-line sessions. Results of Warschauer’s (1996) study also showed students’ positive attitude towards networked environments and their increased production of the target language regardless of gender and keyboard skills. Beauvois (1998) indicated that students usually wrote more than one sentence with compound-complex sentence structure and their participation increased. Finally, the results of Schultz (2000) indicated that the visual effect of written exchanges through computers has a positive effect on the development of organization and style in writing. In summary, synchronous CMC on LAN appears to have a positive linguistic, cognitive, and affective impact on students’ use of target language and their written products.
2.1.3 Research on Integrated Network Environment and Foreign Language Education

As the selection of networking tools expands, researchers are starting to investigate the impact of combining both synchronous or asynchronous CMC tools or adding World Wide Web with multimedia capacity (Cummins & Sayers, 1995; Oliva and Pollastrini, 1995; Lee, 1997; Singhal, 1998; Yun and Plass, 2000). Although the studies in this area are still scarce, they have illuminated the potential of the integrated network environment. Projects described in Cummins and Sayers (1995) employed teleconferencing software and e-mail to link up students across geographical distance to foster intercultural learning. Oliva and Pollastrini (1995) brought learners of Italian ancestry to an on-line Italian community which used a synchronous communication channel and mailing lists as tools of communication. Lee (1997)’s study involved 124 students using e-mail, browsers and listservs in a learning project. Results of surveys indicate that the use of the internet improved students’ understanding of Spanish culture and was beneficial for their target language. Singhal (1998) suggested that teleconferencing and e-mail provide language learners an experience of authentic communication and foster awareness of languages and cultures. Yun and Plass (2000) put together the use of multimedia, hypertext, and e-mail for peer review and discussion. They discussed the issue of designing networked multimedia environments and suggested two important criteria for implementing language
instruction: (1) Cognitive process involved in developing linguistic and pragmatic competence must be supported, and (2) in order to diminish the problems of hypermedia environments, the potential drawbacks must be avoided (p. 166).

To summarize from the reviewed studies, the use of CMC tools allows more equal participation among learners, develops learning skills, fosters greater student autonomy and empowerment. An increase in written linguistic skills can also be expected. In addition, more affective involvement and further understanding of cultural aspects of the target community can be fostered (Barson, Frommer & Schwartz, 1993; Cummins & Sayer, 1995; Paramskas, 1993; Warschauer, Turbee and Robers, 1996; Warschauer, 1996a).

2.1.4 Research on MOO and Foreign Language Education

The interactive virtual environment of MOOs immerses foreign language learners into a community that uses the target language. Suggested activities for language learners in MOOs include a treasure hunt, interviewing both native and non-native speakers, writing a description for creating one's identity, room and objects, programming for others to learn English, participating in collaborative
projects, and tandem learning\(^4\) (e.g. Turbee, 1995; Sanchez, 1996; Davis et al, 1998).

The text-rich interface of MOOs can also be used as a medium for writing instruction. Frizler (1995) taught a composition course in a MOO to students from various countries. She pointed out that being able to write to real audiences for the purpose of authentic communication is an important motivating factor. Students were given chances to use natural language and thinking in English for the purpose of communicating with other people. Active participation in knowledge creation and sharing increases students' responsibility for learning. Finally, cultural awareness was also enhanced through students reading essays written by their peers.

Pinto (1996) looked at the interaction of ESL students in a MOO. His study investigated the communication moves and technical aspects that could impede learners' interactions. Results showed that the number and types of conversational moves varied from one task to another. In addition, he noted students in this study did not display the ability to pick up on other's utterances and build a conversation. For developing students' conversation management skills, he suggested the use of MOO logs as a valuable source for analysing students' conversation styles and moves.

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\(^4\) In tandem learning, learners with different L1s are paired up to learn each other's mother tongue. Its purpose is to develop mutual support and to provide more than just one informant (the teacher) for learners to communicate with authentic purpose (Donaldson & Kötter, 1999).
Researchers who endorse the philosophy of constructivism focus on collaborative opportunities provided in a MOO environment. Turner's (1998) writing project took advantage of the MOOs' features of role-playing and object creating. The ESL students were brought to a MOO to build a small town and to develop the personalities for the characters that lived there. They also had to keep an on-going record of the growth and change of this community in order to orient newcomers. The product was like a plot for a stage show whose audiences and writers were the same group of students. Besides the descriptive account of the project, Turner (1998) did not provide further analysis of cognitive, linguistic or affective domains.

Schwienhorst (1997, 1998a, 1998b) connected learners of German in Ireland and learners of English in Germany to work collaboratively on technology related tasks. The projects reported by Shield et al. (1999a, 1999b) involved learners from different geographic regions carrying out group-research, creating objects and publishing results on the web. However, the account of the studies from both groups lacked detailed documentation of the process of learner collaboration and they did not conduct further examination of their written products. The perceptions of the participants were either unknown or not fully documented.
Backer’s (1999) research project investigated the impact of MOO-based learning on affective dimensions of anxiety and motivation. Sixty-two Israeli high school students were divided in two groups; one group’s learning activities involved twelve MOO sessions and the other conducted the same activities face-to-face in the language classroom. Results from the statistical analysis of questionnaires showed that using MOO as an EFL learning tool heightened motivation in the high school EFL class in general. In addition, students with higher computer skills displayed lower anxiety and greater motivation in using MOO. However, in comparison with the students in the control group, the enthusiasm of students in the experimental group did not reach a significant level. In the interview, teachers who conducted the MOO sessions noted that participating in MOO sessions allowed students to encounter a large amount of reading and generate meaningful writing both in the MOO and in class.

Donaldson and Kötter’s (1999) study involved learners of English from Germany and college level German students in America. They formed small groups that consisted of students from both countries and each group had to accomplish at least two projects of interest. The results of the study showed that the participants used communication strategies. They took the opportunity of learning language from
their partners and in turn fulfilled the role of mentor. The participants demonstrated increased motivation and learner autonomy in accomplishing the tasks. The role of the teacher, contrary to the traditional role, was gradually transformed from a classroom controller to a mentor or a consultant who provided guidance on occasion.

To summarize, the potential benefits suggested by previous studies on the MOO and language learning include the following: (a) motivating students; (b) providing a context for purposeful and meaningful language use; (c) developing conversation managing skills; (d) enhancing learner autonomy; and (e) providing gateways to cultural learning. The role of teacher, different from that in the traditional classroom, stressed the importance of assistance rather than maintaining control.

2.2 Theoretical Orientation

The change in how technologies are used in the language classroom also reflects the evolution of the theoretical groundwork. According to Kern and Warschauer (2000), research on the role of computers in language learning has encompassed structural, cognitive and sociocognitive perspectives. They point out that network-based learning and the sociocognitive paradigm “have brought about a focus on the way that discourse and discourse communities develop during use of computer networks” (p.8). The viewpoints generated by this sociocognitive paradigm and their
effect on the research design and pedagogical actions will be presented in this section.

2.2.1 Sociocultural Theory

Originating from the theory developed by the Soviet psychologist L. S. Vygotsky, the sociocultural perspective maintains that the achievements of human activities are mediated by cultural artifacts and the development of higher cognitive functions are mediated by language, a psychological tool. The development of mental functioning first appears in the interpersonal (social) plane and then in the intrapersonal (individual) one (Vygotsky, 1978).

One important theoretical concept that informs the studies from sociocultural perspectives is known as activity theory, which originated with Leontiev's argument building on Vygotsky's basic ideas. According to Donato and McCormick's (1994) interpretation, "activity is defined in terms of sociocultural setting in which collaborative interaction, intersubjectivity, and assisted performance occur" (p.455). In its three-level scheme, activity, action and operation correspondingly associate with motive, goal and instrumental conditions (Lantolf, 2000). In terms of the language learning task in which the students are engaged, the motivation and goal directs the students' performance in the task, actions are behaviors guided by the students' goal, and operation means how learner actions are taken according to the condition in
which the task is carried out. From the model of the activity theory, the speech act of
the language learner is dynamic in that one's action changes when the goal of
form/meaning negotiation is attained. Hence, as Donato (1994) suggests, "the
interrelationship of motives, goals and operations needs to be taken into consideration
when investigating L2 interactions (p.37)."

To examine how learning takes place in communicating with others, the evidence
of how consciousness of knowledge moves from an inter-mental to an intra-mental
state becomes an important source. Through interacting with others, learners will be
able to receive help or guidance and learn more productively within their Zone of
Proximal Development (ZPD), the area that is between their actual and potential level
of growth (Vygotsky, 1978). For learners, they may perform the desired action
through scaffolding, a process of how an experienced person guides a novice or the
collaborative work among peers. Six features of scaffolded help were identified by
Wood, Bruner & Ross (1976): (1) recruiting learner's interest, (2) simplifying the task,
(3) maintaining learner's motivation and goal direction, (4) marking critical features,
(5) controlling frustration and (6) demonstrating idealized solutions. With these,
learning can be described as one's progress from needing other's help (other regulation)
to being able to carry out the right action by himself/herself (self-regulation).
For the purpose of investigating the learning that takes place within a culturally specific activity, the unit of analysis is the "goal-directed, tool mediated action" from which the involved perception, memory, thinking and attention can be investigated (Wertch, 1985). Therefore, in the network-based environment, the analysis will focus on the microgenetic domain, a local, contextualized learning process where learners incorporate the psychological tool (language) to mediate their activities.

2.2.2 Transformative Pedagogy

Transformative pedagogy, also known as critical pedagogy (Freire 1970; Giroux 1988; Cummins 1995, 2000a), arises from its reaction against the traditional perspectives of education which Freire (1970) called the "banking concept". In this banking model, learners are merely passive receivers who store the information and skills deposited by the teacher. Its major weakness, as Kanuka and Anderson (1999) specify is that, "It discounts the reality of the ambiguous, complex, and continually changing world in which we live (p.3)". In the long run, the result of this transmission type of education will only create learners with an inactive attitude to learning and little creativity. By contrast, transformative pedagogy stresses the construction of knowledge from the teacher-student interaction and students' collaborative
engagement in cognitively challenging activities. In addition, with its emphasis on the student as learner in the social context and knowledge as produced within a social context (Travers & Decker, 1999), the content of these activities originates from the learners' own lives and enables them to analyse and understand the social realities. As Cummins (2000b) maintains,

The focus is on constructing meanings, cognitive challenge, and dynamic support within the zone of proximal development.... The content for investigation and inquiry has social relevance related to the power structure in society. (p.2)

2.2.3 A Framework for Technology-Supported Language Learning

To apply network technologies in the language classroom, one must recognize the social origin and consequence of these tools or they will still be used in a structured manner (Travers & Decker, 1999; Warschauer, 2000). Dede (1996) characterizes the instructional features of technology-supported pedagogies from a transformative standpoint,

Analogical, case-based, learning by doing ... giving learners constructivist experience, facilitating comprehension and ability to generalize ... structuring group dialogue and decision making, facilitate collective activities. (P.13)

For the purpose of assisting English language learners (ELL) in mastering academic language, Cummins (2000a, 2000b) argues that the instructional focus must
be on meaning, language and use. He outlines a technology-supported framework for
academic language learning and intercultural exchange.

As illustrated in figure 2-1, maximum cognitive engagement and identity
investment within the interpersonal place can be fostered from the interactions
between teacher and students and among students. In other words, learning takes
place among the interactions of teacher and students, through which the students'
formulate their self-images, recognize their identities and their capabilities.

**Figure 2-1. A framework for Academic Language Learning**

In this framework, three instructional foci provide a general guide for
promoting cognitive development and identity investment within the teacher-student
interactions. The Focus on Meaning component directs the learners’ attention from
the surface level of comprehension to a deeper level of cognitive and linguistic
processing (Cummins, 2000b). A combination of experiential, literal, personal, critical,
and creative phases is essential for the development higher order of thinking and
literacy skills. In the Focus on Language component, the learner’s awareness is drawn
beyond the accuracy of language form to its use and power relationship and further
reinforces the students’ sense of identity. Within this scope, extensive written and
aural input, together with opportunities for writing and speaking, are the keys to
effective implementation of Focus on Language. The last component, Focus on Use,
stresses the importance of the opportunities for learners to express themselves through
the target language. Through the participation of network-based projects, the use of
the target language may become purposeful and authentic. The collaboration of
learners within or between classes, further motivates their on-line learning.

2.2.4 Electronic Literacy

A final guiding framework for the present study is the notion of electronic
literacy (Shetzer & Warschauer, 2000; Warschauer, 1999, 2000). Learning a language
through a network-based electronic medium is, in fact, an integration of language and
computer skills. While learning a language, students not only receive visual and audio
input, produce written and oral output through a computer, they also have to learn various technical skills to operate this medium efficiently. In line with literacy theorists, electronic literacy is viewed as a complex social practice. Furthermore, the instruction of electronic literacy is focused on apprenticing learners to interpret retrieved information and express themselves through the CMC medium. In other words, learners are guided into the discourse and social practice of the electronic medium and its community.

Shetzer & Warschauer (2000) outline three major areas of electronic literacy skills: communication, construction and research. The area of communication involves ways of effective communicating through various kinds of CMC media. The construction domain involves the transition to the use of hypertext, multimedia and collaboration, which is different from the traditional presentation of a linear essay accomplished by one single author. Finally, the field of research includes the skills of searching, viewing and evaluating the information source online. Given the implications of the electronic literacy approach, the authors suggest the involvement of the teacher as action researcher and students as co-investigators. Furthermore, their working environment, an electronic network-based environment, can facilitate collaboration and knowledge co-construction.
Summary

Thus far I have reviewed the studies that took place in a network-facilitated environment with different mediating technologies. As these technologies advance with time, it is important to ensure that they are used in a way that will indeed promote language learning rather than becoming gimmicks or instruments of controlling people. Therefore, I also provided reviews of associated theoretical frameworks that will guide the use of network technologies for the current study. These will be presented in the design of my research in the next chapter.
Chapter 3

Research Method

This chapter documents the method used in the present study. To begin with, I describe my pilot study; this is followed in the second section by research questions that came to be formulated. Section three describes the research design and section four describes my methods of data collection and how I have processed the data for analysis. In the end, I describe the outcomes of my study and address its limitations.

3.1 The Pilot Study

For the purpose of understanding the role of synchronous CMC in students’ learning of basic MOO commands and their perceptions about this medium for practicing target language, I conducted a pilot study which involved two high school students from Taiwan in an ESL MOO for three weeks. The two participants and I met twice weekly for an hour in each meeting, during which I taught them basic commands for communicating with others and navigating in the MOO. Sources of data in this pilot study came from e-mails and logs of synchronous communication in the MOO. From the logs of conversations that took place in the MOO, it was possible to see that the synchronous written exchange was the key vehicle that mediated the
participants' learning of the MOO environment and commands. In other words, both EFL students used English as the language to learn to communicate with others and navigate in MOO. The logged interactions demonstrated not only the mediating role of the written text in basic command learning but also the complex and dynamic nature of interaction and scaffolded help among the speakers. Students reflected on their MOO experience in e-mail, and considered the MOO as a useful tool for practicing English. They were able to review their own language use from seeing the texts on the screen. Students cited the following difficulties: keeping pace with the conversation because of slow typing speeds, and the interruptions caused by disconnections due to network breakdowns.

Although this pilot study showed the mediating functions of synchronous written exchange and briefly touched upon learners' viewpoints, its coverage was fairly limited due to the small scale of the tasks and number of CMC tools used. Therefore, for conducting a more comprehensive study, the research site was moved to another educational MOO where graphic web support and more synchronous and asynchronous CMC education tools are used. This study includes one major project with additional tasks conducted over an extended length of time. The scope of investigation was expanded with refined research questions, which I will present in the following section.
3.2 Research Questions

The purpose of this study is two-fold: (a) to document the process and products of EFL students' participation in an online project in an educational MOO; (b) to determine if their participation in this integrated CMC environment can enhance their experience of learning and using the target language. It attempts to seek answers to the following research questions at two levels:

1. At the micro level: How are the focus on language, meaning and use promoted in this integrated network environment?
2. At the macro level: What are the project members' viewpoints toward learning/using English through this collaborative on-line project?

Through the two-level inquiry, I expect to provide a holistic view of this network-based project work from the macro level through the eyes of the researcher and participants. I also expect to present the participants' dynamic interactions with their environment and with each other, and to show how they lead to the accomplishment of learners' personal goals and generate opportunities for language learning. For the purpose of achieving a contextualized understanding of the implementation of this project in the integrated networked environment, the methods of my investigation are situated in the paradigm of qualitative research. The following
section will introduce the methods of my research.

3.3 Research Design

The design of the present study reflects the qualitative orientation of inquiry. It aims to examine holistic, grounded, and participant-informed perspectives in order to account for learners’ language learning experience shaped by social, cultural and individual factors. In other words, the fundamental objective of the present study is not to test the effectiveness of MOO on foreign language learning through quantitative lenses. Rather, in a broader sense, the purpose of the present study is to discover how language learners interact with an integrated virtual environment through a collaborative project. Therefore, in reporting the outcomes, the progress of the research project, the context, and the participants’ words, actions and records are all carefully documented in the observation and documentation of the present study.

Established on a groundwork of constructivism and critical/transformative pedagogy, the design of my research situates myself within the culture group of investigation, through which I act as a participant observer, an in-depth interviewer, and a leader of the focus group. With the purpose of studying the culture of a particular learner group in the online virtual space, this study can be described as a micro-ethnographic study.
Developing since 1970s in the field of applied linguistics, ethnographic studies recognize language learning as an activity that is inseparable from its social context and hence focuses on the social meaning of language within the context of particular groups (Johnson, 1992; Davis, 1995). Employing a socio-culturally-oriented qualitative research method, as Warschauer (1998) remarks, is “especially helpful in examining students’ and teachers’ evolving attitudes or sense of identity in changing circumstances -- and attitudes and identity have been shown as critical components affecting language learners’ use of computer” (p. 758).

3.3.1 Provisions of Trustworthiness

To increase of reliability and validity of my investigation, data triangulation was carried out through multiple methods of data collection. My research journal, the original interview transcripts, the field notes, and the unitized data all contribute to the audit trail (Lincoln and Cuba, 1985) for documenting the progress of my study and judging the trustworthiness of the outcomes. The process of data collection, which strictly adheres to the steps approved in the ethical review, is described in detail. Reporting of outcomes is also documented in a comprehensive manner to support the credibility of the study.
3.4 Methodology

Data collection for the research reported in this thesis was carried out in the summer of 2000. The section below describes the arrangements and procedures to collect data for the present study.

3.4.1 Sampling Strategy

The sampling strategy for the current study adopts purposive sampling, which "acknowledges the complexity that characterizes human and social phenomena and the limits of generalizability" (Maykus & Morehouse, p. 56). The participants in this study were selected on a volunteer basis. I first contacted a college teacher in Taiwan who had been bringing his students to the MOO for three months. The students in his freshman English classes were informed about the study by the teacher through distribution of information about the study and a consent letter prepared in Chinese and English (See Appendix B). All the students were notified that the study would take place during the summer vacation so that their decision to participate would not affect their scores in the English class. Finally, those who were willing to participate in this study returned the consent form to the researcher. Therefore, the study come to include six college students chosen from two freshman English classes in Taiwan.
3.4.2 Data Collection Method

For the present study, I employed multiple data collection methods that not only fit the purpose of data triangulation but also to reflect the "indwelling"5 nature of a qualitative study. Instruments for data collection can be classified as general data set and in-moo data set.

General data set. This category involves the source of data collected from the instruments other than MOO. It includes a questionnaire, e-mails, and a research journal kept by me.

1. A questionnaire: This was used for the purpose of gathering information about learners' experiences in learning English and their background knowledge in using computers. The questionnaire was sent to the participants prior to the commencement of the project through e-mail. A sample of this questionnaire can be found in Appendix C.

2. E-mail: This was the only asynchronous communication tool outside the MOO environment. It was primarily used for transferring images. Since all of the personal images must be stored in a web space for display in the MOO, the

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5 Indwelling, as Maykut and Morehouse explain, "means to exist as an interactive spirit, force or principle - to exist within an activating spirit, force, or principle. It literally means to live within. Perhaps this dictionary definition can be translated for naturalistic inquiry to mean being at one with the persons under investigation...". (p.25)
participants who did not have their own web space were required to send their
selected images to me via e-mail in order to have them uploaded to a public
web space. E-mail was also used as an alternative to 'MOOmail' when this
feature was disabled due to technical problems.

3. Research journal: This contained detailed descriptive fieldnotes written after
MOO sessions by the researcher to keep track of the progress of the research
project and activities of the participants.

In-MOO data set. This set of data was generated by the participants from their
activities and interactions within the MOO. It can be further separated into four
groups according to the difference in purpose and instruments of data collection.

1. MOOlog: Provides two important activity records of the participants. The
record of the participants' actions can be traced by the keystrokes and mouse
clicks performed by the participants while they are viewing, building objects or
interacting with the environment; the records of synchronous communications
(chat) are also logged by the system. The logs are stored in a
password-protected server and can only be viewed by the researcher. For a
sample of MOOlog, please see Appendix D.

2. MOOmail: An internal mailing system within the research site. This tool
provides records of asynchronous communications between the researcher and
the participants and records of public announcements sent to the mail list. All
the mail records, except the private MOOmail exchanges among the
participants, can be accessed within the MOO.

3. Descriptions and images of objects and rooms: The descriptions of rooms and
objects written by the participants not only represent the physical appearance of
items in the MOO but also provide a record of the participants' integration of
their written products and images. Sample room descriptions are provided in
Appendix E.

4. Interview: The interview with the participants was conducted in the last week of
the project as a discussion session. An interview guide was prepared for
directing the discussion (See Appendix F), in which I acted as the moderator of
the session. During the discussion, flexibility was also allowed for emerging
issues and topics during the discussion.

3.4.3 Data Analysis Procedures

My approach to data analysis was coordinated with the interpretive and
descriptive features of my research. I begin with a "funnelling" (Jacob, 1987)
approach that proceeded from a general observation of the MOO environment and
project tasks to more focused speech events. In selecting units of analysis, my focus
was on goal-directed activities which include speech events and learning tasks
(Wertch, 1985). Furthermore, for the purpose of rendering a rich and believable report of the outcomes, I adopted several strategies following the suggestions of Markut and Morehouse (1994) and Bogdan and Biklen (1998) to weave together the data collected from descriptions, participants' personal words, system logged data, and my own fieldnotes.

As recommended by Markut and Morehouse (1994), my data analysis started as an early and on-going activity of my research. This not only allowed me to be aware of the emergent themes of my study but to cope with the bulk of data generated along the progress of the research project. Each week, I reviewed the data that came from my data collection instruments. The log of participants' activities, their text and image productions, were highlighted, coded and referenced to my own fieldnotes with my observer's comments and occasional noting of emerging themes and patterns.

Provisional categories⁶ were created for the coded data, but revisions were also performed after revisiting data. In addition, possible quotations were highlighted with emerging patterns and results that might be relevant to the final report and discussion of outcomes.

⁶ Bodgen & Biklen (1998) distinguish different categories of coding: setting/context codes, definition of the situation codes, perspectives held by subjects, subjects way of thinking about people and objects, process codes, activity codes, event codes, strategy codes, method codes, relationship and social structure codes, and pre-assigned coding systems (p.171–p.177).
3.4.4 Report of Outcomes

To introduce and verify the assertions of the study, I present the outcomes in the manner of “thick description”, through which general descriptions provide the patterns demonstrated in the corpus of data and particular descriptions provide evidence of events from a valid analysis (Ericson, 1986). I provide narrative descriptions of events and selected quotations according to my general and in-MOO data sets. As a researcher immersed in the research site, I report this study from an *emic* (insider’s) perspective. While interpreting data, I first present my brief assertion followed by sample data, then offer longer comments and explanations from theoretical standpoints which link to the more general significance of assertions or patterns. As Davis (1992) suggests, the interpretations of my general assertions will then “lead to a comprehensive discussion of the overall (grounded) theory produced by data collection and analysis. (p.448)”

In brief, my research methodology reflects the characteristics of qualitative, ethnographic research. My research participants are selected from purposive sampling. Data triangulation is utilized from multiple sources in the manner that strictly adheres to the ethical guidance. In reporting the outcomes, I provide rich, detailed descriptions of activities or events supported by quotes from my data sets which are processed according to the conventions of qualitative research.
Nevertheless, I also acknowledge the limits in generalizing the outcomes of my study due to the nature and design of qualitative research (LeCompte & Pressle, 1993).

On the other hand, the strength of my study lies in the detailed understanding of the particular group that it focuses upon. In addition, the context-rich, interpretive orientation of my report provides a basis for comparison and allows my readers to surmise the possible relevance to their own research or pedagogical interests. In other words, the readers of the present study are those who will determine whether and how to apply the conditions described to another situation according to their own contextual similarities.
Chapter 4

Project MOOseum

In this chapter, my intention is to provide detailed contextual information for the current study through descriptions of the project including such details as the setting of the project site, the content, participants, and timeline. The provision of context-rich narratives for the present study is a fundamental recognition of the assumption that “everything has its potential of being a clue that might unlock a more comprehensive understanding of what is being studied” (Bogdan & Biklen, 1998, p.6).

4.1 The Setting

The MOOseum project took place in an educational MOO named Project Achieve. All the project-related activities were carried out in this MOO. Therefore, in order to understand the participants’ activities in the project site in detail, I will introduce the physical environment of Project Achieve in this section. First of all, figure 4-1 provides a complete map of main areas in Project Achieve:
The Achieve MOO contains several areas: The Achieve Center is the first stop for all the new members and those who do not have their own personal space; Project Sites connect several major projects that have been conducted in this MOO; The Hangout is a public area with a simple game of darts; Learning Resources has samples of generic objects and some programming tips; Project Planning contains guides for preparing project proposals; the administrative personnel reside in Administration;

---

This map only represents the location of areas in the summer of 2000. A few modifications have been made and new sites and objects were added afterward.
and finally, four residential places, Greensward, Into the woods, The Heath and Lakeside, are prepared for members to create their personal spaces.

On this map, I highlighted three major areas where most of the activities of the current research take place. (1) The Heath: this is the area where I built my own home - Miao’s house, a unit resembling one’s personal home and connected to two other rooms. The Study Room contains some MOOing guidance and message boards and is also the place where weekly meetings of this study’s project group took place. The Language Clinic is prepared for project members to post their language related issues or questions. (2) Lakeside: due to the full occupancy of the Heath, the participants of the MOOseum project are advised to build their own homes in Lakeside, the fourth residential area of this MOO. (3) Project sites: this is where the MOOseum located. The MOOseum is a four-floor building where the participants are asked to place their own exhibition rooms.

4.2 The Participants

Six college students, five female and one male participated in the MOOseum project. The five female students were classmates and the male student was from another class taught by the same English teacher. All of them had learned some skills of MOOing in another text interface-based MOO for about four months in their
Freshman English class in Taichung city, Taiwan. All of their real names have been replaced by pseudonyms, which are the personas they choose in the project MOO.

1. Lin: He started learning English at the age of 9 and has continued to do so for the past 11 years. He has a Pentium level computer with Windows 98 operating system and Internet Explorer as web browser. His computer skills include: E-mail, web-browsing and playing Bulletin Board System (BBS) and MOO.

2. Tsai: She began learning English in junior high school and has been studying for 7 years. She has a Pentium level computer with Windows 95 and Internet Explorer. Her computer skills include e-mail, browsing web pages, playing MOO and BBS.

3. Yeh: Her English learning started from the age of 12 in junior high school. Her Pentium level computer runs Windows 95 operating system and is equipped with Internet Explorer as web browser. Her computer skills involve e-mail, browsing web pages, and MOOing. She also likes playing adventurous, role-playing games (RPG).

4. Yu: She started learning English in the third year of elementary school and has been studying for 11 years. Her Pentium level computer runs Windows 95 with Internet Explorer as web browser. She uses her computer for e-mail, web-browsing, using
BBS and MOOing.

5. Chen: She began learning English at the age of 12 and has been learning for seven years. She has a 486 computer running Windows 98 operating system with the Internet Explorer browser. Her computer skills include e-mail, web-browsing, playing BBS and MOO.

6. Ko: She has been learning English for seven years. In addition to the regular school lessons, she also considers MOO as a place for English learning. She has a Pentium level computer running Windows 95 and her web browser is Internet Explorer. She uses her computer for e-mail, playing BBS, browsing web pages, and MOOing.

4.3 Educational Tools

Educational tools in MOOs can be used for maintaining conversational coherence, making resources available, and managing presentations (Scheweller, 1998). In project MOOseum, educational tools not only fulfill these needs, but they also serve the functions of providing different means of communication and maintaining the integrity of the online community. These tools, as Scheweller (1998) suggests, are designed so as to resemble real-world objects. In this section, I will introduce a group of frequently used education tools in the MOOseum project.
1. Channel: A synchronous communication tool that allows the users of the channel to speak with each other without being in the same room. Therefore, one can stay in his or her own room and talk to people in different locations at the same time. In Achieve, all the project members can choose to speak on two channels, beam, a public channel for all members of Achieve, and MOOseum, a channel specifically opened to members of MOOseum project. Here is an example of a conversation I had with Lin while speaking on the MOOseum channel from different rooms. In this dialogue, the [+][MOOseum] marks the channel in which one is currently speaking.

```plaintext
[+][MOOseum] Miao [to Lin]: You want to connect the fire room to MOOseum, right?
[+][MOOseum] Lin nods.
[+][MOOseum] Lin nods to miao.
[+][MOOseum] Miao [to Lin]: Then type @dig (entrance.name)! (exit.name) to #2072, think of the name yourself.
[+][MOOseum] Miao [to Lin]: Got it?
(In Fly with the fire!) Lin types: @dig Fly!'!mooseum to #2072
```

However, to prevent the participants' confusion of Channel use with other basic commands for synchronous communication, the MOOseum channel was not open to the project group until the third week when each member was familiar with the basic commands.

2. Answering machine: a message logging system that saves paged messages in ones'
storage space when the user is not on-line. The saved message is displayed to the recipient on his or her next entrance. This asynchronous communication tool delivers short messages in a convenient way. Here is a sample of a saved message:

The following messages were undeliverable to you while you were asleep and were recorded on your answering machine.
---
Received Tue Jul 18 12:31:32 2000 EST:
A large Jackfruit cake from Lin is flying fast toward your face.
Duck! "o"
He pages, "take care :) bye bye :)
---
To review your saved messages, type: review

3. Recorder: this tool logs the conversation in the room where the recorder is placed.

The recorder in the project is used for keeping track of each meeting so that those who were not able to attend can check the logs saved in the recorder object. A logged conversation appeared as follows:

Start log: Saturday, July 8, 2000 11:17:23 am Achieve time --

Miao says, "Now we have had everyone, meeting start."
Miao smiles.
Miao says, "Ok?"
Ko nods.
Yeh nods.
Chen says, "hi"
Yeh [to Chen]: hi :)
Miao says, "For Yu, Lin and Tsai, we will keep this meeting record for them. Ok?"
Ko nods to Miao.

Miao says, "Good. Then meeting is over and you can do your thing now."

-- End log: Saturday, July 8, 2000 1:21:40 pm Achieve time --

4. Generic note board: this board generates a new note on it when one posts a new message. Using this function, I created a Bulletin Board in the study room for displaying new tasks and notices. Users simply need to click on the displayed note for viewing its content. They can also add new notes to it. Another example of the note board is the discussion board located in the language clinic. This board, as demonstrated in Figure 4-2, is prepared for users to post questions and answers.

**Figure 4-2. A Discussion Board Made from Generic Note Board.**
5. Generic public writable note: Instead of generating separate notes, this object presents all the messages posted by its user on a single page. Its function is similar to the note board described above in that they both provide space for asynchronous message exchange, even though these two objects may be used in different ways. Therefore, it is the real life object characteristics and image assigned to the object that makes the difference. For example, a guest book in Chen's nest is made from the note, as demonstrated in Figure 4-3.

Figure 4-3. A Guest Book Made from Public Writeable Note

6. MOOmail and mail list: This internal mailing system allows every member of the MOO to access their moomail box through GUI regardless of his or her location in the MOO. In particular, a mail list called MOOseum is created for members of the MOOseum project. Therefore, issues and announcements specifically addressed to
Chinese shield.

Chinese and English help, respectively, Figure 4-5 displays the look of the
are supported in the C# of this MMO. I prepared two bookshelves which contain
their own progress or problems encountered. Since traditional Chinese characters
placed on a bookshelf. Each participant can consult these help files depending on
notes are organized as chapters within books on different topics which are then
MMO such as commands for communication, training and managing objectives. These

7. Instructual notes: stores the guidance for different types of useful skills in the

![Diagram](image)

**Figure 4-4. The MMO mail system and MOOs: mail list.**

Mail system and mail list.

The project group can be seen in this list. Figure 4-4 demonstrates the look of the
Figure 4-5. The Chinese bookshelf

This shelf contains all the help manuals and tapes written in Chinese. Your browser must support Traditional Chinese Big5 Code order to read these books.

8. Web-projector: This tool utilizes the web page integrated feature of GUI. It allows the user to view the content of certain web sites prepared by the owner of this object. Therefore, the name of this educational tool, web-projector, implies its capability of presenting content of other web sites within the GUI enhanced MOO.

In Figure 4-6a, I prepared a ‘video tape’ made from the web projector. Then, in Figure 4-6b, I demonstrated an imported web page following the instruction specified in Figure 4-6a. This page contains the Chinese and English instructions for setting one’s personal information in the MOO.
In summary, the educational tools used in the current project not only meet the purpose addressed by Scheweller (1998), they may also help to create a sense of community through self-sufficient communication systems that use different forms of synchronous and asynchronous communicating tools. If properly designed and arranged, these tools may also facilitate the project members' work by supplementing helpful information and reducing potential difficulties in communications and object use. In the next section, I will describe how the project environment, the participants, and these educational tools are put together in a 10-week long summer project.
4.4 Project Objectives and Timeline

Held in the summer of 2000, the MOOseum project involved six college students from Taiwan. As explained in the letter of consent, their mission was to create their own personal rooms and objects and then at the end product of their project, to create an exhibition space to display their lives and interests.

4.4.1 Pre-Project Meeting

Before the commencement of the project, the project members and I had our first group meeting. During the meeting, we developed ways to communicate on a regular basis. We decided to have a weekly meeting on Saturday for reviewing the progress of their task completion or their project work. I would log into the MOO on weekdays from ten to twelve a.m. Eastern time, which is equal to ten to twelve p.m. in Taiwan. My presence in the MOO was mainly for assisting the participants with their weekly tasks or project work. The participants could choose to visit the project site at any time of the day at their convenience. Furthermore, they decided to form groups of two for the purpose of providing mutual support during the project. Therefore, Ko and Yu, Lin and Tsai, Yeh and Chen became partners.
4.4.2 Timeline

The MOOseum project was carried out during the participants' summer vacation from the first week of July till the end of the second week in September. The first part of the project, from Week 1 to Week 3, was designed to allow the project members to become familiar with the GUI-based MOO environment and create their own identities and space through weekly tasks. After entering the second part of the project from Week 4 to the final week, their mission was to continue the construction of their personal room and a theme room in the project site, MOOseum. Since the timing of the MOO project overlapped with the participants' summer vacation, their participation was also affected by the real life activities that they engaged in. In Table 1, I offer an overview of weekly tasks. In addition, advanced notice by project members identified, a list of their real life activities which had the potential to affect their participation in the MOOseum project and these were noted in an activity log in Table 4-1.

Summary

In this chapter, I provided detailed contextual information about the MOOseum project by describing its environment, the people engaged in this project, the mission, tasks and timelines for the ten-week time span. In the next chapter, I will go further
into the qualitative analysis of collected data from the MOOseum project.

Table 4-1. Weekly Schedule, Tasks and Active Log

<table>
<thead>
<tr>
<th>Week</th>
<th>Tasks</th>
<th>Activity log</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>• Scavenger hunt 1* – visit three main project areas</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Set self-description and icon</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Subscribe to MOOseum mail list</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Make a personal house</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>• Scavenger hunt 2 – visit other people’s homes</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Practice object making</td>
<td></td>
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<tr>
<td></td>
<td>• Decorate personal house</td>
<td></td>
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<tr>
<td></td>
<td>• Sign the guest book in each member’s place</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>• Scavenger hunt 3 – visit other project sites in Achieve</td>
<td>• Ko: High school camp (Jul 14–18)</td>
</tr>
<tr>
<td></td>
<td>• Continue home decoration</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Prepare project room</td>
<td></td>
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<tr>
<td>4</td>
<td>• Project room construction</td>
<td>• Lin: English camp in UK (July 27–Aug 29)</td>
</tr>
<tr>
<td>5</td>
<td></td>
<td>• Yu: Music camp in US (July 30–Aug 25)</td>
</tr>
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<td>8</td>
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<tr>
<td>9</td>
<td>• Final meeting: Review and discussion</td>
<td>• Ko: High school camp (Jul 20–25, Aug 1–10)</td>
</tr>
<tr>
<td></td>
<td>• End of project</td>
<td>• Chen and Yeh: trip to other city (Jul 25–29)</td>
</tr>
</tbody>
</table>

* Sample of scavenger hunts from Week 1 to Week 3 is provided in Appendix G.
Chapter 5

Outcomes

This chapter reports the outcomes of the MOOseum project in three sections. To begin with, I report the participants' activities in the project site during the 10 weeks by describing their progress in completing tasks in the MOOseum project. In the second section, in reporting the results of qualitative analysis conducted for answering my first research question, I describe the general patterns according to focus on meaning, language, and use. In the last section, I report a discussions session in which the project members shared their viewpoints in relation to their participation in this project.

5.1 Progress in Task Completion

This section describes the progress of the MOOseum project according to the project members' weekly participation, their activity records, and their written products in the project site. This section is divided into two parts: Part one focuses on the learning stage from Week 1 to Week 3 in which the weekly tasks are assigned to the participants. Part two focuses on the remaining weeks in which participants spent their online hours constructing their own space and objects.
5.1.1 The Learning Stage – Week 1 to Week 3

Lin He finished his own character and message settings, created his first personal room called Lin’s fantasy which linked to Lin’s Kingdom contained a rose garden, as well as two other theme rooms with no objects. However, he did not submit the answers to any weekly assignment. It was known during late Week 3 that this was due to his absence from the first 3 weekly meetings and the fact that he failed to check the bulletin board. When he was logged into Achieve, he liked to approach others. In speaking with other MOO residents, he would ask questions related to the usage of English words. In interacting with project members, in addition to casual greetings to others, the MOOlogs showed that he interacted most with Yu.

Tsai She prepared her character setting and accomplished her answers to Week 1 tasks on time. She also created her personal room and 4 objects. However, due to her personal schedule, she had few chances to come to Achieve at the designated time where she would have had a better chance to meet with me and with fellow members of the project. Therefore, the MOOlogs showed that she often came to the project site in the afternoon when no other members were online. Although MOOlogs showed that she did explore different residential areas in Achieve as directed in the Week 2

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* The personal message setting including messages of sending and receiving paging message, message shown to the sender when the user in not on line.
tasks, she did not submit the assignments for Week 2 and Week 3.

*Yu* She prepared her character description and messages, created 3 personal rooms, Yu's cabin, a small garden, and music sky which contained 13 objects in total. In addition, she also accomplished the tasks for each week and submitted her answers through MOOmail. Since she came to Achieve almost every day and spent her time doing assignments, she also had more chances to meet other project members and communicate with them in real time. While speaking with me and the other project members, she often explicitly expressed her interest in the MOO and the tasks by saying, “I like MOOing.” “It is fun”, or “I learned a lot.” “That is interesting.”

*Ko* She set up the description and related messages of her character in Achieve. She also built a personal room with no text but an image and a guest book object. She accomplished the assignment for the first week but did not submit the following two. Although it was shown on the MOOlogs that she did try the Week 2 tasks, she did not finish them on time because she spent most of the time during this week talking about aspects of her personal life which seriously affected her mood. She also could not accomplish the Week 3 tasks because she had left for her high school camp where computers were not accessible. Later after returning to Achieve during the interval between her school camps, she decided to skip the tasks.
Yeh  She set up descriptions for herself soon after the first week started. Her efforts to try Week 1 and 2 tasks could be seen in the MOOlog but she did not turn in any assignments. Although she learned how to create rooms and objects very quickly, she recycled her trial objects and did not make any other objects after that time. In addition, she did not write any description for her personal room. Even so, she maintained her attendance at the weekly meetings and visited other project members’ room every week.

Chen  She finished preparing the descriptions and messages for her character. In addition, she completed the tasks assigned from Week 1 to Week 3. During these weeks, she made a nest for her character, a bird, and other animal friends. She also proposed a dream place for cats with different personalities as her next step. When she was on-line, in addition to her presence on the MOO using the GUI, she usually logged on through the text-interface in order to avoid the longer wait time that one sometimes experiences through the web interface. She often encountered connection problems due to the speed of her own lower-level computer and the Internet. However, this did not seem to affect her work in the first 3 weeks. Since her partner, Yeh, did not come to Achieve as often, she usually came to me, Yu and Lin to talk about the project, and to Ko to talk about life matters.
5.1.2 The Construction Stage – Week 3 to Week 10

At this stage, it was up to the project member to control the pace of creating rooms and objects. However, because all 6 project members were engaged in different affairs in their real life, chances for them to meet as a group or in pairs decreased.

Lin

Lin left for summer camp in Europe during Week 4 and did not return until Week 9. During his absence from Achieve, his chance of using the Internet was extremely limited due to his schedule and the accessibility of computers. In his first visit to Achieve after coming to Taiwan, he sent mail to the MOOseum mail list to announce his return. After that, he devoted his MOO time to visiting other members’ places, refreshing his memory of commands and speaking with Yu, Chen and Ko.

Overall, Lin created 35 objects.

Tsai

She maintained one to two visits every week from Week 4 but did not create any more objects during that time. While visiting Achieve, she usually visited rooms prepared by other project members or occasionally spoke briefly with them. I found out later from our conversation that she considered her difficulties in finding a convenient time to meet other project members led to her lack of interaction with and support from them, and this further influenced her commitment to the project. She did not come to the final discussion meeting and she created 9 objects in total.
Yu  As Week 4 started, she created a diary based on a public writeable note and started to prepare a theme room and objects in the MOOseum for recording her upcoming summer camp. She left for camp at the beginning of Week 5. With the Internet access provided in the local library, she came to Achieve in her leisure time and recorded the events. Occasionally, she chatted with Chen and Ko if they were online at the same time. After returning to Taiwan in Week 8, she started to create objects, organize their placement in the room and attach images to them. By the last week of the project, her theme room was filled with objects and she had essentially recreated her summer camp in the MOOseum. In total, Yu made 64 objects in her 10 weeks of participation.

Ko  Returning to Achieve at the end of the 6th week, Ko spent another week talking about the new friends that she had made. A week later, she tried making two objects with my guidance but decided not to finish her unaccomplished tasks. Although she decided on a topic for her theme room in MOOseum in Week 7, she had difficulty thinking of ways of presenting her ideas in the space. In the following week, Ko spent most of her time learning about the processing and uploading of her pictures from me; she managed to upload her photos to the space on the server but still had no idea how to present it. Therefore, although she kept expressing interest in constructing her MOO space, she continued to spend most of her time chatting in the MOO, talking
about her ideas and daily life. By Week 10, she decided to use the ideas she collected as the basis for her theme room and postponed the due day till Christmas. Ko created 15 objects in total.

_Yeh_ She maintained her constant appearances in the weekly meetings and visited the rooms made by other project members every week. Although I offered some personal guidance to acquaint her with the project site, she still expressed her concern about not being able to perform well. In addition, her online hours were mostly spent in another MOO where she needed to be in touch with a friend. Therefore, she maintained her quiet existence until the end of the project but did not participate in the final reviewing session. She made 3 objects in total.

_Chen_ Continuing her idea from Week 3, she made a room with toys for cats. In addition, she prepared a diary and wrote it with her MOO character, her real life character, and characters of the cats she made. After finishing this room, she started designing a small restaurant in Week 7 and started placing different kinds of food and drink objects in it. Later in Week 8, she finished setting descriptions, uploading images and adding Chinese names to these objects. After finishing both rooms, writing the diary became the major activity in her visits to Achieve in the last 2 weeks. Her total number of objects was 61.
5.2 The analysis

Research question: How are the focus on language, meaning and use promoted in this integrated network environment?

My examination of the MOOseum project at the micro level is conducted from general observations of weekly tasks and daily moo sessions to a more focused study of participant activities and speech events. This "funneling" methodological process (Jacob, 1987) allowed me to focus on a specific participant goal directed activity as a unit of analysis. I also adopted a "constant comparative" method (Maykut & Morehouse, 1994) through which I categorized and placed my labeled data into different digital file cards¹⁰ on an ongoing basis. The use of digitalized file cards rather than the traditional paper card set allowed me to sort my data according to the fields I set with ease and accuracy. In order to perform subsequent data inclusion and exclusion for each category, I prepared rules of inclusion which are also known as propositional statements¹¹ (Maykut & Morehouse, 1994, citing Lincoln & Guba, 1985).

¹⁰ FileMaker Pro 4.0 v1 1984–1997 Claris Corporation
¹¹ Propositional statements "make the shift from categorizing units of meaning, to preparing a statement that reflects the collective meaning contained in the cards within each category." (Maykut & Morehouse, 1994, p.140).
Table 5-1. Categories and Propositional Statements

<table>
<thead>
<tr>
<th>Categories</th>
<th>Propositional Statements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Focus on Meaning</td>
<td>A combination of development in higher order thinking and literacy skills involving experiential, literal, personal, critical and creative phases.</td>
</tr>
<tr>
<td>Focus on Language</td>
<td>Learners' awareness is drawn beyond the accuracy of language form to its use and further reinforces students' sense of identity.</td>
</tr>
<tr>
<td>Focus on Use</td>
<td>Opportunities for learners to express themselves through the target language purposefully in authentic situations.</td>
</tr>
</tbody>
</table>

As presented in Table 2, three major categories were established to answer the research questions targeted at micro level. The establishment of these categories is based on Cummins' work (2000a, 2000b). These three categories are set to examine the opportunities for language learning afforded in the MOOseum project. Therefore, guided by my research question, the report of my analysis is presented as follows:

5.2.1 Focus on Meaning

This element emphasizes the importance of meaning and messages for language learners. Through project-based learning, it is hoped that participants "gain access to comprehensible input and use higher-order thinking skills to transform this input into critical literacy (Cummins, 2000b, p.542)" through the following 5-phase process:
In the *experiential phase*, the main objective is to activate prior knowledge and build background knowledge (Cummins, 2000a). In the MOOseum project, this goal was achieved by having the project members prepare the descriptions and images of themselves. Figure 1a and 1b display the samples of character descriptions prepared by Tsai and Yeh.

![Fig. 5-1a. Tsai's self-description](image)

![Fig. 5-1b. Yeh's self-description](image)

As demonstrated above, the descriptions were written by the participants themselves either through GUI or text command based on their prior knowledge of basic commands learned at school. Moreover, the new experience of using an image to represent oneself provided them the fundamental idea for using graphic and text-integrated representation for space and objects in this GUI based site. More

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12 Throughout the thesis, the samples of participants' work are presented the way they appeared online in the MOOseum Project. Errors have not been corrected.
samples of the participants' character setting can be seen in Appendix H.

In the *literal phase*, project members were guided to attend to the information contained in the text (Cummins, 2000a). This was made possible by the weekly scavenger hunts that took the participants to the major areas in Achieve. Excerpt 1 displays sample answers to the hunt in Week 1 by Ko:

1. Miao's house
   Miao's place
   1. There are 4 ASCII pictures.
   2. Shu is a lovely squirrel. He is in charge of recording meetings and important discussions in this study room.
   MOOseum Achieve
   3. There are 3 floors in the building.
   4. They are Gourmet Planet and Gallery, and they are on first floor.
   5. There are 3 dishes here. The second one is invented by Miao's husband.
   Tip: Remember to take off the gill of salmon.
   6. There are 11 items in the refrigerator.
   7. I like Catch, Walking with the cans, and Ride, because these pics looks so cute, and they let me think about childhood, childhood is sweet, no trouble, just playing, laughing and happy, and the pics are so funny, I like them.

Through answering the questions about the contextual facts of these areas, the project members have to process the textual information of rooms and objects.

Furthermore, the experience of visiting different rooms and examining different objects further prepared them for the creative work ahead. More sample answers to the hunt questions can be seen in Appendix I.
In the *personal phase*, the purpose is to enhance the participants' understanding of the textual information by encouraging them to relate their own experiences and feelings (Cummins, 2000a). In the MOOseum project, the participants were encouraged to visit each other's room and encouraged to sign each other's guest books. The following excerpts displays the messages written on Yu's guest book,

2. Hi!! Yu
   I like your cabin!!
   The flowers are beautiful! :) 
   keep it up!!
   Tsai

   It's my pleasure to take a visit to your cabin. 
   Many cute flowers! Good job! °°
   I believe you will make here more and more beautiful!
   Lin °°

   Dear Yu:
   Wow! This is a warm place. I like the picture you put. What the cute flowers. oh~ I hope I also have a cabin. So loving place.
   ~°°~Chen

   Not only could the participants relate their personal experience and emotions, they could also produce meaningful output in interacting with others in both synchronous and asynchronous modes. The following examples illustrate Chen's description of her idea using both the asynchronous medium of MOOmail and the synchronous medium of chat.

3.
   Dear Miao,
I have another thinking about the project. I want to create a Cat’s House. To create many cats there, and each cat has own personality and interesting name. I will discuss with Yeh. And you are interesting on it. Maybe you also can give me your opinion.

4. Chen says, “I have a plan to put the cats on my home.”
   Yu smiles.
   Yu says, “sounds great.”
   Chen purrs at Yu.
   Chen says, “I have to work that..now.”
   Chen says, “so see you~”
   Yu nods.
   Yu says, “go ahead…”

In the critical phrase, the objective is to foster learners’ analysis of issues or problems arising from the text (Cummins, 2000a). For participants in the MOOseum project, after visiting different spots in the project site, they are asked to choose the rooms or places that impressed them and share their opinions about the design of spaces and objects and the messages that the owners tried to convey. From critical reflections, the project members make judgments and generate their own concepts for the design of their ideal space and objects.

In the creative phase, the focus is on realizing the knowledge and learning accumulated by the participants in their production (Cummins, 2000a). The project members’ personal spaces are the products of this phase, as Yu’s Cabin and Chen’s Nest demonstrated in the next page.
In the MOOseum project, the mission of construction was assigned after the project members activated their prior knowledge, became familiar with the environment and tools of the project site, and established their own plan for their own further production. With these preparations, the objective could be achieved by the participants' creation of rooms and objects in the project site. More samples of the project members' productions are provided in Appendix I.

A well-constructed personalized space also allowed project members to immerse in themselves in their new roles in this virtual environment and provided further
opportunities to celebrate their accomplishments. In the following excerpt, Lin
showed Yu his newly finished personal room, Lin’s Fantasy. In this room, he also
acted as one of his newly created objects, a bodyguard, to interact with Yu.

5. Lin (in Lin’s Fantasy) types: @invite Yu
   Yu (in Yu’s Cabin) types: @join Lin
   Lin hugs Yu.
   Yu says, “wow! you change here a lot.”
   Lin says, “welcome! ^o^”
   Lin nods.
   Lin says, “I just finished them.”
   Lin says, “they are very new.”
   Yu says, “It is fun. :)”
   Lin smiles.
   Lin says, “have fun here! ^o^”
   Yu views Bodyguard.
   Yu views Jitanic.
   Lin drops guest book.
   Yu says, “Your bodyguard is also very interesting. :)”
   Yu smiles.
   Lin says, “yup, he was born yesterday.”
   Yu says, “I feel yours are full of creativity. You do better
   than all of us.”
   Lin asks, “really?”
   Yu says, “Yes, it is true. :)”
   Lin says, “btw, my bodyguard say he want to make friends with
   you.”
   Yu says, “sure.”
   Lin sees his bodyguard hugging Yu.
   Lin says, “oh! boy! he is as romantic as I, Gee!!!”
   Lin pats his bodyguard onna head.
   Yu hugs Jackosaur.
   Yu grins.
   Lin sees Jackosaur grins at Yu.
   Lin says, “it seems he likes you :)”
In brief, in the process of completing tasks and constructing a personal world in the MOOseum project, the project members' attention was lead from comprehending the meaning and message to a higher level of planning, evaluation and creation of their own world. Therefore, the participants played the roles of a recipient, a judge and a producer of information and knowledge.

5.2.2 Focus on Language

The component of focus on language encompasses the instruction of the form and function of language and the promotion of critical inquiry into the use of language in different social situations (Cummins, 2000a, 2000b). This component is most effective in the context where extensive opportunities for receiving input and producing output in the target language are created (Swain, 1993). The following reported analysis is organized according to the activities of collaborative inquiry from the focus on language component suggested in Cummins (2000a, 2000b)

The Structure of Language

Due to the reliance on the written message as the major form of communication in MOOs, the structure of the language system (e.g. spelling, grammar, vocabulary) became one important topic for collaborative inquiry. The following excerpts
illustrate a common issue of concern – error correction.

6. Miao asks: "Is Angle a HE?"
   Chen says: "I did wrong."
   Chen will change.
   Miao smiles.

7. Miao sees: (from afar) Ko grins.
   Miao (in Riddle 4) pages Ko: You need the S after verbs.
   Ko sees: (from afar) Miao smiles.
   Miao sees: (from afar) Ko grins.
   Miao (in Riddle 4) pages Ko: "yeah, good."

   Error correction could be initiated by me, as shown in Excerpts 6, where Miao pointed out Chen's misuse of the masculine pronoun in her description of the object, Angel. Then, in Excerpt 7, Miao explicitly told and demonstrated to Ko how to add a third person S after verbs. In addition, the correction of errors happened between the project members, as demonstrated in the next excerpt. In Excerpt 8, Yu corrected a typing error of Ko's through a recast:

8. [+][MOOseum] Ko says, "ok last night I see my school timetable oh my god"
   [+][MOOseum] Yu says, "timetable :)
   [+][MOOseum] Ko smiles.

   Project members also corrected the errors found in my messages. In Excerpt 9, Yu questioned Miao’s inconstant use of gender pronouns in her prior statement about another project member.
9. Miao says, “I will tell her to stop by when he comes up.”
   Yu asks, “he? her??”
   Miao says, “OH, him. Sorry.”
   Miao smiles.
   Yu smiles.

As project members felt comfortable with error correction and saw it as a way
of helping self-expression and improving English use, they actively asked for

   correction from others, as demonstrated in the next two excerpts.

10. Yu says, “Can you give me a favor?”
    Yu asks, “If you find mistakes in my diary, could you please
tell me how to change?”
    Yu says, “I mean you can correct them.”
    Yu says, “because I know when I wrote in English, I can't express
all feelings and don't know how to express.”

11. Chen (in Tsai's Bungalow) pages Tsai: hello!
    Tsai (in Miao's House) pages Chen: hello!! :)
    Chen (in Chen's nest) pages Tsai: I wrote on your guest book
    But I made a mistake! would you please correct it..when You have
time..Thanks!
    Tsai (in Chen's nest) pages Chen: ok!! thank you!! :) i like
your nest!

In addition, opportunities for project members to correct their word use also took

place when they tried to clarify the meaning of their words. In the next excerpt, Lin

figured out his misuse of a word during conversation with another member of Project

Achieve on the public channel.

12. [+] [beam] Lin [to Sean]13: “they are farfetched like you :p”
       [+] [beam] Lin says, “is farfetched really a rude word?”

13 The character names of other members in Project Achieve are replaced by pseudonyms.
Lin is confused.
Lin is looking it up in the dictionary.
Lin says, “it looks as if I use the wrong word.”
Lin [to Sean]: “sorry, I thought it meant far away...”

As shown in the excerpts above, error correction included different error types and interaction around different errors took place between the different pair combinations: between peers, between a project member and another MOO member, and between a project participant and me. Furthermore, requests for correction were also self-initiated by the project members so that they could achieve accurate communication and self-expression.

Appropriateness of Expressions and Behaviors

In addition to bringing the participants’ attention to language systems, the focus on the language component in the MOOseum project also addressed the appropriateness of behavior and expression in different contexts. In addition to reading a guide of proper manners in the MOO, project members learned about the appropriate use of certain words from their exchanges with others on the MOO. In the following example, Lin was told not to use “lick” in his action.

   Miao [to Lin]: Stop that.
   Lin says, “I just want to express my appreciation."
   Miao nods.
   Miao says, “Ok. But being licked by a man is strange for a cat.”
Lin .oO( Miao is angry....)
Lin smiles.
Miao says, “I am not. But the word lick is strange for your character.”
Miao smiles.
Lin says, “I understand now, sorry.”

In this excerpt, Lin was advised not to use the word lick in describing his action for it could be interpreted as offensive behavior. It was known later that he had learned some expressions from a social MOO where slang and dirty words were commonly used. However, raising the awareness of the appropriate use of words in different contexts, especially for these ESL/EFL participants in the educational MOO, was a focal point of the MOO experience. In the following example, Lin sought a native speaker’s help in Achieve in understanding the meaning of some commonly used words for expressing action or emotions.

14. Lin asks, “Can I ask you another question?”
   Lin asks, “Is whuggle=hug?”
   Lin says, “So 'hug' uses 2 arms, but whuggle use only one?”
   Lin nods.

   After figuring out the difference between whuggle and hug, Lin then explained the meaning to me:

15. Lin whuggles† Miao.
   Miao [to Lin] What does whuggle mean?
   Lin asks, “you don’t know whuggle?”
   Miao says, “NO.”
   Lin says, “Well, it’s similar to hug but you only use one arm.”

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† Whuggle is a MOO specific word which means to hug with only one arm.
Miao nods.
Lin says, “but it’s not lick at all.”
Lin smiles

As demonstrated in Excerpts 14 to 15, the learning of using appropriate expression of actions and emotions could take place simply in the dialogue. For Lin, not only did he learn a new expression but he also passed this knowledge to others.

Bilingual Support in the MOO and the Use of L1 and L2

Since the textual representation of language is the main gateway to communication in MOOs, users’ attention can be drawn to the words they see while they are communicating with others. Therefore, a focus on understanding of the meaning of vocabularies and their appropriate use naturally occurred in the MOO.

Under this circumstance, the bilingual support provided in Achieve offers the Mandarin-speaking participants an opportunity to use their mother tongue in assisting communication, as demonstrated in the following three examples.

16. Yu [to Miao]: how about 煞車?
   Miao [to Yu]: The break, you mean.
   Yu nods.
   Miao asks, “What’s wrong with the break?”
   Yu says, “It seems right break control the back wheel in Canada, but in Taiwan it’s different.”

17. Yu says, “My pc 當機!!”
   Lin says, “mine was before.”
   Yu says, “why would it happen so often?”
Lin says, “I don’t know…”
Yu says, “the pc is new… its age is 10 months.”
Lin says, “we had better tell the wizards.”
Yu nod.
Yu asks, “but how to describe?”
Lin says, “achieve often crashed.”

18. [+][Mooseum] Yu says, “You still can use Yu here.”
    [+][Mooseum] Yu says, “because I add it to alias, too.”
Lin (in Lin’s fantasy) pages Yu: alias?
Yu (in Yu’s cabin) pages Lin: It means 別名.

In Excerpt 16 and 17, Yu used Chinese characters to replace the vocabulary items
that she didn’t know and her interlocutors gave her the right words. While in Excerpt
18, she used Chinese to explain a new term. In both cases, code switching helped her
render the ideas she wanted to express. Achieve MOO’s bilingual support offered a
further exploration of different expressions, as the next example illustrates.

19. Yu says, “I don’t like a person that is so 霸道.”
Miao asks, “gee…how to translate this word?”
Yu looks it up in the dictionary.
Miao waits.
Yu says, “high-handed; overbearing; arbitrary; dictatorial; peremptory.”
Miao says, “Domineering is another one.”
Yu smiles.

Bilingual support also offered the project members another means of
self-expression about their identities through the descriptions written for the rooms or
objects. Figure 5-3 displays a bilingual menu prepare by Chen:
The names for each item on the menu were originally prepared in English. However, according to Chen, with the hope of dedicating the menu to the members of the MOO and indicating her Mandarin speaking background, decided to create a bilingual menu.

**Organization and Creation of Written Discourse**

The organization and creation of powerful messages, an activity that is also involved in the Focus on Language component, was realized in various written opportunities for creating one’s virtual space and identity. For example, creating personal messages allowed MOO participants to answer other people’s pages in different situations. Excerpt 20 shows a number of messages set up by Chen. These messages are written in her moo character’s voice (Tweety and Woodstock, the well
know bird from peanuts):

Chen types: @page_absent me is In the azure sky, there seems to be a pile of yellow feather floating towards to you. Oh! It is Woodstock who brings to you a message from Chen.

Chen types: @page_origin me is Tweet! Tweet! Woodstock takes your message to Chen.

Chen types: @page_echo me is Tweet! Tweet! Woodstock takes your message to Chen.

...

Chen pages Miao: here has no page_idle me....oh~~ I have thought a funny message....

Chen pages Miao: I thought this : Wow~~ Woodstock is lost now. Chen is looking for it. She will answer you soon. haha~~

Furthermore, project members demonstrated the organization and creation of written discourse through the design of the space and objects. So far we have seen examples of participant self-portraits as well as the creation of spaces and objects by project members. These samples reflect the hard work and strong organizational skills the MOO project participants developed through the process of writing in an online virtual environment.

In the MOOseum project, the Focus on Language component was demonstrated not only in the participants' focus on the correctness but also the appropriateness of the language they used in the project site where the bilingual support was provided.

Chances for the participants to focus the organization of written discourse happened naturally through the process of viewing, designing and creating of space and objects.
For the project members, reading and writing object descriptions and using synchronous and asynchronous tools for online communication created opportunities of encountering extensive input and producing extensive output. Under these circumstances, the project members were given maximum opportunities to help them express themselves and avoid confusion or misunderstanding.

5.2.3 Focus on Use

The Focus on Use component stresses the importance of providing opportunities for language learners to use the target language with and for authentic audiences in the mode of two-way communication. Through encouraging the students to express themselves in the target language, it was hoped to achieve "the overall literacy development and identity affirmation among English language learning (ELL) students" (Cummins, 2000b, p.544).

In the MOOseum project, the efforts of maintaining this objective can be seen in the online environment where multiple means of communication and construction are provided, the process of how participants learned to use these different tools, and their final products of construction. Since this was a project carried out in a network-based environment, I include the three components of electronic literacy (Shetzer & Warschauer, 2000) to illustrate how the Focus on Use component was realized in this
network-based environment.

5.2.3.1 Communication

The notion of communication in a network-based environment is moving beyond the idea of translating from one communications medium to another to the learning of how to communicate, interact and collaborate effectively via computer (Shetzer & Warschauer, 2000). In the MOOseum project, the participants’ ability to carry out effective communication is demonstrated in their use of both synchronous and asynchronous communication tools provided. The first example, Excerpt 21, demonstrates how Lin announced his temporary departure from the project to all the members through MOOmail list.

20. Date: 07/24 2000, 14:37 EDT
From: Lin (#1969)
To: *MOOseum (#2058)
Subject: Time to Say Goodbye!

Dear all, :)
I will leave Taiwan for England at 3:30 this evening. That is, the time I can spend on Achieve project will decrease. Anyway, when I come back, I can still work with you happily. Sometimes, I would like to get away from it all. This trip will be a good opportunity for me. I believe I will have a good time there. Now, it's time to say goodbye. I wish you a happy summer vacation!
Best wishes,
Lin
MOOseum mail list is an asynchronous communication tool for making public announcements to all the project members. During the project, it was used for displaying self-introductions, invitations, and notices of absence or change. As to the use of synchronous communication tools, project members demonstrated their selection of different tools according to different situations. For example, Excerpt 22 illustrates how Tsai learned the different purposes of using – and + commands.

21. Yu [to Tsai]: You home icon is there. Nice one. :)
   Tsai exclaims, “thank you!!”
   Tsai asks, “why can’t i say TO Yu??”
   Yu [to Tsai]: You have to use: -Yu .......
   Tsai [to Yu]: i see!
   Tsai [to Yu]: and can i wave to you if we are not in the same place?
   Yu nods.
   Yu [to Tsai]: use +Yu waves

   With the knowledge of how to use the different communication tools provided, the project members were able to select the most appropriate tools depending on their own needs and conditions of communication. In Excerpt 21, Yu told Tsai how to address her message to a specific person in speaking mode and how to perform gestures to a person in a different location. Recalling Excerpt 7, the dialogue about third person S was carried out through paging because Ko and Miao were in different rooms. Also, in Excerpt 8, Yu’s correction of Ko’s typo was carried out on the MOOseum channel, another tool for real-time message exchange across the
boundaries of rooms and space. These examples illustrate the project members’ flexible selection of communication tools for their collaborative inquiry.

5.2.3.2 *Construction*

For a network-based environment, the results of construction can be observed from three major shifts: (1) from essay to hypertext, (2) from words to multimedia, and (3) from author to co-constructor (Shetzer & Warschauer, 2000). In fact, hypertextual written discourses accompanied with graphic image, is a prominent feature of all the objects and rooms created by the participants in the MOOseum project. Figure 5-4 displays the theme room created by Yu in MOOseum as an example.

*Figure 5-4. The Theme Room Created by Yu in MOOseum*
This theme room, Yu's sweet memory, was created by Yu for the purpose of keeping and sharing her summer camp experience. She organized her essays into different categories. Thus the viewers can click on the topic of their interest. For example, in the category called music festival, she introduced her school life with five essays named Overture, Audition, School Life, Clarinet Lesson, Piano Lesson, and Food and Drink. Once again, the viewer can click on any essay that interests them. Yu's creation of this theme room represents a new form of writing that involves hypertext accompanied by images.

Finally, the process of creating this room also involved collaboration and co-construction through which she modified the content, form, and organization of the written descriptions according to the feedback from other project members and me. Therefore, the accomplishment of this theme room, covered all three elements of construction – inclusion of hypertext, combination with other media, and collaboration.

5.2.3.3 Research

This skill entails the abilities to search for information, select available technologies, navigate Internet resources and evaluate the found materials (Shetzer & Warschauer, 2000). In the MOOseum project, image searching and information
searching were the two activities in which participants demonstrated their skills.

Through the search of icons, the participants found visual images for their rooms and objects. In the following dialogue, Yeh told Lin how to find images from the Internet.

22. Lin [to Yeh]: by the way, where do you find rinoa?  
    Yeh [to Lin]: from somewhere....I forgot.... sorry....  
    Yeh smiles at Lin.  
    Lin nods.  
    Yeh [to Lin]: you can find it on internet  
    Lin asks, "GTO classroom?"  
    Yeh shake head.  
    Lin [to Yeh]: do you know any place that provides many icons?  
    Yeh [to Lin]: I don't know, but you can try to find icon on internet  
    Yeh [to Lin]: got it?  
    Lin [to Yeh]: type icon?  
    Yeh nods.  
    Yeh [to Lin]: or gif.  
    Lin asks, "gif?"  
    Lin asks, "gif =icon?"  
    Yeh shake head.  
    Yeh [to Lin]: but I always see that word on icon page.  
    Lin nods  
    Yeh [to Lin]: so, I think maybe you can try it  
    Lin says, "Thank you very much! ^o^"

In this example, Yeh demonstrated her knowledge of research in her answers to Lin’s question about finding icons. For Lin, learning more about where to find icons enriched the image of the MOO space that he created. The sample of his room can be seen in Appendix J. All of the icons he used came from the websites that he found.

The participants' research abilities were also seen in their demonstrated ability to find information in the various databases in the research site itself. In the following excerpt,
Yu manages her objects after reading the Chinese manuals in the study room.

23. Yu types: @join miao
   Yu views: Book Shelf (Chinese-中文)
   Yu views: 進階課程 (Advanced Lessons)
   Yu views: 移動物件 (Moving Objects)
   Yu views: 容器相關指令 (Container’s Commands)
   Yu types: @go Yu’s workshop
   Yu views: Music Festival
   Yu types: get audition from music
   Yu types: get food from music
   ...
   Yu types: put audition in music
   Yu types: put school in music

Excerpt 24 recorded the commands and mouse clicks that Yu used. In this excerpt, Yu first went to the study room, clicked the bookshelf and selected Advanced Lessons from which she further viewed the contents of two lessons, Moving Objects and Container’s command. After this, she returned to manage the sequence of her objects in the Music Festival by taking them from Music Festival and putting them back in a new order. In the MOOlogs, the records of participants’ turning to the self-help resources can be seen frequently, especially when they are working on their own.

In brief, the MOOsuem project involved activities which enhanced three essential elements of electronic literacy: communication, construction and research.

Moreover, the participants did use meaningful and purposeful English with authentic
audiences – the people they encountered or the viewers of their creations in the project site.

In summary, the Moo environment is virtual, text-based, as well as communication and construction oriented. This network-enhanced language learning environment offered opportunities for students to focus on language meaning and use through various activities in the MOOseum project. Moreover, many of the MOOseum tasks allowed students to focus to different degrees on language, meaning and use. As demonstrated in the previous examples, project participants were able to use English in different ways with various kinds of media in situations including 1) viewing, designing and creating personal virtual spaces; 2) learning new techniques for communication and construction; 3) sending invitations and posting announcements; 4) role playing, discussion and casual chat. The completion of these varied tasks heavily relied on meaning exchange and did not necessarily require correct form. With imperfect structures and vocabulary, project members strove to convey meaning. Therefore, the MOOseum project can be characterized as a fluency-oriented project (Shield & Hewer, 1999).

In the following section, I will switch the focus of inquiry to participants’ viewpoints toward this project in order to answer my second research question.
5.3 Participants' Viewpoints

*Research Question: What are the project members' viewpoints toward learning English through this collaborative on-line project?*

In the final week, I invited the project members to participate in the discussion session to review their own work and express their viewpoints about their experience in this online virtual community. However, Tsai and Yeh decided not to attend the meeting because of their lower level of participation time in this project. Therefore, the discussion reported here only represents the views of the four remaining participants.

Before the discussion session, I prepared a list of questions (see appendix F) and presented it in the room for reference during the session. The participants' answers to these questions were organized into three categories: 1. the MOO and English learning/using, 2. technical issues, and 3. project work.

5.3.1. *The MOO and English Learning/Using*

*General impressions: All four participants considered MOOing helpful to learning English but in different ways. Ko suggested that the MOO especially aided the learning of vocabulary which she learnt mostly from conversation. Chen noted*
grammar and vocabulary learned through editing her objects. Both Lin and Yu suggested that the MOO improved their reading and writing and Yu also considered that her frequent visits to Achieve MOO made her think in English. Although it has been suggested that the form of text exchange in “chat” mode resembles “real life” spoken language, none of the participants believed that MOOing helped them to develop their speaking skills in English. Both Yu and Lin further stressed that speaking English is different and more difficult than chatting online. Ko, Yu, and Chen all recommended MOOs as a place for learning and practicing English. For Ko, the use of different commands, graphical representation of objects, and access to people who would listen and speak to her were the three major features that fascinated her and changed her prior negative attitude toward English. Yu suggested vocabulary learning and the process of creating her own place the two most interesting things. Chen also liked the process of creating her own imaginary places and hearing the feedback from the guests she invited. Although Lin noted opportunities for vocabulary learning and writing as two immediate benefits of the MOO, he also cautioned that spending a lot of time chatting using simple vocabulary may not result in much progress in one’s general language abilities.

Strategy use: For those who have difficulties in using English, it seems MOO provides quick access to assistance. All four participants turned to the people they
knew in MOO for help. Lin preferred asking native speakers, and Ko just asked whomever she was talking to. Chen mentioned her former English teacher and me as the two people that she usually approached in MOO. In addition to the people Yu encountered in MOO, she also turned to her sister for assistance sometimes. Each participant seemed to have common strategies for dealing with communication breakdown. In situations where they had difficulties expressing themselves, they all indicated rephrasing in easier words or different ways as a solution to the problem. Yu further noted that she would explain the word in Chinese if she was talking to a Chinese speaker. On the other hand, if they had difficulty understanding other people’s messages, they would commonly request their interlocutor rephrase the message as a common solution. Furthermore, Chen added that she would seek for explanations from other people. They would also consult a dictionary program called Dr. Eye. Both Yu and Ko used another program called Babylon with less frequency because of they have been familiar with using Dr. Eye.

*Chinese support:* The participants were asked to evaluate the importance of having Chinese language support in the project site because it was an innovation implemented specifically for this project. In responding to this question, all four participants considered this function useful. Ko suggested using Chinese helped her express herself better while speaking with project members. Lin added that
Chinese could be used in talking about Chinese names of people or places. Yu used Chinese for a specific word or phrase that she could not otherwise describe. However, she further cautioned that one may not be able to learn English if Chinese is being used as the primary language for communication.

5.3.2. Technical Issues

Challenges: Lin considered was keeping different commands in mind as the major difficulty especially after returning to the project from his long absence. For Ko, not knowing how to present her ideas with the generic objects provided discouraged her from further creation. Although both Yu and Chen felt fine in both command use and object selection, Chen's lower level computer and connection speed increased the wait time of message and image transferring. It also increased the frequency of connection failures which interrupted her communications with others and creation of her objects and space.

Seeking help: When they had problems with using objects or commands, Ko, Chen and Lin usually asked people for help. The people they turned to included their peers, me, or other people they knew in the MOO. Yu preferred figuring out the answer by consulting the online manuals in the study room first. Using her experience of learning to use container objects as an example, she felt comfortable solving problems
this way. She would also turn to others when she could not work things out on her own.

**MOOseum Channel and mail list:** Each participant agreed that these two communication tools were very useful for connecting the whole project group. They considered the channel a very convenient tool because it allowed group synchronous communication without members of the group having to leave their own room, and thus not interrupt their work. They also considered the mail list convenient for its capability to connect every project member through mail. Each of them had made more than two announcements through the mail list.

**Graphic support:** All the participants favored having graphical representations of objects and spaces in this MOO. Yu, Ko and Chen considered graphics attractive and would not limit their imagination. Chen further stressed that the easy process of attaching images made creating objects more fun. Agreeing with Chen’s point, Lin added that using images with descriptions could present one’s particular design of his or her own space.

**5.3.3. Project work**

**Opinions toward the tasks in first 3 weeks:** Chen considered the tasks helped her
become familiar with the whole MOO and she also learned how to create her own world. Ko agreed that she did learn about the environment of the project site from the tasks, but she also requested more detailed instructions for each task to prevent her from getting lost. Yu further addressed the use of commands and formulation of ideas for one's room as additional benefits of preparing for these tasks but specified the need for guidance in understanding the theme of each room in Week 3.

*Visits to other member's places and provision of feedback:* All the participants reported frequent visits to other members' places. They also provided mutual feedback, but mostly in a general and positive manner. They all agreed with Lin that giving compliments is easy. The reasons, as Lin explained, are that they are friends and each of their projects did demonstrate a lot of creativity.

*Future plans:* All four members expressed their interest in continuing their attendance and creation in the project site. Chen wanted to make more objects to make each of her rooms more alive. Lin wanted to share the story about his summer trip abroad. Ko planned to add her summer camp story and finally, Yu hoped to complete her theme room in the MOOseum.
In this chapter, I reported the outcomes of the study through the descriptions of processes and products of each project member’s participation. I also provided analysis of my data from the three components of technology-supported language learning. The descriptions of how each component was realized in the MOOseum project were accompanied by examples which illustrate the activities. From the analysis, it was demonstrated that ample opportunities for focus on meaning, language, and use were created for learners to interact with others and with the environment. Finally, I also provided four of the participants’ viewpoints based on a discussion conducted in the final week.
Chapter 6

Discussion

In this chapter, I summarize the outcomes of the MOOseum project reported in Chapter 5. Then, I discuss the features of this study, possible factors that affected individual performance, and the particular circumstances of the project. Finally, I present some pedagogical implications.

6.1 The MOOseum Project

The present study examined the process and products of a collaborative project prepared for EFL learners in an integrated network environment. Originating from transformative perspectives of education, the present study adopted a project-based approach similar to those described by Turner (1998), Schwienhorst (1997, 1998a, 1998b), Shield et al. (1999a, 1999b), Backer (1999), and Donaldson and Kötter (1999). However, rather than providing anecdotal descriptions or an analysis of isolated aspects of the participants’ performance, the current study provided a close examination of both the process and the product of the research project based on a comprehensive framework for technology-supported language learning and electronic literacy. For the purpose of examining the process of learners’ collaboration, their written products, and their viewpoints, the present study adopted a qualitative
approach capable of revealing the participants’ complex language learning experience shaped by social, cultural and individual factors.

6.1.1 The Analysis

To examine learners’ language learning experience in this online project, I looked at the process and products of the project members’ participation based on three components, focus on meaning, focus on language and focus on use, outlined in Cummins’ framework of technology-supported language learning (2000).

In the my examination of the element, Focus on Meaning, I demonstrated how the project members developed higher level thinking skills of critical literacy thorough five phases in meaning and message based activities. With these activities, the participants went through the process of activating their prior experience of MOOing, navigating the environment, comparing their personal experience, evaluating other people’s products and finally, creating their own MOO-based products.

In my examination of the Focus on Language, I showed that the participants attended to both the language structure and its proper use during their exchanges of meaningful messages. The provision of Chinese language support enabled the
Mandarin speakers to express their thoughts and confirm their identities. Finally, it was demonstrated that the process that involve the participants' viewing, designing and creating space and objects generated opportunities for organizing and sharing powerful messages.

I explored the final element, Focus on Use, by highlighting the opportunities for electronic literacy available to MOO participants. With these opportunities, the growth of the learners' abilities to communicate, construct and research were realized through their language use with/for authentic audiences in this network-based environment. Therefore, the chances for the participants to effectively use different communication devices, to create and organize graphic integrated hypertexts, and to find and evaluate resources needed, were those that promoted the Focus on Use element.

6.1.2 Participants Voices

My attempt to understand the viewpoints of the project members was realized through an online discussion session with four of the six participants about related to MOOing in developing English skills, MOOing skills, and project work. In considering the benefits of MOOing for language learning, they mentioned vocabulary growth, and chances for writing and reading, but they did not feel that
speaking and listening were practiced in the project site. This is due to the fact that written text is the major tool for message transmission in the MOO. Therefore, although the messages generated from synchronous communication may resemble spoken language in some ways (Yun, 1994; Beauvois, 1992, 1998), it was not considered relevant to the development of speaking ability by these participants. Interestingly, similar to Donaldson and Kötter (1999), all the participants mentioned their use of communication strategies in dealing with communication breakdown during synchronous message exchanges. Therefore, the difficulties they had in using English during online conversations, reading, or writing created opportunities to actively interact with others or consult with the tools at hand. Finally, although the Chinese language support was considered a helpful tool insofar as it allowed for the expression of words unknown to the participants, its use as a tool for assisting language learning in this online environment should be carefully considered to prevent overuse.

In the discussion of some of the technical aspects involved in MOOing, some participants experienced the connection breakdowns due to the unstable conditions of the Internet and computers, and required support in the use of different commands and creation of educational objects. Participants sought help from other people on the MOO or they consulted online resources. Finally, they responded positively toward
the new communication tools and graphic support provided in the project site.

In discussing issues related to the project work, three of the four participants who did the weekly assignments considered them helpful for familiarizing themselves with the environment, using commands, and formulating of ideas for further creations. More guidance was considered necessary in preparing for some tasks. Consistent with the record on the MOOlogs, each participant maintained frequent visits to other project members' rooms. Mutual feedback was mostly addressed in a positive manner. Finally, they all expressed interest in continuing or finishing their theme rooms in the project site in the future.

6.2 Discussion

Tool-Mediated Learning in a Virtual Environment

As presented in the outcomes, various kinds of synchronous and asynchronous devices were used to maintain mutual communication, to learn new knowledge and to construct one's own spaces and objects. This demonstrated how tools were used in realizing one's objectives in this virtual environment. Therefore, what the participants said and did while involved in the MOOseum project demonstrated how a network-based environment can be utilized to enhance foreign language learners' experience of learning and using the target language. In other words, the written
language was used beyond simple conversation and involved different written forms in meaningful and purposeful use with authentic audiences. The written language also served as a tool that mediates the development of higher order thinking skills in this online environment.

Possible Factors that Influenced Learner Participation

Due to the fact that the participation in the project was voluntary and it took place over an extended period during the summer vacation, the amount of time each project member spent in the project site varied. Participants' involvement in other "real life" activities that allowed for little or no access to computers affected their participation in the project. Lin's trip to Europe and Ko's summer camps were examples of this. For Tsai, her lesser involvement in the project resulted from her inability to connect with other participants in real-time due to her different scheduling. As for Yeh, her personal need to maintain contact with a friend in another MOO also restricted her participation in the project. In brief, the participants' devotion to the MOOseum project was mainly affected by the schedule and personal circumstances. These factors further influenced their degree of dedication to the tasks and the development of social bonds in the virtual environment. Therefore, the initial objective of having pairs work collaboratively to enhance learning was not totally met.
This also resulted in differences in the quantity and quality of objects created by the project members.

Some additional points to consider in the implementation of this project are listed below:

First, all the six participants learned basic commands about MOOing before participating in the MOOseum project. Therefore, those who have never been in this type of virtual community, establishing the concepts of space and objects presented in this environment and learning its basic commands should be considered a prime objective.

Second, all six participants connected to the project site using their own personal computers. Therefore, the condition of their computers, the client software they used, and the connection speed of their Internet service provider all affected their language use and actions in the project site. Failure of any of their equipment resulted in slow transmitting or retrieval of data or in the worse case, disconnection.

Third, the relationship between this researcher and the participants was fairly informal. There was no teacher-student relationship before or after the commencement of the research project. Although I did suggest tasks and timelines for
the project work, the participants were completely free to determine their own progress and the amount of time they spent in the project site. Furthermore, their productions in this project had no effect on their scores at school. Therefore, throughout the project, my role was rather like a project coordinator or more specifically, a facilitator that provided suggestions or solved the project members’ questions on demand.

Fourth, the timeline of the project overlapped with the project members’ summer vacation. Therefore, the amount of time and frequency of their visits to the project site were often influenced by their real-life activities.

6.3 Implications

Internet can be used not just as a conduit for information, but as a context for learning through community-supported collaborative construction.

Bruckman, 1998

For EFL students, learning English has long been restricted to an environment that lacks authentic opportunities for practicing and using the target language. By engaging these EFL learners in the MOOseum project, it was demonstrated that opportunities for meaningful and purposeful exchange of the target language were created through the processes of learning and teaching how to communicate, navigate,
and create in this virtual environment.

In addition, a MOO with GUI that integrates the hypertext and graphic provides for language learners not only an opportunity to developing skills of reading, writing and computers skills, but it can also provide opportunities for searching, browsing, evaluating and creating. Unlike Baker's (1999) assumption that the graphics are merely decorative and irrelevant to the content, the participants of the MOOseum project chose images and icons that matched their descriptions of objects and rooms. They further noted that the use of graphics was actually beneficial for their imagination and made their work interesting. Moreover, the process of viewing and learning to use and organize this additional visual representation also created opportunities for meaningful message exchange. Therefore, in the GUI-based MOO that combines the use of hypertext and graphics, what a learner can potentially develop is not only literacy, but also critical and electronic literacy.

Despite the particular circumstances under which the present study was implemented, the difficulties mentioned by the project members and the factors that influenced the outcomes of the present study should be considered by educators who are interested in introducing project-based learning through this collaborative virtual environment. The problems experienced by some participants in connecting and
mastering different commands may impede the work of participants in this virtual environment. Further difficulties in scheduling or personal circumstance may affect their motivation and progress in becoming socialized into this online community. For educators, being prepared and having awareness of these problems may avert later difficulties.
References


Ericson, F. (1986). Qualitative research methods on teaching. In M. C. Wittrock (Ed.), *Handbook of research on teaching* (pp. 119-161). New York: Collier-Macmillan.


*Language Learning & Technology*(1-2), 55-70.


http://lingua.utdallas.edu/encore/


http://www.tcd.ie/CLCS/assistants/kschwien/Publications/CALLMOOtalk.htm


http://www.tcd.ie/CLCS/assistants/kschwien/Publications/ECReportprint.htm


http://www.tcd.ie/CLCS/assistants/kschwien/Publications/coconstruct.htm


Turkle, S. (1998). Forward: All MOOs are educational - the experience of "walking through the self". In C. Haynes & J. R. Holmevik (Eds.), High Wired: on the design, use and theory of educational MOOs. (pp. ix-xix). Ann Arbor: The University of Michigan Press.


Appendix A
Some MOO Clients

Macintosh Clients
Rapscallion  http://www.rapscallion.co.uk/
MacMoose     http://www.cc.gatech.edu/fac/Amy.Bruckman/MacMOOSE/
Savitar       http://www.heynow.com/

Windows 95/NT Clients
Pueblo        http://www.chaco.com/
zMUD          http://zuggsoft.com/zuggsoft/index.cfm

Windows 3.x Clients
Pueblo        http://www.chaco.com/
zMUD          http://zuggsoft.com/zuggsoft/index.cfm

UNIX Clients
TinyFugue     http://tf.tcp.com/~hawkeye/tf/
Appendix B

Letters of Consent

嗨，

我是吳貞諭，現在是多倫多大學之安大略教育研究中心碩士班學生。Jim Cummins 博士是我的指導教授，我想邀請你參加我在 Achieve 的研究計畫。Achieve 是一個位於多倫多大學的合作式網路虛擬學習環境。

這個研究主要目的在評估這個虛擬環境所提供的語言學習/使用以及互助合作的機會。因此，在即將進行的計畫中，所要做的是在 Achieve 的博物館裡建立展覽室。你將會有機會和你的朋友合作在本研究中心展現你的興趣、嗜好以及知識。

這個計劃將在暑假進行，預計持續兩個月。在這兩個月之中，我希望你能夠每個星期在週一至週五的晚間九至十二點之間花大約三小時到 Achieve 來，而且我也會同一時間在站上提供你進行計畫所需的種種協助。為了本研究所需求，在本研究站上每位參加者的互動狀況都將被紀錄下來，而且我會每一星期將所記錄資料做回顧並且用於協助英文使用以及計畫進度。為此進一步瞭解你學習英文還有使用電腦的經驗，我會在你同意參與本研究計畫後發給你一份五分鐘即能完成問卷。此外我也會在你完成你的展示室後進行約一小時線上訪問。

這個研究的紀錄會被保存於有密碼保護的伺服器之中，只有成功通過研究計畫審核的研究者及其指導教授才能夠讀取資料。這些資料在研究結束後並且會歸檔妥善儲存。你的使用者名稱將會在資料中以三至四位數的號碼代替。此外在我的書面報告中將會以假名來代替你的使用者名稱。如欲終止參加本研究，只需打一個指令即可。

如果你有興趣參與本計畫，請在本信之後所附的同意書上簽名後送還給我。

祝 順心

吳貞諭

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親愛的家長或監護人，

我是吳貞誠，現在是多倫多大學之安大略教育研究中心碩士班學生。Jim Cummins博士是我的指導教授。我想邀請您的子女參加我在 Achieve 的研究計畫。Achieve 是一個位於多倫多大學的合作式網路虛擬學習環境。

這個研究主要目的在評估這一個虛擬環境所提供的語言學習/使用以及互助合作的機會。因此，在即將進行的計畫中，所要做的是在 Achieve 的博物館裡建立展覽室。您的子女將會有機會和他/她的朋友合作在研究中心展現他/她的興趣、嗜好以及知識。

這個計畫將在暑假進行，預計持續兩個月。在這兩個月之中，我希望您的子女能夠每個星期在週一至週五的晚間九至十二點之間花大約三小時到 Achieve 來，而且我也會同一個時間在站上提供您的子女進行計畫所需的種種協助。為了本研究所需，在本研究站上及站上每位參加者的互動狀況都會被記錄下來，而且我會每一星期將所記錄資料做回顧並且用於協助英文使用以及計畫進度。為了更進一步了解您的子女學習英文還有使用電腦的經驗，我會在您同意讓他/她參與本研究計畫後發給他/她一份三分鐘即能完成的問卷。此外我也會在您的子女完成他/她的展示後後進行約一小時線上訪問。

這個研究的記錄會被保存於有密碼保護的伺服器之中，只會在研究計畫通過後才會由指導教授才會讀取資料。這些資料在研究結束後並且會歸檔妥善儲存。您的子女的使用者名稱將會在資料中以三至四位數的號碼代替。此外在我的報告中將會以假名來代替您的子女的使用者名稱。如欲終止參加本研究，只需打一個指令即可。

如果您同意讓您的子女參與此活動，請在信後所附的同意書上簽名後再還給我。

祝順心

吳貞誠

聯絡地址：
Jen-Yi Wu 吳貞誠
Modern Language Center
252 Bloor Street West
Toronto, Ontario, Canada
M5S 1V6
電子郵件：jwu@oisc.utoronto.ca

Dr. Jim Cummins
Modern Language Center
252 Bloor Street West
Toronto, Ontario, Canada
M5S 1V6
電子郵件：jcummings@oisc.utoronto.ca
Hi,

My name is Jen-Yi Wu. I am a graduate student at the Ontario Institute for Studies in Education of the University of Toronto. Currently I am in the Master’s program under the supervision of Dr. Jim Cummins. I would like to invite you to join my research project in Achieve, an on-line collaborative virtual learning environment housed at the University of Toronto.

The purpose of this research is to investigate the opportunities for language learning and use as well as collaboration provided by this virtual environment. Therefore, the main objective of the project is to create an exhibition room in the museum set up in the project site. You will have chances to work with your friends to practice English and demonstrate your interests, hobbies and knowledge in this project site.

This project will take place during your summer vacation and will last approximately for two months in July and August. Throughout these two months, you will be encouraged to visit the project site on weekdays for three hours a week between 9 and 12 p.m. Taiwan time. I will be present at the project site at the same time every weekday to help you with your projects. For the purpose of research as well as to facilitate language use and project accomplishment, the participants’ interactions in this project site will be logged and reviewed on a weekly basis. To find out about your experiences learning English and using computers, a questionnaire which takes about five minute to complete will be given to you if you agree to join this study. You will also be asked to participate in an open-ended interview for one hour at the end of the project.

On transcripts and other data collected, your username will be noted by a 3 to 4 digit number known only to the researcher. The logged data will be stored on a secure password protected server or on the researcher’s personal computer and can only be accessed by the researcher and her supervisor. At the end of the study, all data collected will be kept in the researcher’s lock-protected archive. In the written report, your username will be replaced by a pseudonym. Finally, it is important to note that you may withdraw from this project at any time without penalty of any kind.

Eight participants are needed for this study. The opportunity to participate will be given to the first eight students who return the consent form. If you are interested in participating in this study, please sign the attached consent form and return it to me.

Sincerely,

Jen-Yi Wu

Contact information:
Ms. Jen-Yi Wu
Modern Language Center
252 Bloor Street West
Toronto, Ontario, Canada
M5S 1V6
E-mail: jyw@oise.utoronto.ca

Dr. Jim Cummins
Modern Language Center
252 Bloor Street West
Toronto, Ontario, Canada
M5S 1V6
E-mail: jcummings@oise.utoronto.ca
Dear Parent and Guardian,

My name is Jen-Yi Wu. I am a graduate student at the Ontario Institute for Studies in Education of the University of Toronto. Currently I am in the Master’s program under the supervision of Dr. Jim Cummins. I would like to invite your child to participate in my research project in Achieve, an on-line collaborative educational environment housed at the University of Toronto.

The purpose of this research is to investigate the opportunities of language learning and use as well as collaboration provided by this virtual environment. You child will have the opportunity to work with his or her friends to practice English and to discuss their interests, hobbies and knowledge in this project site.

This project will take place in the summer vacation and last approximately two months in July and August. Throughout these two months, your child will be encouraged to visit the project site on weekdays for three hours a week between 9 to 12 p.m. Taiwan time. I will be present at the project site at the same time every weekday to help the participants with their projects. For the purpose of research as well as to facilitate language use and project accomplishment, the participants’ interactions in this project site will be logged and reviewed on the weekly base. To find out about your child’s experiences learning English and using computers, a questionnaire which takes about five minute to complete will be given to your child if he/she agrees to participate in this study. Your child will also be asked to participate in an open-ended interview for one hour at the end of the project.

On transcripts and other data collected, your child’s username will be noted by a 3 to 4 digit number known only to the researcher. The logged data will be stored on a secure password protected server or on the researcher’s personal computer and can only be accessed by the researcher and her supervisor. At the end of the study, all data collected will be kept in the researcher’s lock-protected archive. In the written report, your child’s username will be replaced by a pseudonym. Your child will be able to withdraw from taking part in this study at any time without penalty of any kind.

Eight participants are needed for this study. The opportunity to participate will be offered to the first eight students that return the consent form. If you agree to let your child to participate in this study, please sign the attached consent form and send it to me.

Sincerely,

Jen-Yi Wu

Contact information:
Ms. Jen-Yi Wu
Modern Language Center
252 Bloor Street West
Toronto, Ontario, Canada
M5S 1V6
E-mail: jwu@oisc.utoronto.ca

Dr. Jim Cummins
Modern Language Center
252 Bloor Street West
Toronto, Ontario, Canada
M5S 1V6
E-mail: jcummins@oise.utoronto.ca
Consent Form
同意書

I have read the information about the research and I allow my child to participate in this study. I also know that my child have the right to withdraw from the study at anytime.

我已經讀過關於本研究的相關資訊而且我同意讓我的子女參加本研究計畫。我也知道我的子女隨時有權可以退出這個活動。

______________________________  _______________________________
Signature of the participant’s parent or guardian  Date (mm/dd/yy)
參加者家長或監護人簽名  日期(月/日/年)
Consent Form
同意書

I have read the information about the research and I am would like to participate in this study. I also know that I have the right to withdraw from the study at anytime.

我已经读过關於本研究的相关资讯而且我同意参加本研究計畫。我也知道我隨時有權可以退出這個活動。

__________________________________________  __________________________
Signature of the participant                     Date (mm/dd/yy)
參加者簽名                                      日期(月/日/年)
Appendix C
The Pre-Project Questionnaire

Dear Participant,

Thanks for joining the MOOseum Project in this Educational MOO. Before we begin our sessions, please tell me more about yourself by completing this questionnaire. Your responses will help me to assist you in your project work in the future.

1. Please tell me your name:

2. Please give me a name that you would like to use in this MOO:

3. Please tell me about your level of education:
   1) I am in grade _____ in high school.  
   2) I am in my _____ year in college.

4. How long have you been learning English?
   I started learning English at _____ years old and have been learning it for _____ years.

5. Have you learned English outside of school?
   _____ Yes, in a private school.
   _____ Yes, through magazines and radio lessons.
   _____ Yes, through internet lessons.
   _____ Yes, by studying abroad in summer/winter vacation.
   _____ Yes.
   _____ No. I only have English classes at school.

6. Please tell me what you can do with the computer:
   I can _____ send and receive E-mail.
   _____ browse the Bulletin Board System (BBS).
   _____ browse the Bulletin Board System (BBS) and post articles.
   _____ browse World Wide Web (WWW).
   _____ create Web pages.
   _____ play Multi-user Domain/Dungeon (MUD).
   _____ play Multi-user Domain/Dungeon, Object Oriented (MOO).

Thanks for taking the time to respond to this questionnaire. I look forward to seeing you in the MOO.
Appendix D
A Sample of the MOOlog

Aug 30 00:18:41 2000 #894 #334 Study Room (書室)(#334) URL 334/ DATA
Aug 30 00:18:45 2000 #894 #334 @who
Aug 30 00:18:53 2000 #894 #334 rwave Chen
Aug 30 00:18:56 2000 #894 #334 @xswi m
Aug 30 00:19:01 2000 #894 #334 xwave Chen
Aug 30 00:19:08 2000 #894 #334 xto Chen Good afternoon.
Aug 30 00:19:14 2000 #1970 #2377 xm hi
Aug 30 00:19:29 2000 #894 #334 xto Chen How are you?
Aug 30 00:19:48 2000 #1970 #2377 xm fine....and you?
Aug 30 00:20:18 2000 #894 #2146 xto Chen Not too bad. Just had some dessert before
going to bed. How is your computer?
Aug 30 00:20:45 2000 #1970 #2377 xm hm...it is nice now....
Aug 30 00:21:06 2000 #1970 #2377 xm and speed is good...I think. I can correct my
corret here^^
Aug 30 00:21:12 2000 #894 #2146 *Yu Having medicine is never fun. I think. Wish you
get well soon.
Aug 30 00:21:17 2000 #894 #2146 xnod Chen
Aug 30 00:21:24 2000 #1970 #2377 xm: purrs at #894
Aug 30 00:21:26 2000 #894 #2146 xto Chen Are you at school now?
Aug 30 00:21:30 2000 #894 #2146 xpat Chen
Aug 30 00:21:36 2000 #1970 #2377 xm home.....
Aug 30 00:22:01 2000 #894 #2146 xto Wow. Maybe because it's day time. I guess.
Aug 30 00:22:06 2000 #1970 #2377 xm because there was a typhoon..even it is sunny
now. I afraid that will rain suddenly
Aug 30 00:22:07 2000 #894 #2146 xto Chen Wow. Maybe because it's day time. I
guess.
Aug 30 00:22:10 2000 #894 #2146 xnod
Aug 30 00:22:15 2000 #894 #2146 xnod Chen
Aug 30 00:22:24 2000 #1970 #2377 xm :smile
Appendix E
A Sample of Participants' Room Descriptions

mysterious space

What you can see here? Oh! Believe your eyes. You really see many cats here. Meow! Meow! Meow! This is a Paradise for cats. A big family of cats. Each cat has own speciality. They live together and get along well. If any cat wants to live here. Oh! They will say Welcome to stay.

You see:

- Miao
- Snoty
- Aspara
- Anoli
- Jumpy
- Noble

Exits:

- Chen's nest
- Third Floor.
- Just for you

Mysterious Place – prepared by Chen

15. * Throughout the appendices, the samples of participants' work are presented the way they appeared online in the MOOsicum Project. Errors have not been corrected.
Appendix F
Guiding Questions for the Discussion Session

MOOing and English Learning and Use

1. Do you think MOOing is helpful for learning or practicing English? Why or why not?
2. Would you recommend learning or practicing English through MOOs? Why or why not?
3. When you have questions about English, what do you do?
4. What do you do if you have problems writing something in English?
5. What do you do when you can’t understand other people’s messages in the MOO?
6. Do you ever use the dictionary to look up new words you see in the MOO? If so, what kind of dictionary do you use?
7. Do you think it’s helpful/necessary to have Chinese support in both the talk and view windows? Why or why not?

Technical Issues

1. What is the most difficult thing to learn or to do in the MOO?
2. When you have questions about using the objects in the MOO, what do you do?
3. Do you ever leave a message to others or write mail to the MOOseum? What do you think of this tool?
4. Do you ever speak with others on the MOOseum Channel or the beam Channel? What do you think of this tool?
5. What do you think about having graphic support in Achieve? Does it create more visual effects or just waste more time and kill your imagination?

Project Work

1. What do you think of the tasks assigned in the first 3 weeks? Were they too hard or too easy? Too simple or too complicated? Too boring or too scary? Other comments or suggestions?
2. Do you visit other member’s project rooms?
3. Have you ever given suggestions or corrected the grammatical errors of other people’s room or object descriptions?
4. Will you continue working on your project room in the future? If yes, what is your plan?
Appendix G
Samples of Scavenger Hunts

Hunt for Week 1

Miao's house
1. Name the items you see in Miao's picture box. How many of them are created by ansii art?
2. Leave a message in Miao's guest book in Miao's place.

Study room
1. Who is Shu? What is his duty in this study place?
2. Read Book 3. This book has useful information that can help you prepare your own room.

Language clinic
1. Discussion topic for Week 1: Can MOOing improve your English or just your typing skills? Please post a note or reply with a note on the discussion board.

MOOseum Achieve - Please type @go moo to go to the MOOseum
1. How many floors does this building have?
2. Two theme exhibition rooms have been placed in the MOOseum, what are they and on which floor are they located?
3. How many dishes has Miao prepared so far? Which dish was invented by Miao's husband? What is the tip for preparing the miso soup?
4. How many items do you see in the refrigerator?
5. Look at the drawings and their stories in Miao's Work. Which drawing do you like the most? Why?

Hunt for Week 2

1. What are the four housing areas in Achieve?
2. Visit the user's house in these four areas. Choose three that you like the most. Tell me where they are located and why do you like them.
   bonus: Find Odyssey 's Shuttle in the Heath. Tell me what you see in his place and sign his guest book.

Hunt for Week 3
The hunt for this week will take you to other people's project sites. Try to explore as much as you can and think about how to design your own project room at the same time.

1.1 The Triangle Program

a. Find The Triangle Program in the Project site. What is The Triangle Program? Find the website, read it, and tell me what you think.

b. Visit House of Aviance. Who is the owner of this place? What is this person trying to share with us? What do you think?

c. (Optional) Visit the Temple of Serenity. Who is the owner? What is the theme of the house in this temple? Did you find anything there? What was it?

d. (Optional) Visit the space formerly known as Room and read the information there. What kind of knowledge is the owner of this house trying to share with us?

e. Tell us which room you find most interesting in The Triangle Program. Write a letter to the MOOsium and tell all of us why we should visit this particular room. You can work on this task with another project member.

1.2 QuesterVille

a. Go to Greensward and find QuesterVille. Tell me what you know about the owner and her crew from all the information you can find in this room.

b. Enter the Great Link, visit one of the following project rooms: The Rainforest, Cara's Math Store, or The Snake Pit. Tell me what kind of place it is and what do you found there.
Appendix H
Sample Self-Descriptions of Project Members

Lin

Hi! Howdy? My name is Lin. Have you ever seen Jack, starred by Leonardo DiCaprio in the movie Titanic? I guess your answer must be positive. But have you ever met Lin, starred by me, in the Moo Achieve? I guess this time your answer must be negative. Huh! That's odd! Now, let me introduce myself.

I am a sophomore, 19, in a teachers' college in Taiwan. I major in Science Education. Just like Jack in Titanic, I am good looking (not ugly at least), brave, humorous, enthusiastic, kind, and a little romantic "o..." I have a talent for arts. For example, I have won lots of prizes in calligraphy.

When it comes to music, New Age is my favorite. I am fond of the works of Yanni, Giovanni, Suzanne Ciani, Enya, Bandari band, etc.

Speaking of sports, I like soccer and table tennis the most. On the other hand, I am well-traveled. I have been to USA, Mainland China, Japan, Singapore, and Thailand. My Summerstay in Portland, in America is the most unforgettable experience in my life. Besides, I went to Cambridge in Britain during this summer vacation. This is definitely another unforgettable experience.

Anyway, I can't wait to share my traveling experience with you right away. Such as riding on a large elephant in Thailand. So don't hesitate to talk to me! I am so glad to know you and make friends with you from all over the world! "o..."

1. Lin's Description

Chen

She is a girl with big eyes. Tweety and Snoopy are her favorite cartoon characters. She hopes to travel the world with her friends one day.

2. Chen's Description
3. Yu's Description

Yu is a girl who likes to learn new things. She learned how to operate a computer when she was a freshman in college, so she is not good at it. She hopes that people will help her if she needs help. She is glad to meet you.

4. Ko's Description

I am a girl, I know here from my English teacher and mom. I have many thanks for them. I like making friends, and I like our new president—A-Bian. I like Taiwanese Opera, I like a Taiwanese Opera's performer whose name is Sun Tsai-feng. I also like traveling. I ever went to Japan, Taiwan, France, Switzerland, Italy, Germany and Austria. One of these countries I like best is Switzerland. I also like birds and Geography. I am a funny girl, if you want to make friends with me, you can send moemail to me :)

Back
Appendix I
Sample Answers to Weekly Hunts from the Participants:

(1) Week 1 answers from Tsai

<table>
<thead>
<tr>
<th>Miao's place</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANSII: Squirrel, PikaYu, Jigglypuff, Bulbasaur</td>
</tr>
<tr>
<td>Chipmunk, Jenyi and Pin-Han</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Study room</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shu is in charge of recording meetings and important discussions in the study room.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>MOOseum Achieve</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. There are three floors in this building.</td>
</tr>
<tr>
<td>2. Gourmet planet and Gallery are located in the main floor.</td>
</tr>
<tr>
<td>3. There are three dishes.</td>
</tr>
<tr>
<td>Rat’s Red-Cooked Pork Shoulder is invented by Miao’s husband</td>
</tr>
<tr>
<td>Tip: Remember to take off the gill of salmon.</td>
</tr>
<tr>
<td>4. There are cheese, shallots, black mushroom, apple, sweet peppers, onions, green onions, broccoli, carrots, caulifower and five-spice powder in the refrigerator.</td>
</tr>
<tr>
<td>5. I like Walking with the cans because it's so cute!! :)</td>
</tr>
</tbody>
</table>

Tsai

(2) Week 2 answers from Chen

Dear Miao:

1. The for housing areas in achieve are Heath, Lakeside, Into the woods, and greensward.

2. (1) Cam’s underground lair (It is in heath)
I like it because the description is interesting for me. The description like a map let you feel you really in this room. And like you are walking in this room.

(2) Marlene (It is in Greensward)
I feel this room has many interesting things can be found. And the owner seems very hard to decorate this room. I like the icon of Marlene. Ha! Funny!

(3) Bingen town limits (It is in Lakeside)
This is the room which I like most. I like the Marketplace. When I there, I can see the words on the screen of another half of window. It seems the sounds which describe the situation in market. Wow! So cool. And the pictures here very pretty. Because my
computer very slow, when waiting the pictures log in. I was surprise that, Wow! What the great place. Every place can visit, and each of them has special. I love this place. ^_^

3. I can see an Ansii art picture----shuttle and a board which is Odyssey's announcement. There are guestbook and signature putted in his room. There are four exits can go. The heath, Peking Opera Cabin, Taiwanese Opera Cabin and Hakka Opera Cabin are four exits.

PS. I learn many words from visiting room here. Although I have forgot how to spell, but really thanks!! Ha! And thanks to correct my grammatical error.

(3) Week 3 answers from Yu

Dear Miao:

I am sorry I didn't hand in on time.
I try many ways to send you the letter but all in vain. Because the accounts have some problems at home. I was kicked out all the time so I can't use Achieve, either.

1.1

a. The Triangle Program is Canada's only high school classroom for gay, lesbian, bisexual, and transgender youth. I feel it is special. It's even a course in school. They can discuss the topic in public. I never thought I could see such a special topic here. Actually, when I saw it at the beginning, I was scared. But now I respect them, they can do what they want to do frankly. I feel it is great!

b. Alota is the owner of House of Aviance.
I feel she wants to share us her hobby - Gay fashion industry. It is so cool! She introduces different fashions to us. I feel her thoughts are much different from me. She has her own thoughts about it, but after I saw the images, I still can't say my idea. Maybe I just can say, "It is really queer." I don't know the information about fashion, because I don't know how to appreciate it. :p

c. I have not found a place I like. I was kicked out all the time when I went to the Triangle Program.
1.2

a. The owner of Quester Ville is Marlene. She is a junior high school teacher in Alberta. She wanted to bring moo into her classroom and she found Achieve. Her crew is Allie, Cara, Susanna, Vickie, Graham, Dan, Cam, Valerie, Laura, Warren, Yarms.

Marlene is a science teacher so she put some information about biotechnology in Pharm Yard. There are some places we can visit in Around the World. BrainTickler is a record like Shu, I think. There is a Great Link in the room. I feel this idea is good. She links the crew together and makes it easy to share with people.

b. The Rainforest

This is Vickie's place and she told me she likes making words and riddles by herself. She is so great! I admire she can do it alone. Till now I can't answer any of her riddles. I will try in the future if I have time.

Yu
Appendix J
Samples of Project Members’ Productions

1. Lin’s Fantasy

Welcome to Lin’s Fantasy! “o”
The first scene coming to your eyes is a picturesque
sky and a wide ocean.
This is a mysterious world you have never been to
before.
It is full of fantasy, imagination, and joy as well.
You will be stunned by all things you see here!
Lin’s Fantasy is here waiting for you to explore!
Please take “Titanic Cruise” to enjoy!
Look up into the amazing sky!
Breathe refreshing air
There is no pressure here!

Free your mind!
Free your body!
Enjoy yourself
in Lin’s Fantasy! “o” “O”

You see:
- Lin (Sleeping).
- Mao.
- Titanic.
- Bodyguard.
- Guestbook.
- Radio Classic

Exits:
- Lin’s Kingdom.
- Lakeside.
- New Age Planet.
- Art Gallery.
- Fly with the fire.

2. Tsai’s Bungalow

Welcome to Tsai’s Bungalow! :)

You see:
- Tsai (Sleeping).
- Lakeside.
- Mao.
- Piano, and
- Guestbook.

3. Ko’s Star Sky

You see:
- Ko (Sleeping).
- Lakeside and
- Ko’s Sweet Memory
- Guestbook.
- Rose.

4. Yeh’s Room

This is the Generic Room. It’s best used for simple
spaces since it doesn’t allow details or seats.

For more information about this room, type: examine #3

You see:
- Yeh (Sleeping).
- Lakeside.
- Mao.
- Spiderman.

Yeh’s Room