DISCOURSE INDICATORS OF CULTURE IN ONLINE COURSES

A Dissertation

by

YAKUT GAZİ

Submitted to the Office of Graduate Studies of
Texas A&M University
in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

May 2007

Major Subject: Educational Psychology

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Approved by:

Chair of Committee, Susan Pedersen
Committee Members, Carolyn Clark
Karen L. Murphy
Gaile S. Cannella
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ABSTRACT

Discourse Indicators of Culture in Online Courses. (May 2007)
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Chair of Advisory Committee: Dr. Susan Pedersen

This study examined the electronic discourse in an online course to investigate if culture exhibited itself in the communication of students. The researcher also sought to find out if a third culture was built in this course and if so, what design features facilitated the emergence of this third culture.

A graduate-level online course at a Southwestern university was examined in a case study. Computer-mediated discourse analysis was used as the method. The students were administered an online demographic survey to collect information about their background. The online communication of the students, the instructor, and the assistants were analyzed. A semantic analysis matrix was developed based on the pilot study that was used to investigate the content of the messages posted in the discussion conferences. The results showed that culture did not exhibit itself in the discourse. A third culture, however, was formed by the students. The discourse characteristics of this third culture are producing timely and intelligent comments and equal levels of participation; use of materials from both cultures; constant interaction among participants; creating a side conversation between two different cultures; a common discourse accent; words, expressions, acronyms created in the course; curiosity, sensitivity, openness towards otherness, critical engagement with others; and ability to understand and tolerate different perspectives and cultural phenomena. The design features of the particular online course were discussed. The design features that may have helped create a third culture among students are face-to-face meetings and introductions conference in the course; instructor's teaching strategies such as creating expectations for participation and her scaffolding and mentoring throughout the course; and features of the course

communication platform such as the ability to embellish the thoughts through the use of fonts, colors, and quoting.

DEDICATION

To my family and teachers…

my giants who let me stand on their shoulders.

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It is very difficult to claim authorship of a work; acknowledging the contribution of others does not really make it any easier. There are so many influences and contributions in the process of creating a written piece of this magnitude, especially when it takes rather long to finish it. How do you make sure to include everyone, even the butterfly that flapped its wings somewhere?..

I will try and acknowledge all the major contributions to the creation of this work and hope to be excused if I forget anyone.

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important events of my life. And I know this is not the only important event we will share together.

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CHAPTER I
INTRODUCTION

Today's global world presents all of us with extraordinary challenges. With the advent of technology, even in our daily routine, we end up communicating with people of different backgrounds. Our lives are more intertwined and interdependent on people representing diverse worldviews, traditions, opinions, value systems, opinions, and ways of doing things. One may try hard to avoid the contact with these diverse peoples; however, the world keeps growing and at the same time getting smaller, and it is indispensable to acknowledge the needs of diverse people – in daily lives, in the workplace, or in educational environments. Computer technologies have made interaction between peoples of different cultures possible on a scale, scope, and speed never before available and brought about extraordinary new possibilities for engagement between cultures and peoples (Ess, 2002). Being able to deal and communicate with people of different backgrounds will be an essential competency in the new era (Lin, 1999).

Likewise, as education becomes a global enterprise, these communication issues become increasingly crucial for the attainment of desired learning outcomes. As Mason says, global education is a challenging undertaking that warrants "talented staff at all levels, unwavering support from the host institution and a real commitment to student learning" (1998, p. 159). Globalization of education and online education initiatives go hand in hand, most recently through higher education institutions offering online courses to a wider audience from all around the world (Mavor & Treyner, 2003). Communication issues arising in online environments are of major concern for the success of these education initiatives. Online learning environments provide an opportunity for social and intellectual interaction, which facilitates course delivery and group learning (Harasim, 1990). Collaborative learning and teamwork in online settings

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This dissertation follows the style and format of *American Educational Research Journal.*

point to the need to understand how cultural differences influence the way groups interact and develop online (Gunawardena, Nolla, Wilson, Lopez-Islas, Ramirez-Angel, & Megchun-Alpizar, 2001). Considerable effort in course design and teaching is needed to avoid participant feelings of exclusion from these interactions and the consequent risk of students dropping out or failing to get the most out of the course (Mavor & Treyner, 2003).

Learning encounters that involve people of different backgrounds are potentially challenging. Socially expected patterns of teacher/student and student/student interaction and their social positions differ to a great extent from one culture to another (Hofstede, 1997). Online environments present even more difficulties especially because they lack the convenience of nonverbal clues that one would receive during face-to-face communication (Hiltz, 1986); therefore, communication issues are of higher importance in these environments.

Statement of the Problem

Online learning environments have been presented as those that are uniquely capable of supporting creation of online communities and time- and place-independent group interaction (Carabajal, LaPointe, & Gunawardena, 2003), which facilitates learning. As one of the factors influencing this interaction, culture is conceptualized as an important group system variable that impacts online group development and process as "cultural groups apply their rules for interacting and using artifacts to the online environment" (Carabajal et al., p. 227). The existing body of literature points to a need for research studies examining this influence of cultural differences on online group work (Gunawardena et al., 2001). Mavor and Treyner (2003) warn practitioners and policy makers about the tissue rejection, a term coined by Holliday (1994), which happens when a curriculum innovation fails to become an effectively functioning part of the system due to the uncritical importation of methodologies to other cultures. Although research that addresses these issues of culture in online environments has started to accumulate recently, more research is needed on how online learning environments can

account for the diversity of perspectives, experiences, expectations, and learning cultures of students representing various backgrounds (Mavor & Treyner, 2003).

In addition to the learner-learner interaction and learner-instructor interaction (Moore, 1989) that may pose problems in intercultural online learning, learner-interface interaction (Hillman, Willis, & Gunawardena, 1994) also presents concerns for designers, instructors, learners, and researcher in online environments. People from diverse backgrounds interact with the online environment differently, based on the assumptions and conventions of their own culture (Evers, 2001). The effects of this interaction are profound in the way students communicate.

The problem is that most online courses are designed in a Western framework where Western ways of thinking and values are prevalent yet these online courses increasingly are being offered to people of diverse backgrounds. This Western framework might present challenges for these students of different backgrounds who have different orientations to learning, collaboration, interaction, and group work. Mavor and Treyner (2003) argue that ignoring the ideological effect of the prevalent practices and procedures governing the higher education online environments and treating these practices as neutral may serve what Pennycook (1995) refers to as legitimizing certain forms of knowledge and educational practice over others. Educators who are involved in the effort of globalization of education should continuously ensure that their “multiple and conflicting interests are honest and active trajectories in shaping” the educational practice rather than “merely allowing [themselves] to be shaped by them” (Mavor & Treyner, p.45). One indication of effective online communication in an intercultural learning environment may be the creation of a third, polycentric culture (Goodfellow et al., 2001; Mason, 1998). Mason cites Lundin's (1996) depiction of a third culture being constructed when materials from one culture are studied by people in a different culture: "Material from both the interacting cultures is used to fill locally and temporally defined functions outside both cultures but intelligible to participants from both who are involved in the particular interaction" (Mason, p. 156). Therefore, an

online course may be considered successful to the extent this sense of a "third culture" is created through communication among students and instructor.

Communication in an online course takes place through language. When language is used in the context of communication as such, it is bound up with culture in multiple and complex ways (Kramsh, 1998). As a corollary to this idea, culture can even be defined as membership in a discourse community that shares a common social space and history, and common imaginings (Kramsch). Therefore, by examining the language of a group, one can get a sense of the embodied culture. By the same token, if there were to be a third culture constructed by students in an online course, one would find evidences of this third culture in the language of the communication in the online course. By deciphering the language of people over the course of an online course, one can interpret and trace people's thought processes and potential changes (Schuetz, 2005) that would lead to a possible co-construction of a third culture through interacting with others.

Based on the importance of communication in online courses in a globalized world and the need for further research in this area, the present research examined how people created a third culture in intercultural online courses.

Purpose

This study was a response to calls for further research in understanding the communication issues in intercultural online learning. The purpose of this research was to explore the discourse indicators of culture in an intercultural graduate online course at a higher education institution in the United States.

Research Questions

This study set out to answer the following research questions:

1. Does culture exhibit itself in the discourse of this particular online class? If so, in what ways?

2. Does this online course build a third culture? If so, what design features of this online course support the development of the third culture?

Assumptions

The data analysis included students' electronic postings as a part of their course work. I had access to only the public and recorded conversations. I did not have access to private emails among students and instructors. My first assumption was that students made most of their communication public and these conversations were readily accessible to me. The second assumption was that students completed the demographic data survey accurately.

Significance of the Study

Many research studies recently addressing the issue of online learning and the needs and backgrounds of learners representing diverse backgrounds are conducted by practitioners (Mason, 2003). Mason also categorizes these studies as interviews with students, analysis of conference interactions, experiments with cross-cultural online collaborations, and feedback from tutors who teach global student groups. There is a "research vacuum" (Mason, p. 751) in the sense that practitioners are lacking the answers to questions such as how to create courses that work successfully for students coming from different cultures and educational paradigms. In order to answer these types of questions, research studies are needed to explore how people from different backgrounds and cultures communicate in online classes so that appropriate course design can facilitate the communication to achieve higher learning gains. This research addresses this existing need. It should help instructors and online course designers in having a better understanding of the communicative issues in intercultural online learning in order to assist them in designing culturally appropriate courseware.

One other significance of this research is its approach to the notion of culture and how it is explored. Research on culture has usually focused on a cross-cultural framework that presupposes the existence of bounded named groups; in other words,

people are defined primarily as members of these groups. For example, Hofstede's (1997, 2001) and Hall's (1976) work on dimensions of cultures and cultural communication styles compare and contrast people of different cultures on some behaviors and orientations. When a member of one group communicates with a member of another group, the individual's membership is the most important aspect of what is occurring in this communication (Scollon, 2002). Therefore, cultural membership becomes the primary cause of the observable differences as well as the explanation of any communicative problems that might arise. Scollon and Scollon (2001) criticize a pre-set classification of participants as coming from different cultures and suggest starting with social problems to determine the extent that intercultural analysis is a useful tool. To avoid reproducing differences and reinforcing stereotypes, this study stayed away from "positivist or essentializing assertion of groups as pre-existing bounded entities" (Scollon, 2002, p.2). Therefore, the study refrained from examining a particular culture exclusively, rather it chose to examine cultures in interaction with each other. By doing so, this research revealed how this interaction helped create a third culture in online courses contributed to the design of research approaches to analyzing online environments.

This research aimed to foster the hope that a third culture can indeed be created in an online course, which would indicate a behavioral change that happens within the course of an academic semester. This is significant, because for most educational contexts a semester is the major time constraint. This research showed how an online course could be a place for fostering the process of understanding self and other cultures in spite of institutional constraints.

Definition of Terms

Communication refers to a connection that allows access among persons, usually through words, letters, or messages. It is a general term for the flow of information linking people or places.

Computer conferencing involves direct human-to-human communication, with the computer providing only storage and retrieval functions. Computer conferencing

uses tools such as electronic mail, bulletin board systems, and conference management systems or groupware (Santoro, 1995). It is supported by systems such as Forum, Participate, Cosy, VaxNotes, Blackboard, Lotus Notes, FirstClass™, WWWBoard, and WebCT™ .

Computer-mediated communication (CMC) is communication that takes place between human beings separated in time and/or place, mediated by the instrumentality of interconnected computers (Herring, 1996; Romiszowski & Mason, 1996). The term CMC covers a wide range of functions and applications, and encompasses such areas as electronic messaging (Johansen, Vallee & Spangler, 1979), office automation (Rice & Case, 1983; Benest & Dukic, 1993), distributed decision-making (Wellens, 1993), electronic boardrooms (Pinsonneault & Kraemer, 1989), and teleconferencing, in addition to informatics (Santoro, 1995), computer supported cooperative work or CSCW (Bowers & Senford, 1991; Scrivener & Clark,1994), decision support systems and group support systems or GDSS (Jessup & Valacich, 1993), and computer assisted instruction or CAI (Santoro, 1995). The terms informatics, CSCW, GDSS, and CAI are important, as they are associated with particular areas of study within CMC (Ferris, 1997).

Course design refers to the planned structure, layout, and activities of the course.

Course platform is the software program used to deliver the online content. It may or may not provide for the computer conferencing. WebCT™, Blackboard®, and Prometheus® are some commercial course platforms that are currently being used widely.

Culture is the set of established values, attitudes, and beliefs a group of people collectively hold. Culture is manifested in individuals' behaviors when they are interacting with people from their own and other cultures. There is a high dependency between culture and language, especially in text-based online environments, like the one studied in this research.

E-learning is the learning that is facilitated predominantly through the use of telecommunication technologies such as electronic mail, electronic bulletin board

systems, inter-relay chat, desktop conferencing, and the World Wide Web (Hirumi, 2002).

Globalization refers to making something worldwide in scope or application.

Interaction refers to the reciprocal actions of two or more actors within a given context (Vrasidas & McIsaac, 1999). An alternative definition is a pattern of communication between learners and/or instructors (Bannan-Ritland, 2002), which comes closest to my approach in this research.

Intercultural communication refers to distinct cultural or other groups in interaction with each other in which the comparative analysis of the groups or the synthesis between them surfaces as part of the interaction of members of different groups with each other (Scollon & Scollon, 2001).

Intercultural online courses refer to online courses in which online students from many different cultures participate. In its broadest sense, all online courses are intercultural because all interactions can be considered intercultural (Scollon, 2001).

Online community refers to a group of people who share a common interest or purpose and who have the ability to get to know each other better over time through a range of online activities including electronic collaboration, virtual networks, Web-based discussions or electronic mailing lists (Palloff & Pratt, 1999).

Online courses refer to courses that use CMC as the primary environment for course activities. Some face-to-face meetings may be offered for specific purposes such as CMC training and introduction of the curriculum (Harasim, Hiltz, Teles, & Turoff, 1995).

Online learning refers to learning as a result of a series of planned synchronous and asynchronous activities designed and provided through the Internet-based technologies.

Online students refer to learners taking online courses.

Third culture is what is created "from an intercultural interaction when persons from different cultures communicate equitably and with respect for the other such that

the emergent culture reflects appropriate input from each interlocutor" (Raybourn, Kings, & Davies, 2003, p. 106)

Summary

This chapter presented the rationale for the research, introduced the purpose that lead into the research questions, stated the underlying assumptions, discussed the potential significance of the research, and presented the definitions of the terms used. The rest of the research is structured as follows: Chapter II presents the relevant review of literature and focuses on online learning, intercultural communication, and computer-mediated discourse. Chapter III presents the methodology and the computer-mediated discourse analysis (CMDA) research process. Subsequent chapter, Chapter IV, presents the results of the study and answers the research questions. Chapter V summarizes the research, discusses the implications and limitations, interprets the results, and presents suggestions for further research.

CHAPTER II
REVIEW OF LITERATURE

This chapter provides an overview of literature in the areas relevant to the present study and consists of three sections. The first section provides a brief history of online learning in higher education and summarizes its advantages and disadvantages. The second section focuses on intercultural communication and reviews literature related to intercultural communication in online learning. Finally, the third section focuses on computer-mediated discourse, its characteristics, and approaches to its analysis.

Online Learning

This section defines and describes online learning, discusses the emergence of online learning as an alternative to traditional learning, and describes issues surrounding online learning. These issues in online learning are grouped into pedagogical, communicational, technological, and cultural and global, each of which is explored further.

What Is Online Learning?

In its broadest sense, online learning is learning acquired by Web-based or Internet-based technologies (Learning Circuits, 2002). It can also be described as the learning resulting from educational content via a Web browser over the public Internet, a private intranet, or an extranet. Palloff and Pratt (1999) list the definitional elements of online learning as the following:

- Learners and instructors are separated in time and place for the majority of the instructional process.
- They are connected through educational media.
- Control of the learning process is transferred to the student from the instructor.

I will define online learning as "learning as a result of a series of planned synchronous and asynchronous activities designed and provided through the Internet-based technologies."

A related term, which sometimes used interchangeably with online education, is Web-based instruction. Web-based instruction is a "hypermedia-based instructional program, which utilizes the attributes and resources of the World Wide Web to create a meaningful learning environment where learning is fostered and supported" (Khan, 1997, p.6). Web-based instruction requires careful consideration of the Web's potential in relation to instructional design principles (Khan). An understanding of capabilities of Web-based instruction components and features, which can facilitate the design of meaningful learning environments and relevant learning opportunities, is essential.

Emergence of Online Learning as an Alternative to Traditional Learning

This section will talk about the emergence of online learning as a new form of learning and discuss its characteristics.

Imagine the excitement and puzzlement when people were presented with the printing press back in the 17th century. It was a revolutionary change; virtually everyone would be able to learn whatever they wanted as long as they could afford the printed materials. The printing press paved the way for the Renaissance and Reform movements, and then led to the Industrial Revolution, immensely impacting the course of human development.

Dewar (1998) claims that changes in the information age, especially due to the networked computers, will be as dramatic and profound as those in Europe after the printing press. At the end of the 15th century, only 50 years after Gutenberg's first printed Bible, printing presses were already running in more than 110 European cities. According to the French historian Henri-Jean Martin, back then, a reader could choose among 27,000 different printed titles, which meant that there were more than 10 million copies of books circulating in Europe when the total population only reached 100 million people and potential readership was just a few hundred thousands (Giussani, 1998). Similarly, since ARPANET first went on line in 1969, the growth in networked

computers has been exponential. The growth rate has slowed recently, but is still doubling every 12-15 months (Dewar). Dewar speculates that in the year 2010, about 50% of the households in the United States will have computers (up from 28% in 1998) and 30% of households will be connected to the network (up from 11% in 1998). An unbalanced percentage of computer ownership and network usage will be in White and Asian households, in the upper quartile of income and mostly college graduates.

The introduction of the printing press made some structural changes in the learning patterns; it was, in a sense, liberation from the typically verbal teaching/learning practices that centered mainly on the teacher/mentor. Learning was usually a product of one-way communication. Book reading was a privilege of the monks and old and wealthy men (Eisenstein, 1979; cited in Dewar, 1988). However, with the printed books, learning no longer required the presence of a mentor because it could be done privately (Dewar, 1998). People shifted from being listeners to being readers. Centuries later, the evolution and advent of the Internet brought a similar kind of change in people's lives: an immense amount of information is at people's fingertips anytime, anywhere.

Along with these historical changes that are taking place in people's lives, knowledge has been doubling with an exponential rate. Appleberry (1993, cited in Gillani, 2003) predicts that, by the year 2020, knowledge will double every 73 days. The increase in expected post secondary degree granting institutions is about 15%, with a possible maximum of 19% (National Center for Education Statistics, 2002). This change is paralleled by a 1% expected increase for public and private elementary and secondary schooling between 2000 and 2001 (National Center for Education Statistics, 2002). The increasing demand in higher education is coupled with the change in the profile of higher education students. Older, non-traditional students, who live in rural areas, usually working full or part-time are beginning to return to higher education and seek degrees (Simonson, Smaldino, Albright, & Zvacek, 2000). This demand creates a need for more classrooms, more computer labs, more recreation areas, and parking lots, which challenges many institutions with financial and spatial constraints. Distance education technologies are becoming increasingly attractive for meeting this demand.

Distance education is traditionally the term used for the structured learning activities in which the student and the instructor are separated by time and place (McIsaac & Gunawardena, 1996). Nevertheless, technological developments and advances in the field of educational technology have the promise of facilitating individualized and collaborative learning and blur the borders between traditional and distance learning environments. In some universities, it has been documented that majority of the students enrolled in the online courses was also enrolled in the on-campus traditional courses (Dziuban, Hartman, & Moskal, 2004). Only for the programs that are offered fully online do students tend to have an 'online only' presence. The notion of students flexibly taking both online and traditional courses created the idea where courses can blend the best of both worlds. For example, learners and instructors can get involved in synchronous activities through computer conferencing, interactive video, teleconferencing, which basically changes the traditional look at distance education. Some institutions already incorporated the distance education technologies widely to create blended courses where they were able to reduce the "seat time", time spent in the classroom, which in turn creates high economic gains for the institution (Dziuban et al., 2004).

In the last one hundred years that the distance education has been adopted throughout the world, none of the distance delivery technologies has experienced the incredibly fast growth of the Internet (Simonson et al, 2000). Simonson and his colleagues predict that Internet or its descendant forms will be the dominant distribution system for education in training in the beginning of the 21st century. The global nature of the medium, its standardized format, and its flexibility for individuals and institutions to join in and use its vast resources have been the major impetus behind Internet's evolution as a distance education technology for government, business and higher education alike (Crossman, 1997). The Internet itself is a powerful tool for both communication and collaboration (McLellan, 1997). Internet technologies in distance education are generally equally likely to be used by various types of post-secondary institutions, ranging from 16% to 22% for synchronous Internet instruction, and from

57% to 61% for asynchronous Internet instruction. Synchronous systems are those where communication takes place simultaneously, like in a chat room, whereas asynchronous communication can occur at any time and at irregular intervals (Palloff & Pratt, 1999). Asynchronous interaction forms like email, bulletin boards, Usenet groups, and web sites are the most common uses of Internet at this time. Institutions that offer distance education plan to start to increase the use of Internet based technologies and two-way interactive video more than any other technology. This suggests that Internet and interactive video technologies will be an even more popular and growing mode of delivery. Expectedly so, the percentage of institutions using Internet based technologies nearly tripled from 22% in 1995 to 60% of institutions in 1997-98 (National Center for Education Statistics, 1999). Since 1995, the World Wide Web (WWW) has further facilitated the adoption of the Internet for teaching and learning, and has opened even more doors for learners, teachers, and educational administrators in all sectors of society and economy (Saba, 2002). WWW provides information in any medium, on any subject, in any order, at any time (Crossman). It is an educational reform tool that can combine content presentation, provide interactive communication for collaboration, facilitate research for further learning, and be a production tool for students' hands-on activities (Gillani, 2003).

Since the early days of online education experimentations in the mid-1980s many developments have taken place. In those early years there was not any theoretical or practical course design models for online delivery. The leading examples of the field were subsequently observed to have five key attributes: an asynchronous, place-independent, many-to-many, text-based computer-mediated system (Harasim, 1990; Harasim, Calvert, & Groneboer, 1997), which either determined the level of success of the online environment. Research studies conducted in the following decade indicates important outcomes for the success of online education. According to Harasim et al, these important aspects of online education are:

- active learning and participation by students

- interactive learning through peer to peer discussion and exchange
- multiple perspectives through input from all the students and the instructor
- metaphors to facilitate the transition from face-to-face to online classroom.

The role of students in the dynamic online environment is no longer one of a traditional learner; they are expected to change from passive to collaborative and active as they progress through their zone of proximal development (Vygotsky, 1962; Gillani, 2003). Through scaffolding (Bruner, 1966), students change from being dependent on others to learn, to collaboration with others, to self-reliance with decreasing support from others, and finally to internalization of educational activities (Gillani). The online learner is noisy, one who is active and creative in the learning process (Nipper, 1989, cited in Palloff & Pratt, 1999).This active interaction among students themselves, the interaction between faculty and students, and the collaboration in learning that result from these interactions are the key to learning (Palloff & Pratt). Carefully designed online environments cherish and nurture these characteristics of students.

Until the second half of the 1990s, online course delivery was based on generic networking tools such as e-mail, computer conferencing, and newsgroups, which were rather inconvenient because they are not designed to support educational activities (Harasim et al, 1997). These tools lacked the features to facilitate crucial learning strategies like multiple representation of ideas and knowledge structures. During the second part of that decade a rapid growth in the development of online environments specifically designed for online learning was witnessed. Some of these environments provided the platform for online course delivery (WebCT™ ™, Blackboard™, Prometheus™), whereas others specialized in computer conferencing (FirstClass™™, LotusNotes™). Through time, campus systems like WebCT™ Vista™ evolved to include both the platform for online delivery and computer conferencing as well as support a single portal for the institution's information technology activities to provide a more extensive multi-solution product. The multitude of these industry products merely represents the popularity and increasing demand for online learning.

The advantage of online learning over traditional distance education is that through careful planning and design, it has the potential to ease some problems encountered by distance students (such as absence of face to face contact, inadequate feedback from instructor, and feeling of not belonging) that traditional students do not normally face (Yazici, Altas, & Demiray, 2001). Students attracted to online learning share some certain characteristics (Palloff & Pratt, 1999), which when cultivated carefully can lead to success. These characteristics are

- voluntary seeking of further education
- motivation, higher expectations, and more self-discipline
- being older than average student
- possession of a more serious attitude toward the courses

Online learning makes the well-designed learning resources that are available only to students in industrialized countries to virtually everyone who has access to the Internet (Khan, 1997). The promise of online learning is that (a) it centers around the student instead of classroom, (b) it focuses on the strengths and needs of individual learners, and (c) it makes lifelong learning a practical reality.

Issues in Online Learning

The issues surrounding the online environments are numerous, mainly because it is a relatively new and an ever-growing field. The technology has grown at such a fast rate that designers of online environments are jumping into the milieu without a solid comprehension of the underlying concerns and issues involved, such as learner characteristics and needs, influence of the media on the instructional process, equity of access to the delivery system, and role changes of the teacher to facilitator (Sherry, 1996). This section presents an overview of these issues.

Pedagogical

Early research in the area of online learning and teaching focused on implementing the theories and constructs of distance education. Here I will briefly present some of these concepts that are relevant to online learning.

Social constructivism. Constructivism is the worldview that recognizes learning as the process of constructing meaning about, or making sense of, our experiences. Learning constructively, particularly in the social constructivist paradigm (Vygotsky, 1978), requires an environment in which collaboration situated in authentic activities takes place. By relocating the focus from the instructor to the learner and by focusing on collaborative learning activities, online learning environments follow the social constructivist path.

Communities of practice. **C**losely related to social constructivism are the communities of practice in online learning. According to Wenger (1991), issues of education should be addressed first in terms of identities and modes of belonging and secondarily in terms of skills and information. By participating in the practices of social communities and by constructing an identity in relation to each community, learners socially construct and share knowledge. Wenger's approach can be applied to the design of online learning environments through activities structured around a legitimate peripheral participation (Lave & Wenger, 1991) of learners to create active and meaningful learning and a sense of community.

Transactional distance. Moore's concept of transactional distance (1990, cited in McIsaac & Gunawardena, 1996) exists in all educational interactions, not just online learning. Distance is not determined geographically, but by the variety of transactions that occur between the learner and teacher. This continuum challenges the idea of traditional versus distance education. According to Saba and Shearer (1994; cited in McIsaac & Gunawardena), as dialogue increases, transactional distance decreases. It is not location that determines the effect of instruction, rather the interaction between student and instructor. Online learning environments try to maximize the transactional distance in order to provide meaningful learning experiences for students. Consequently,

the technological infrastructure and affordances of the online environment becomes an important issue.

Interaction theory. Moore (1989) discusses three relationships that are essential to distance education. These relationships emphasize the importance of interaction:

- Learner-instructor: dialogue between the student and the teacher
- Learner-content: how students obtain intellectual information as a result of interacting with the text
- Learner-learner: exchange of ideas between the students

Hillman, Willis, and Gunawardena (1994) have taken this idea one step further and added a fourth component, which is the learner-interface interaction. They claim that the interaction between the learner and technology is an essential one. Carefully designed online learning environments with capabilities provided by the Web (animation, audio, chat, graphics, and video) may eliminate one of the most common concerns about distance education, which is the lack of learner interaction (Hill, 1997).

Control. Studies show that successful distance learners, as well as online learners, are more likely to have an internal locus of control; they perceive that their academic success is a result of their own personal accomplishments rather than trying to find external events responsible for their failure (McIsaac & Gunawardena, 1996). Garrison (2000), on the other hand, defines control as the opportunity and ability to influence the educational transaction, which can be interpreted more as a function of structure and learning materials and less as a function of personal responsibility.

Social context. McIsaac (1993, cited in McIsaac & Gunawardena, 1996) discusses the social context where the learning takes place and how the environment affects motivation, attitudes, teaching, and learning. She asserts that in spite of the claimed cultural neutrality of technology, attention needs to be paid to social setting or the local recipient culture. One other important social aspect is the concept of social presence, which is the degree to which a person is felt socially present in a medium. Some media are better able to provide opportunities for increasing the social presence of

participants, but it is also up to the individual participants themselves to make use of these affordances of the media. Online environments have the potential of motivating the learners if they are designed appropriately (Duchastel, 1997). Having students involved in the decision making process about aspects of the course, such as discussion topics, is one way to motivate them as well as creating a constructivist learning environment for them (Cifuentes, Murphy, Segur, & Kodali, 1995).

Communicational

Computer-mediated communication (CMC) refers to the type of communication that takes place between human beings via and with the support of computers (Herring, 1996; Santoro, 1995). Virtually millions of people around the world are engaged in some sort of CMC (Herring). CMC is crucial to the online learning environment for it is the backbone of communication between the instructor and students as well as among the students themselves. CMC helps build group coherence among students, share information, process ideas, tutor online, refine communication skills, and provide feedback to students (Chism, 1998; cited in Sherry, 2000).

CMC supports constructivist learning through collaborative, situated, and active learning (Harasim et al, 1995; cited in Murphy & Cifuentes, 2001). In online environments, where learners cannot see or talk to each other, the use of collaborative assignments becomes more challenging (Palloff & Pratt, 1999). Students communicate and collaborate through email, bulletin board services, and computer conferencing tools to create a collective understanding of the issues (Riel, 1998; cited in Murphy & Cifuentes, 2001). A network of interactions between the instructor and the other participants is formed, through which the process of knowledge acquisition is collaboratively created. This process is conducive to the creation and promotion of a community of practice (Palloff & Pratt).

It is widely accepted that CMC has a high potential for facilitating active, collaborative, and meaningful learning. However, researchers also urge educators that design of these CMC activities is crucial for the optimum learning outcomes. In our

everyday life, design of the tool defines the affordances, and these in turn determine the function of the tool and the satisfaction of the user. Similarly, proper, considerate and research-based design of online environments is what facilitates the desired outcomes (Carr-Chellman & Duchastel, 2001). According to Cifuentes, Murphy, Segur, and Kodali (1995), six design considerations for computer conferencing include two administrative design considerations (grading system and grouping), and four instructional design considerations (collaboration, relevance, learner control, and technological preparation). Teamwork in course design, technical training for students, appropriate use of the Internet, and designing for collaboration and learner-centered instruction are integral to effective online course design (Murphy, 1995).

CMC is the fastest growing area in the field of educational technology research and development (Romizowski & Mason, 1996). It is also the most promising for the development of reflective thinking and creative planning skills.

Technological

Technological issues are numerous and crucial in the online environment. Issues such as support structures for online learners, equity and access problems, copyright, and accessibility are the major concerns of the designers and creators of online learning environments.

Support. Web-based courses with greater interactions can be more complicated to use (Gilbert & Moore, 1998). For novice learners or computer users this complexity may lead to confusion, frustration, inadequate performance, and eventual drop-out (Hirumi, 2002). These excessive interactions can cause burnout on the part of students as well as instructors. If a person feels comfortable about the software and hardware of the learning environment, then the environment is perceived as safe and secure (Palloff & Pratt, 1999). Course designers need to consider the kind of technology support that will make learners feel comfortable and safe.

Technology is crucial to the development of the online learning community. Most of the top-of-the-line courseware or CMC software is carefully designed to nurture

and support the online collaboration and community development. Along with issues about the hardware and software, online environments are also faced with the challenge of meeting the demand of students accessing the course from different time zones that poses technical and bandwidth difficulties (Mason & Gunawardena, 2001).

Equity and access: Digital divide. Despite the remarkable premise of online education, it also results in greater divisions between people with access to web-based learning and those without access. Online education is fundamentally based on technology, in most cases cutting edge technology, and statistics show that 50% of the current Internet users are located in Europe and North America, leaving the entire continents of Africa and Latin America with a very small share in the figures (Table 1). Asia, although continues to become technologically advanced, having about 57% of the world's population, only has 35% of Internet users mainly in India and China. Although the differences seem to be diminishing, a digital divide remains or has expanded slightly in some cases, even while Internet access and computer ownership are rising rapidly for almost all groups. For example, the August 2000 data show that noticeable divides still exist between those with different levels of income and education, different racial and ethnic groups, old and young, single and dual-parent families, and those with and without disabilities (National Telecommunications and Information Administration, 2000). However, even within the same income and life standard ranges, Internet use varies, mainly because of life style and cultural differences. Although they can afford the technology, most Europeans seem to be connecting to the Net less often because they prefer socializing 'face-to-face' more than the North Americans do (Cairncross, 2001). In spite of the issues of access, use of Internet for learning is very promising for the developing countries as well as the industrialized countries because of the necessity to educate huge masses of young people (Yazici, Altas, & Demiray, 2001).

Table 1

Internet usage by world region

World Region	Pop. Est. '07	Pop. % of World	Internet Usage	% Pop. Penetration	Usage % of World	Usage Growth 2000-2007
Africa	933,448,292	14.2%	32,765,700	3.5%	3.0%	625.8%
Asia	3,712,527,624	56.5%	389,392,288	10.5%	35.6%	240.7%
Europe	809,624,686	12.3%	312,722,892	38.6%	28.6%	197.6%
Middle East	193,452,727	2.9%	19,382,400	10%	1.8%	490.1%
North America	334,538,018	5.1%	232,057,067	69.4%	21.2%	114.7%
Latin America / Caribbean	556,606,627	8.5%	88,778,986	16.0%	8.1%	391.3%
Oceania / Australia	34,468,443	0.5%	18,430,359	53.5%	1.7%	141.9%
WORLD TOTAL	6,574,666,417	100.0%	1,093,529,692	16.6%	100.0%	202.9%

Internet World Stats: Usage and Population Statistics, Accessed on Jan. 11, 2007 from http://www.internetworldstats.com.

A digital divide is marked not only by physical access to computers and connectivity, but also by access to the additional resources that allow people to use technology well; these issues are related to content, language, education, literacy, or community and social resources. Those who popularized the term "digital divide" have helped focus public attention on the important social issue of technology and inequality;, however, it is now necessary to look at this issue through a more comprehensive assessment of what access involves and of the ends that such access serves (Warschauer, 2002).

Recently, there have been discussions about the nature of the changing digital divide. According to many, a "digital divide" separates the haves from the have-nots. Only the privileged have access to computer technology, further disadvantaging the less privileged. In the case of distance education, however, the digital divide may be turning

on its head, with the have-nots being obliged to take their courses online while the haves get to do it in person (Noble, 2002). Noble points out that a recent Pentagon appropriation bill that includes some funding for distance education stipulates that the Army must continue using traditional classroom instruction in a training program for students at historically black colleges and universities rather than the distance education preferred by the Army. According to Noble, some members of Congress representing the interests of black constituents view distance education as a degraded, less valuable, form of education and have insisted that their constituents receive the genuine article instead. Apparently, this potential change in the conceptualization or implications of digital divide needs attention from policy makers, administrators, and educators.

Copyright. Due to the incredible ease of access to and reproduction of information, plagiarism and copyright have quickly become very important issues in online learning. More and more regulations are being produced every day, and instructors and designers are challenged by the requirements to follow these themselves as well as trying to make sure that their students are following them. Recent studies indicate that approximately 30 percent of all students may be plagiarizing on every written assignment they complete (Plagiarism.org, 2002). Tools like Turnitin.com are becoming available for instructors to eliminate students' plagiarism (Turnitin.com, 2002). However, more education and awareness will still be needed for a plagiarism-safe online learning environment.

Accessibility. Creating online environments, which are accessible to everyone, is a growing concern as well. Just like in daily life, where we all benefit from the conveniences brought by the accessibility initiatives, similar initiatives serve everyone in the online environments. Designers are urged to pay attention to the platform, file type, and interface decisions. The federal laws often referred to as "504," "508," and "ADA" protect people with disabilities from discrimination, and promote equal access for them. Section 504 of the Rehabilitation Act of 1973 requires all employers and organizations receiving federal assistance—including most universities—to provide people with disabilities equal access to information, programs, activities, and services (Accessibility

in Distance Education, n.d.). In accordance with these laws, course designers are compelled to provide meaningful alternatives to the way they present content. For example, if a simulation or a video is presented as a part of the course content, it is imperative to provide the same content as sound or text files for the students with disabilities.

Cultural and Global

Issues related to the cultural and global aspects of online learning are centered on language and cultural distance. These factors are of crucial importance for the design of and communication in online learning environments.

Language. The advent of virtual and global learning and the fact that English is becoming a universal language in online environments give rise to certain issues. It is becoming clear that English itself has variations in it and international communication involves some non-standard uses of English. Different cultures may speak the same language, however, give differing degrees of importance to knowledge, cognition, and educational processes (Pincas, 2001), which affects the degree and pattern of the communication in the environment. In these types of environments, it is important to nurture cultural literacy, which is a dynamic process of negotiating meaning and of understanding differences in worldviews (Furstenberg et al. 2001; cited in Pincas). Discourse in the communities of practice represents shared concepts, values, and conventions, which go beyond the semantic meaning of the words (Pincas). So it is not just a matter of speaking the same language to communicate online, but also the creation of a shared meaning and culture, which should be facilitated through the course design.

Cultural distance. Research shows that different cultures have different preferences and practices (Hofstede, 1997, 2001) and ways of knowing and learning (Teasdale & Teasdale, 1994; Pincas, 2001). Cultures differ as to what is worth learning (Keats, 1994; cited in Pincas). Pincas stresses that the educators, instructors, and designers of learning environments should constantly make sure that the differences in performance really arise from intellectual deficits, not because of a tendency to favor

Western culture and its practices. With the globalization of education and the advent of Internet, a third aspect of distance education is said to have emerged: cultural distance (Wilson, 2001). Pedagogies that create communities bridging these "distances" and instructional theories that accept cultural diversity and at the same time address local culture are needed (Halliday, 1994, cited in Pincas). These types of communities of online collaboration and communication lead to synthesis of knowledge from different perspectives (McLoughlin, 2001). It is the task of designers and educators to create online environments that facilitate this synthesis.

According to Yetim (2002), there are three orientations to designing global communications systems: Multi-, trans-, and intercultural. Multicultural orientation focuses on designing different versions of systems for different target cultures, whereas the transcultural orientation produces a single system for all culture that is basically informed by the conventions of one culture. Intercultural orientation, on the contrary, aims at designing a common system for all cultures, which is achieved ideally through an intercultural dialogue and consensus among concerned cultural groups. Research is needed on the comparative strength and weaknesses of these orientations, and practitioners need to be guided by the outcomes of these studies.

Intercultural Communication

This section will talk about culture, intercultural and cross-cultural communication, and issues of intercultural communication in online learning.

Culture

Culture is a concept, which is very complex and difficult to define. Researchers have often avoided defining culture explicitly (Segall, 1984). Nichols (2003) cites sources to claim that research on cultural difference is widely variable in ways it defines the term "culture" "as a value system, country, language; in the methods used to collect and analyze information about culture; and in the resulting descriptions of particular cultures" (p.144). Studies in social psychology, for example, do not consider culture as a psychological construct on its own, but as a source of group-based variation in other

psychological phenomena (Adams & Markus, 2004). When the approach is this, culture becomes a shorthand for a grouping variable of secondary interest (Adams & Markus), whereas the primary interest is more standard psychological phenomena, like motivation, emotion, cognition, conformity, dissonance, and the like. Culture is a general term for the beliefs and behaviors accepted within communities that may range from small family units to national or international systems (Pincas, 2001, p. 30). Hofstede defines culture as the "collective programming of the mind that distinguishes the members of one group or category of people from one another" (2001, p. 9), which emphasizes the learnable aspect of culture. Culture is also an individual and psychological construct as reflected in Matsumoto's definition (cited in Gunawardena et al, 2003, p.754): "the set of attitudes, values, beliefs, and behaviors shared by a group of people, but different for each individual, communicated from one generation to the next." For the purposes of this research I will use the following definition of culture:

> *Culture is the set of established values, attitudes, and beliefs a group of people collectively hold. Culture is manifested in individuals' behaviors when they are interacting with people from their own and other cultures.*

Intercultural and Cross-cultural Communication

Based on this definition, intercultural communication instances are those in which people representing different cultural backgrounds are in interaction. Here an important distinction to be made is between intercultural and cross-cultural communication. It is possible to take intercultural communication "to signal the study of distinct cultural or other groups in interaction with each other" (Scollon & Scollon, 2001, p. 539) in which the comparative analysis of the groups or the synthesis between them surfaces as part of the interaction of members of different groups with each other. The researcher is outside of the interaction and provides an analysis of how the participants negotiate their cultural or other differences. Scollon and Scollon further characterize cross-cultural communication to signal the independent study of the communicative characteristics of distinct cultural or other groups, as in Hofstede's studies (1997, 2001). The researcher is responsible for making the comparison and

synthesis of the distinct groups by studying them as distinct entities; the within-group interactions are overlooked and "considerable variability within each group is being glossed over" (p. 539).

According to Hofstede (2001), cross-cultural situations are those that involve interactions of partners who were born, raised, and mentally programmed in different cultures. Hofstede's model of cultural dimensions attempts to explain interpersonal phenomena and observed cross-cultural differences across nations and is one of very few empirically supported frameworks (Gunawardena et al., 2001). It can explain and help researchers understand the similarities and differences that are observed in different countries when matched phenomena are under consideration (Hofstede). Hofstede's studies were conducted with IBM employees of more than 50 countries all around the world. Altogether, these studies identified five dimensions of national culture differences. These differences are rooted in a basic problem with which all societies have to cope, but on which their answers vary. Hofstede's (1997) dimensions are:

1. the different approaches societies take in dealing with the basic problem of human inequality, *power distance*
2. the level of stress in a society when there is an unknown future, *uncertainty avoidance*
3. the degree to which the society emphasizes individuals and individual goals or collaboration, group identity and goals, and avoidance of conflict, *individualism versus collectivism*
4. the rigidity and definition of gender roles, *masculinity versus femininity*
5. the choice of focus for people's efforts, long-term versus short-term orientation , also referred as *Confucian dynamism*.

The different communication styles that participants bring to an interaction constitute one of the factors that contribute to issues in intercultural communication (FitzGerald, 2003). Communication styles are where language and culture meet to manifest how language is used and understood in a particular culture (Clancy, 1986). In

many instances of intercultural communication, participants use a common language, in which they all have a solid grasp of the structures of that language, but they express themselves in the communication style of their first language (FitzGerald). These pragmatic aspects of language, such a discourse styles, have their roots in people's cultural values and personalities, therefore in a new language it takes much longer to master these rules than to become experts in other features of the language such as vocabulary, syntax, and pronunciation (FitzGerald). Fitzgerald cites Seaman's study (1972) where he found that the Greek language was almost extinct in third generation Greek-Americans but their communication style still reflected Greek influences.

One of the most useful frameworks of communication styles is Hall's (1976) high and low context styles. Context is another integral aspect of intercultural communication (Lane, 2002), because different cultures relate to the context of life in different ways. According to Hall, communication in high context cultures depends on clues residing in the physical context or the individualized person, while very little is actually coded in the actual explicit message, whereas communication in low context cultures contains most of the message in the actual explicit code without depending on the context. People from high context cultures might become impatient when communicating with people from low-context cultures. Similarly, people from low context cultures may easily become frustrated and uncomfortable when the details they need are not present.

Gudykunst, Ting-Toomey, and Chua (1988) expanded Hall's work and identified four stylistic modes: direct versus indirect, elaborate versus exacting versus succinct, personal versus contextual, and instrumental versus affective. Cultures differ in the degree to which speakers directly reveal their meanings and intentions. In cultures that are direct, people are clear about their meaning. In cultures that are indirect, people hint at their real meaning and listeners are expected to make inferences from the information given and from the context. In general, individualistic, low context cultures tend to be more direct, while collectivist, high context cultures tend to be more indirect. Gudykunst et al. explain this by referring to Hofstede and Hall's work. They assert that the value

orientation of individualism in cultures such as North America encourages norms of honesty and openness through direct, precise, and explicit verbal expression. The value orientation of collectivism in cultures like East Asia on the other hand, stresses group harmony and conformity, which are manifested through indirect, imprecise, implicit verbal behaviors. In terms of amount of talk, in a culture that uses the elaborate style (for example, many Arab and Middle Eastern cultures and African Americans), the emphasis is on eloquent, expressive, and embellished language, which includes the use of many metaphors, similes, and other figurative language. Cultures where an exacting style is used, it is expected that no more and no less than is necessary will be said. This style is typical of English speakers where Grice's (1975) maxim of quantity is closely followed. Speakers provide no more or no less information than what is required in an interaction. In a culture that uses the succinct style, such Asian cultures like Japan and China as well as some Native American cultures, speakers are very concise. The interaction is characterized by pauses and silence as talk and verbal skills are not highly valued. Speakers may say less than necessary and expect the hearer to make inferences. The third style identified by Gudykunst et al., personal versus contextual, describes whether the style is centered on the particular individual, or the role, the hierarchy of the society, and the contextual clues. In personal style the language is highly centered on the personhood and it reflects an egalitarian social order. Explicit personal pronouns are very common and direct address and often first names are used to emphasize equality and informality. This style is typical of English speaking and Scandinavian countries, which are low-context, individualistic, and characterized as low power-distance countries in Hofstede's scale. In contextual dimension, the listener is expected to share many assumptions about the situation and is given much minor contextual and or background information first. This is typical of Indian English and Chinese discourse style. Similarly, in status-orientated languages in cultures such as in Korea and Thailand, different forms of address, reference, and verb forms must be used depending on the situation and the status of those who are involved. This contextual style is usually observed in collectivist, high-context cultures which are described as high power

distance cultures by Hofstede. The fourth style, instrumental versus affective, deals with the orientation of communication. Instrumental style, typical of North Americans, refers to a more goal-oriented and sender-oriented use of language in which people try to persuade the listeners in a systematic way without needing to make sure their argument is being received sympathetically. Affective style, however, is more listener-oriented and more process-oriented. Affective style can be further subdivided into *subdued affective* and *dramatic affective.* In subdued affective style, typical of East Asia, speakers are deliberately imprecise and indirect because they do not express an attitude until they feel a sense of acceptance on the listeners' part. In dramatic affective style, typical of Arab speakers, there is a more emotional tone and expressive non-verbal behavior.

FitzGerald (2003), building on Hall's (1976), Hofstede's (1997, 2001), and Gudykunst et al.'s (1988) work and her own research findings proposes six different communication styles: *instrumental/exacting*, *spontaneous/argumentative, involved/expressive, elaborate/dynamic, bureaucratic/contextual, succinct/subdued.* These styles and their corresponding cultural groupings are presented in Table 2.

The *instrumental/exacting style* cultures value individual autonomy and non-imposition on others. They stress negative face, which is defined by Brown and Levinson (1987, p.61) as "the basic claim to territories, personal preserves, rights to non-distraction, in other words, freedom of action and freedom from imposition" and an "I" identity centered on individual personhood. This results in a brief, explicit, linear, goal-oriented style, where participants tend to use a deductive style of organization, interact as equals, and value unemotional, objective discussion and argument. They prefer short, discrete turns and tend to dislike overlaps.

Table 2

Communication styles and cultural groupings (FitzGerald, 2003)

Descriptor	Cultural grouping	Characteristics
Instrumental/exacting	English speaking cultures / North and West Europe	Individual autonomy and non-imposition on others; short turns
Spontaneous/argumentative	Eastern Europe	Sincerity, spontaneity, and closeness; long turns
Involved/expressive	Southern European/Latin American	Warm and emotional expressiveness but are concerned with according to positive face to others
Elaborate/dramatic	Middle Eastern	Harmonious relations and positive face achieved by an affective, contextual style that accepts and promotes long turns; form more important than content
Bureaucratic/contextual	South Asian	Harmonious relations and positive face, which is achieved by an affective, contextual style stressing form rather than content, taking long turns with formal, bureaucratic language, much repetition and a preference for an inductive style of organization
Succinct/subdued	East and South Asian	Harmony, modesty, and conformity and stress positive face, expressed by masking negative emotions and avoiding unpleasantness; talk is status oriented and deferential and indirect

The *spontaneous/argumentative style* cultures place a high value on sincerity, spontaneity, and closeness, which results in blunt, direct style where people can express negative emotions and views and argue forcibly in order to persuade others, without considering their feelings or reactions. Long, discrete turns are preferred because of the need to fully express their views. The *involved/expressive style* cultures value warm and emotional expressiveness but are concerned with according to positive face to others. Positive face is "the positive consistent self-image or 'personality' (crucially including the desire that this self-image be appreciated and approved of) claimed by interactants" (Brown and Levinson, 1987, p. 61). Therefore, while the argument is enjoyed in involved/expressive style cultures, the style of communication is affective and

contextual with collaborative overlap, and the organization of information can be tangential and digressive. The *elaborate/dramatic style* cultures value harmonious relations and positive face, which is achieved by an affective, contextual style that accepts and promotes long turns. Form is more important than content. Sweeping assertions, over-generalizations and dramatic embellishment such as expressive metaphors and similes, rhythmical repetition of words and parallel structures are employed in order to persuade others, which is a main purpose of communication. The *bureaucratic/contextual style* cultures also value harmonious relations and positive face, which is achieved by an affective, contextual style stressing form rather than content, taking long turns with formal, bureaucratic language, much repetition and a preference for an inductive style of organization. Both sides of an issue may be considered and agreement and disagreement components are included in one turn. The *succinct/subdued style* cultures value harmony, modesty, and conformity and stress positive face. They express this by masking negative emotions and avoiding unpleasantness. Talk is status oriented and should be deferential and indirect in many situations. People are expected to infer meanings. Turns are short and talk is concise except when an inductive organization of information of information and a conciliatory approach are used to avoid open disagreement. Talk and verbal skills are not highly valued and people are comfortable with silences.

Some researchers think conducting intercultural communication research that documents differences in cultural communication styles perpetuates and strengthens negative stereotypes, however, ignoring the differences and assuming everyone is the same is another form of discrimination (FitzGerald, 2003) that leads to misinterpretation and problems in intercultural relationships. There is a necessary caution that needs to be taken by researchers, however, in making generalizations of cultural styles. Most researchers tend to over-generalize when making comparisons. For example, referring to East Asians as a whole group of Japanese, Chinese, Korean, and South Asians including India can be misleading since this grouping represents many different cultures and languages with sometimes differing characteristics. Clyne (1994), for example,

found that South Asians such as Indians and Sri Lankans had more in common with Iranians rather than other Asians such as Japanese and Chinese.

Intercultural Communication in Online Learning

Online environments provide educators with opportunities for social constructivist and collaborative learning. However, for an online environment to function truly as social constructivist, students should work together to form an online community of practice. Communities of practice are based on three dimensions of relations (Wenger, 1991): mutual engagement, joint enterprise, and a shared repertoire. Communities rely on communication in order to maintain these relations. Each community develops its own linguistic means of communicating, and the in-jokes, jargon, and culture-specific references and acronyms can present the learners with a challenge. Moreover, because most people hold memberships of various communities, global education in general and online courses in particular face the challenge of addressing a mosaic of differences (Pincas, 2001). These differences in language are even more complicated by the fact that electronic media alter language. This alteration is seen in the way language is used, in the need for a more global language, and in how they influence the future of other languages (Cairncross, 2001).

Related to language is Tharp's verbal/analytic versus visual/holistic dimension. According to Tharp's categorization (1989), learners of verbal/analytic societies would have a distinct advantage over those learners with a cultural environment focusing on visual/holistic processes in most online courses, unless the focus of the course is on visual procedures. Westerners are said to focus primarily on the object and favor abstract analysis, whereas East Asians are more holistic, they attend to the entire field and build causality to it, and favor experience-based knowledge (Nisbett, Peng, Choi, & Norenzayan, 2001). One implication that might require further research is that people from high context cultures are more oriented towards a visual/holistic processing whereas people from low context cultures have a verbal/analytic orientation.

The nature of asynchronous communication in online environments introduces further issues. Non-native speakers who use a second language to communicate find the

asynchronous mode of the online courses convenient because it gives them more time to reflect and compose their thoughts into meaningful sentences (Mason & Gunawardena, 2001). However, due to the absence of visual and body cues in turn taking (Pincas, 2001), cultural differences play an important role in claiming the turn in the conversation. Some students prefer not to post a message until they are specifically called, whereas others do not hesitate to post messages one after the other, which for some students can be annoying and considered monopolizing the conversation. Learned conventions of turn-taking seem to be universal (Pincas), however, there are differences in the degree to which, for example, overlap is tolerated and the way people perceive the transition-relevant places. These types of discourse activities need more exploration and empirical research. Discourse analysis has recently been called upon to examine the nature of online discourse, however, most existing studies focus on synchronous computer-mediated communication (Condon & Cech, 1996; Turbee, 1997; Werry, 1996). Pincas notes a need to incorporate discourse analytic methods to look especially at asynchronous communication.

Even universally agreed and applied communicative rules like Grice's (1975) cooperative principle - which states that speakers in a communicative event will be informative, truthful, relevant, and clear - are culturally loaded (Pincas, 2001). This is because the degree of relevancy and amount of information can change from culture to culture. This difference in perception introduces another discourse-related difficulty. English speakers are characterized by their impatience with speakers who do not get to the point and spend time on irrelevant matters. On the other hand, speakers of English as a second language, in order to avoid making grammatical errors, often form long sentences (Pincas). So in this case, two of Grice's maxims, "relevancy" and "manner", are judged differently by these two groups of people. Clyne (1994, p. 195) revised Grice's maxim of manner to reflect this cultural aspect of communication: "make clear your communicative intent unless this is against the interest of politeness or maintaining a value, such as, harmony, charity, or respect." In addition to Grice's four maxims of communication, Clyne added a fifth maxim, which stated that speakers in a

communicative event should take into account anything they know or can predict about interlocutor's communication expectations.

With the emergence of new global cultural forms, media, and technologies of communication, the relations of affiliation, identity, and interaction within and across local cultural settings have been reshaped, which is termed globalization (Burbules & Torres, 2000). Although globalization in education is highly recognized and upheld by scholars and educators, the target needs of students in global education courses are still seen as content and language focused. The experiences, beliefs, and cultural expectations of students from a variety of backgrounds are not yet reflected in the pedagogy and evaluation practices (Pincas, 2001).

Online courses need to be designed and thought to accommodate communication and teaching strategies that are effective in intercultural learning environments. The culture where the course is offered, which generally referred to as the local or host culture, presents challenges for students from different cultural backgrounds. One goal of effective online communication in an intercultural learning environment may be to create a third, polycentric culture (Goodfellow et al., 2001; Mason, 1998). The term "third culture" was first coined by science historian C. P. Snow (1969), who imagined a culture where literary intellectuals conversed directly with scientists. Mason cites Lundin's (1996) depiction of a third culture being constructed when materials from one culture are studied by people in a different culture: "Material from both the interacting cultures is used to fill locally and temporally defined functions outside both cultures but intelligible to participants from both who are involved in the particular interaction" (Mason, p. 156). According to Raybourn, Kings, and Davies (2003), a 'third culture' is what is created "from an intercultural interaction when persons from different cultures communicate equitably and with respect for the other such that the emergent culture reflects appropriate input from each interlocutor" (p. 106). A third culture is the co-creation of meaning in which all interlocutors are participants and co-owners. Students co-create a third culture that is neither one nor the other, but a combination of the two, or three, or more. However, a third, or polycentric culture is not automatically created once

students from diverse cultural backgrounds are placed in interaction. Moore, Shattuck, and Al-Harthi (2005), citing Shattuck's 2005 study conclude that international students can feel marginalized within the online environment although the course may incorporate constructivist-based pedagogy in an interactive way. This interactive world can be a lonely place for an international online learner whose cultural experiences are different than the dominant educational culture. They can feel left outside of learning systems familiar to them.

According to Murphy, Gazi, and Cifuentes (2006), a third culture combines elements of the dominant cultural dimensions and helps move individuals and groups from ethnocentrism to polycentrism, which is "the recognition that different kinds of people should be measured by different standards and the ability to understand the foreigner according to the foreigner's standards" (Hofstede, 1997, p. 211). Forming a polycentric culture would help move learners beyond "non-participation and marginalization in online communities and globally-delivered courses" (Goodfellow et al., p. 80). Such a polycentric culture would accommodate differing cultural and linguistic practices that individual learners bring to the learning context. Courses that incorporate collaborative project-based learning activities; explicit scaffolding with guidelines for time- and task-management; and assigning control to student activity facilitators to encourage collaboration rather than competition can help reduce cultural distance and foster creation of a third culture. The course design makes the difference by facilitating an interface for a polycentric culture to develop (Murphy, Gazi, & Cifuentes). Interacting through language, online learners can reshape and define their online space as a third culture.

A compilation of relevant research on communication and cultural studies reveals that the following can be indicators where a third culture is formed among students.

- Producing timely and intelligent comments and equal levels of participation (Goodfellow, et. al. DE 22)

- Materials from both cultures are used: personal experiences, cultural experiences, materials, ideas from own culture, practices (Lindin 1996 in Mason 1998)
- Constant interaction among participants (Kramsch, 1998)
- Creating a side conversation between two different cultures (Kramsch, 1998)
- A common discourse accent (Kramsch, 1998); words, expressions, acronyms created in the course
- Curiosity, sensitivity, openness towards otherness, critical engagement with others (Schuetz, 2005)
- Ability to understand and tolerate different perspectives and cultural phenomena (Schuetz, 2005)

Computer-mediated Discourse

This section will first define and describe discourse analysis. In the latter part of the section computer-mediated discourse analysis will be introduced.

Discourse Analysis

Online communication to a very large extent takes place by means of discourse (Herring, 2004). The classic definition of discourse is "language above the sentence" (Schiffrin, 1994, p. 23). However, the definition of discourse analysis is contested due to multiple perspectives, multiple methods and approaches (Wood & Kroger, 2000).

Discourse analysis is a widely recognized and one of the least defined fields areas in linguistics (Schiffrin, 1994). According to Potter (1997, cited in Wood & Kroger, 2000, p. 3) "Discourse analysis has an analytic commitment to studying discourse as texts and talks in social practices. That is, the focus is not on language as an abstract entity such as a lexicon and set of grammatical rules (in linguistics), a system of differences (in structuralism), a set of rules transforming statements (in Foucauldian genealogies). Instead, it is the medium for interaction; analysis of discourse becomes, then analysis of what people do." Foucault explains that discourses are not "a mere intersection of things and words: an obscure web of rings, and a manifest, visible,

colored chain of words" (1972, p. 48). On the contrary, they are "practices that systematically form the objects [and subjects] of which they speak" (p.49).

Discourse analysis refers to a variety of different approaches to the study of texts, which have developed from different traditions and diverse disciplinary locations (Gill, 2000). According to Gill there are at least 57 varieties of discourse analysis. Discourse analysts study everything from the topic-comment structures of sentences or paragraphs through the analysis of rambling conversations or jokes (Scollon & Scollon, 1995). Discourse analysis can point to the ways in which certain practices serve to obscure and therefore perpetuate what is taken for granted. It can identify conversational practices that are problematic for participants and can also identify unproblematic practices that we (as members of the culture) think should be problematic (MacMartin, Wood, & Kroger, 2001).

One can talk about three broad theoretical traditions around which these varieties of discourse analysis revolve. These traditions are critical linguistics/social semiotics/critical language studies; speech-act theory/ethnomethodology/conversation analysis; and poststructuralism (Gill, 2000). Common to all these theoretical traditions is the notion that discourse analysis cannot be used to address the same sort of questions as conventional approaches. Using discourse analysis requires an epistemological shift; rather than being interested in finding out about a reality behind language, discourse analysts are interested in the text in its own right (Gill). It is fair to say that most of the questions are "how" questions in the realm of discourse analysis. Discourse analysis is "an interpretation, warranted by detailed argument and attention to the material being studied" (Gill, p. 188).

Discourse analysts do not particularly seek to reach generalizations; they argue that discourse is situational that is constructed from particular interpretive resources and designed for particular contexts (Gill, 2000). Though occasionally there might be a claim of representativeness in the analysis, discourse analysts prefer to be interested in explicating whether something is an instance of a phenomenon rather than worrying

about the quantification of it (Gill). According to Potter (1996), discourse analysts have their own considerations to assess the reliability and validity of the analyses:

a. Deviant case analysis: This is the detailed examination of cases that seem to go against the pattern identified. It can disconfirm the identified pattern or help add greater sophistication to the analysis.
b. Participants' understandings: Examining the participants' responses to an act is a way to double check the researcher's interpretations. For example, a researcher may think a certain act is a compliment, and the participant's response such as "thank you, I like this blouse too" is a confirmation that she takes it as a compliment too.
c. Coherence: Each new study provides a check upon the adequacy of earlier studies. Those studies that prove coherence by capturing something about the discourse can be further developed, while others are prone to be ignored.
d. Readers' evaluations: The presentation of materials to the research community for them to make their own judgment is the most important way for the validity of the analyses. Many discourse analytic research studies present extended passages to the reader.

Potter goes on to say that not all discourse studies contain all of these characteristics and even if they do it does not guarantee the validity of an analysis. He adds, "as sociologists of science have repeatedly shown, there are no such guarantees in science".

Varieties of Discourse Analysis

There are a wide variety of discourse analytic approaches. Among the most exploited approaches to discourse analysis are:

Conversation analysis. Conversation analysis focuses on interaction in talk and gives particular attention to the details of talk and the way in which turns at talk are shaped for particular aspects of the context, especially the other participants (Cameron,

2001; Wood & Kroger, 2000). Conversation analysis is an extremely rich source of ideas about actions, structures, and devices that can serve as analytic resources. Conversation analysis offers a solution to the problems centered on turn exchange – a solution whose operation is demonstrable in actual talk. The solution is a basic set of rules governing turn construction, providing for the allocation of a next turn to one party, and coordinating transfer to minimize gap and overlap (Sacks et al, 1974; cited in Schiffrin, 1994).

Sacks et al (1978; cited in Schiffrin, 1994) proposed a model of the management and principles concerning turn taking. Turn construction units can be of various sizes (words, phrases, clauses, or sentences). Sacks described three practices by which turns may be distributed or allocated: The current speaker selects the next speaker; the next speaker self-selects; the current speaker continues. The turn taking model also provides for an analysis of the notion of interruption and is also helpful in how silence is treated in conversation. The model is also implicated in the organization of conversational repair, both self- and other initiated (Schegloff et al, 1977; cited in Schiffrin, 1994).

Critical discourse analysis. Critical discourse analysis is used to identify a set of perspectives that emphasizes the relations between language and power and the role of discourse analysis in social and cultural critique (Wood & Kroger, 2000). Fairclough and Wodak (1997; cited in Wood & Kroger) discuss eight theoretical approaches to critical discourse analysis: French discourse analysis, critical linguistics, sociocultural change and change in discourse, socio-cognitive studies, discourse-historical method, reading analysis, and the Duisburg school. Critical discourse analysis looks at how ideology, power, and hegemony are reflected in language and discursive practices. Critical discourse analysis researchers believe that these structures of power are manifested and propagated through discourse and seek ways to reveal and challenge these. Fairclough says " We live in an age in which power is predominantly exercised through the generation of consent rather than through coercion, through ideology rather than physical force… it is mainly in discourse that consent is achieved, ideologies are transmitted, and practices, meanings, values, and identities are taught and learned"

(1995, p. 219). Critical discourse analysis looks for means of revealing cases where this occurs in daily interactions, in texts, in media, in all aspects of daily life.

Ethnography of communication. Ethnography of communication is an approach to discourse which is based in anthropology and linguistics (Schiffrin, 1994). The ethnographic approach is one in which attention is paid to the interdependence of language-using and other activities. Any instance of language using is analyzed as part of a whole situation, which means ways of using and understanding language are analyzed in relation to the wider culture in which they occur (Cameron, 2001). Ethnography of communication makes some important contributions to thinking about talk as a culturally embedded activity.

Computer-mediated Discourse Analysis

Language in the social constructivist paradigm is one of the most important tools of learning (Gillani, 2003). CMC environments, in their high reliance on language for communication and content-delivery, echo this essentialness. Although the online environments provide researchers with the opportunities to employ empirical, micro-level methods to shed light on macro-level phenomena in terms of language and communication, much research in online environments remained at the level of anecdotes and speculations (Herring, 2004). Studies that employ multiple courses, longitudinal data, and use of innovative methods are often the exception in online learning research despite their potential for offering rich information for the field (Banna-Ritland, 2002). Hillman (1999) advocated that measuring interactivity in research studies involving asynchronous communication should include more than quantitative tallying of number of words or posting in interaction. Patterns of exchanges in this medium need to be situated in context by qualitatively examining the purpose or intention of sentences.

Computer-mediated discourse is the communication produced when human beings interact with one another by transmitting messages via networked computers. Participants usually use verbal communication in the form of written text (Herring, 2001). The study of computer-mediated discourse is a specialization within the broader

study of CMC, "distinguished by its focus on language and language-use in computer networked environments and by its use of methods of discourse analysis to address that focus (p.612)."

Although other forms of online communication such as audio and video-conferencing are becoming increasingly more available, text still seems to be the preferred form of communication, mostly due to the bandwidth issues. On the other hand, there is a certain convenience to textual communication that cannot be replaced but only complemented by other modalities. For example, text can be written, revised, saved and revisited, which is not promptly possible with audio and video. When participants are typing on the keyboard, they can be whomever they want and wear whatever they like. The persistence of textual communication can be paralleled to that of the telephone. Although the technology can offer visual telephone, not many people opt for it because of the comfort audio-based phone offers. You do not have to worry about how you look or how your apartment looks when you are on the phone.

The persistence of textual communication and its discursive nature makes Computer-Mediated Discourse Analysis (CMDA), which applies methods adapted from disciplines such as linguistics, communication, and rhetoric, is a viable method to analyze the online interactive behavior (Herring, 2001). CMDA is best considered an approach, rather than a theory or a single method. It is a collection of methods from which researchers select those best suited to their data and research questions. In short, CMDA as an approach to researching online behavior provides a methodological toolkit and a set of theoretical lenses through which to make observations and interpret the results of empirical analysis (Herring, 2004). It is essentially an analysis of logs of verbal interaction such as words, utterances, messages, exchanges, threads, and archives; however, it can be supplemented by other methods: surveys, interviews, ethnographic observations (Herring, 2004).

According to Herring (2001), the term computer-mediated discourse analysis was first coined in 1995 although CMDA type research studies were being conducted as early as the 1970s. In 1984 Baron published an article speculating on the effects of

computer-mediated communication as an influence in language change. Especially with the surge in the use of Internet and computer-mediated communication, an increasing number of researchers began looking at online discourse as a way to understand the effects of the new medium. However, different researchers approached computer-mediated discourse with different questions, methods, and understandings, often working in isolation from one another (Herring, 2004).

Ma (1996), for example, investigated CMC as a new dimension of intercultural communication between East Asian and North American college students. He tested five propositions through an empirical study involving twenty U.S. students enrolled in a university where they were required to complete 15 "natural conversation" sessions with East Asian students from China, Japan, Korea, Hong Kong, and Taiwan within a two-month period. Twelve of these students were female and eight were male. At least five different East Asian communication partners were included in the sessions reported by each student. The students were also told to engage in conversation with the North American students so that a comparison could be made between the East Asian and North American partners. At the end of these sessions, they were requested to write a report, which included two parts: a) a detailed tabulation of the date and time of each session, and the culture of each communication partner; b) an essay addressing the issues associated with five propositions. In total, 286 sessions with East Asian partners were reported. Fifteen Asian students attending universities in the U.S. and ten attending universities in Taiwan were initially interviewed through synchronous CMC. Follow-up inquiries were conducted through email. They also were asked to address the five propositions. The analysis revealed the following results pertaining to the five propositions tested: First, most students stated in their reports that intercultural CMC helped them understand the culture of their communication partner. Increased cultural understanding was reported by 16 of the 25 East Asian students, though 19 emphasized that improving their English, rather than the cultural understanding was the most important advantage. ii. Second, in response to whether they were less likely to adapt to each other's cultural rules in CMC than in face-to-face conversations, students did not

think that they had to adapt to each other in their chats with East Asian students. Third, students in both cultural groups reported that people in these conversations were more direct than in face-to-face conversations. Fourth, similar to the directness response, students perceived themselves to engage in higher level of self-disclosure than in face-to-face conversations. However, some students said East Asians did not initiate self-disclosure. As for the fifth proposition, students in both groups acknowledged that status differences were unnoticeable in CMC. One of the things that were identified in the study was that participants in synchronous CMC do not seem to have as high a commitment as when they engage in face-to-face communication. In face-to-face self-disclosure is associated with closeness and commitment, however, the reason the synchronous CMC participants self-disclosed was not because they were committed to the relation, but it was because there was little or no risk was involved in disclosure since the participants might never meet face-to-face. This worry free attitude can facilitate relationships but whether or not self-disclosure without commitment can promote close relationships between individuals from different cultures is still open for further research.

Meagher and Castaños (1996) investigated perceptions of American culture by 26 Mexican high school students before and after participating in a computer-mediated exchange program. The results showed that perceptions of American culture were less rather than more favorable after the exchange. Triangulation of the results from questionnaires , interviews, analysis of student messages, and course work related exchange helped authors conclude that the Mexican students did undergo significant learning about the target language and culture and their decreased regard for the American culture can be attributed to culture shock.

Herring (2004) sees CMDA as applying to four domains or levels of language, ranging from smallest to largest linguistic unit of analysis: 1) structure, 2) meaning, 3) interaction, and 4) social behavior. The structural domain includes the use of special typography or orthography, novel word formations, and sentence structure. Meaning level includes the meanings of words, utterances (e.g., speech acts) and larger functional

units. The interactional domain includes turn-taking, topic development, and other means of negotiating interactive exchanges. The social level includes linguistic expressions of play, conflict, power, and group membership over multiple exchanges. In addition to these levels, participation patterns, which are measured by the frequency and length of messages posted and responses received, in threads or other extended discourse samples constitute a fifth domain of CMDA.

According to Herring (2004), the theoretical assumptions underlying CMDA are equivalent to those of linguistic discourse analysis and can be listed as follows:

a. Discourse exhibits recurrent patterns. A basic goal of discourse analysis is to identify patterns in discourse that are noticeably present, but that may not be immediately obvious to the casual observer or to the discourse participants themselves.

b. Discourse involves speaker choices. These speaker choices are not only conditioned by linguistic considerations, but also reflect cognitive and social factors. Consequently, discourse analysis can prove useful for examining non-linguistic, as well as linguistic, phenomena.

To these two assumptions about discourse, Herring (2004) adds a third assumption about CMDA: "Computer-mediated discourse may be, but is not inevitably, shaped by the technological features of computer-mediated communication systems" (p. 343). How these CMC technologies shape the communication is a matter for empirical investigation (Herring, 2007).

The basic methodological orientation of CMDA is language-focused content analysis (Herring, 2004). This analysis may be purely qualitative, for example, discourse phenomena in a sample of text may be observed, illustrated, and discussed. Quantitative analyses are also possible by coding, counting, and summarizing the relative frequencies of the phenomena. On the other hand, a mixed-methods approach is also possible; for example, Herring (1996) combined these two approaches by analyzing the same patterns of email message structure using both qualitative and quantitative means. Just like other forms of content analysis, the CMDA must meet certain basic requirements of analysis. An answerable research question needs to be posed. Methods that address the research

question should be selected and applied to a sufficient and appropriate corpus of data. If a quantitative approach is taken, the phenomena to be coded must be operationalized, coding categories need to be created, and their reliabilities need to be established (e.g., inter-rater reliability). Appropriate statistical tests must be identified and applied, if they are to be used. At the end, the findings must be interpreted in relation to the original research question. In sum, a CMDA researcher needs to follow the basic principles of qualitative and quantitative research methodologies.

One other consideration for the CMDA is the type of computer-mediated discourse. Discourse analysts classify discourse into various types according to several criteria such as means of production (spoken/written/computer-mediated), number of discourse producers (monologue/dialogue/polylogue), and genre (chat/ interview/personal letter/short story/research article, etc). Such classification facilitates the analysis and prevents any comparisons between apples and oranges (Herring, 2007). Nevertheless, computer-mediated discourse types are not yet common knowledge, and the nature of communication in each type must be explicitly described before terms like IRC (Internet Relay Chat), MUD (Multi-User Domains or Dungeons), and IM (Instant Messaging) can be used as shorthand to refer to conventional sets of communicative behaviors. Herring proposes a classification approach based on two sets of variable dimensions by questioning the factors that condition variation in computer-mediated discourse. The first set consists of technological features of computer-mediated communication systems. These are determined by messaging protocols, servers and clients, as well as the associated hardware, software, and interfaces of user's computers. One reason for including medium variables as a separate set is an attempt to discover under what circumstances specific system features affect communication, and in what ways. The second set consists of social features associated with the situation or context of communication. These features include information about the participants, their relationships to one another, their purposes for communicating, what they are communicating about, and the kind of language they use to communicate. The inclusion of a set of situational variables assumes that social factors can shape communication in

significant ways (Hymes, 1974). This classification approach can be used to compare computer-mediated data samples and suggest explanations for differences among them (Herring). This approach also seems useful to describe a single set of computer-mediated data in depth.

Medium Variables

Herring (2007) lists medium variables as synchronicity, one-way vs. two-way message transmission, persistence of transcript, size of message buffer, channels of communication, anonymous messaging, private messaging, filtering, and quoting. This list of medium variables is partial and preliminary; other variables can and will be added as new systems are developed.

Synchronicity of participation (Kiesler et al. 1984, cited in Herring, 2007). Asynchronous systems do not require the users to be logged on at the same time in order to interact. E-mail is an example of this type. In synchronous systems, on the other hand, sender and receiver(s) must be logged on simultaneously, and messages are transient, scrolling up and off participants' computer screens as new messages replace them.

One-way vs. two-way message transmission. This has to do with the granularity of the units; whether the transmission is message-by-message, or character-by-character. With message-by-message transmission, the receiver typically does not have any indication that the sender is composing a message until it is sent and received; thus, it is impossible for the receiver to interrupt or anticipate the sender's message. This transmission, which is currently used by most CMC systems is one-way transmission. In contrast, character-by-character transmission is two-way and both the sender and the receiver are able to see the message as it is being typed, making it possible for the receiver to give simultaneous feedback. The most recent versions of MSN Messenger© and Yahoo Messenger© use this technology where the users are warned when the other party is typing a message. This feature definitely has implications for the observed pattern of communication.

Persistence of transcript. This refers to how long messages remain on the system after they are received. For example, e-mail is persistent by default until deleted by the users. Similarly, many listservs have archives where e-mail messages sent to discussion lists are stored indefinitely. However, most chat systems retain only a few screens of messages in their scrollback buffer, and even these messages disappear when the chat session is ended. Some chat systems provide the option of saving the interaction. Compared to spoken language, both forms of CMC have greater persistence. This feature allows users to reflect on their communication and play with language in ways that would be difficult in speech.

Size of message buffer. This refers to the number of characters the system allows in a single message. In most e-mail-based systems, especially by the increasing ease of use of attachments, this buffer has become virtually limitless. On the other hand, many chat systems have limits on message size, and text messaging systems on mobile telephones currently have the smallest limits of about 150 characters per message. Smaller buffers mean shorter messages and they increase the likelihood that language used will be structurally modified and abbreviated.

Channels of communication. The number and kind of channels of communication provided are important considerations for CMC systems. Visual channels include graphics and video, along with text. A number of current systems (e.g. CUseeMe) provide an audio channel as well. Presently, interfaces are being developed that incorporate olfactory (smell) and tactile (touch) channels (Youngblut et al. 1996; cited in Herring, 2007).

Anonymous messaging, private messaging, filtering and quoting. These terms all refer to the technological affordances a CMC system makes available that facilitate the behaviors under scrutiny. Users can engage in these behaviors without any special technical means, but when these means are available, they facilitate the behaviors, and thus these behaviors become more likely to occur. For example, many chat systems require a user to select a nickname encouraging anonymous interaction. Some chat systems (such as IRC, Yahoo Messenger) have commands or options that enable users to

have private as well as public conversations, while with other systems require the user to open a separate program to communicate privately. Some systems make it easy for the users to ignore the incoming messages by providing filters. Finally, CMC systems have differences in the extent to which they provide mechanisms to enable the quoting of a message in a response.

Situational Variables

A number of social and situational factors have also been observed to shape variation in computer-mediated discourse. Herring (2007) lists these factors as described in Table 3.

Participation structure. The properties of the discourse sample as a whole such as the number of participants (present in the environment or actively participating); the amount and rate of participation (impressionistically or quantitatively); whether the communication is public, semi-public or private; the extent to which speakers choose to interact anonymously/pseudonymously as opposed to in their 'real life' identities; and the distribution of participation across individuals – whether some individuals or groups dominate.

Table 3
Situational variables

Situational variable	Explanation
1.Participation structure	• One-to-one, one-to-many, many-to-many • Public/private • Degree of anonymity/pseudonymity • Group size; number of active participants • Amount, rate and balance of participation
2.Participant characteristics	• Demographics: gender, age, occupation, etc. • Proficiency: with language/computers/CMC • Experience: with addressee/group/topic • Role/status: in 'real life'; of online personae • Pre-existing sociocultural knowledge and interactional norms
3. Purpose	• Of group, e.g. professional, social, fantasy/role-playing, aesthetic, experimental • Goal of interaction, e.g., get information, negotiate consensus, develop professional/social relationships, impress/entertain others, have fun
4. Topic or Theme	• Of group, e.g. , politics, linguistics, feminism, soap operas, sex, science fiction, South Asian culture, medieval times, pub • Of exchanges, e.g. the Bush administration, pro-drop languages, the project budget, gay sex, vacation plans, personal info about participants, meta-discourse about CMC
5. Tone	• Serious/playful • Formal/casual • Contentious/friendly • Cooperative/sarcastic, etc.
6. Activity	• E.g., debate, job announcement, information exchange, phatic exchange, problem solving, exchange of insults, joking exchange, satire, game, theatrical performance, flirtation, virtual sex
7. Norms	• Of organization • Of social appropriateness • Of language
8. Code	• Language, language variety • Font/writing system

Participant characteristics. These characteristics describe participants' backgrounds, skills and experiences, and their real life knowledge, norms and interactional patterns they bring to the online environment when they interact.

Purpose. This variable is potentially important on two levels: group purpose is in general terms to a computer-mediated group's official reason for existence, which can be professional, social, etc. Goals of interaction, on the other hand, are what individual participants hope to accomplish through any given interaction. Obviously these need not be the same for any two individuals in the same interaction.

Activities. Activities, similar to concept of 'genres' by Hymes (1974), are discursive means of pursuing interactional goals.

Topic. Topic at the group level is what discussion content is appropriate in that context, according to the group's definition. Topic at the exchange level, on the other hand, is what participants are actually talking about in any given interaction, which may or may not be the same as the topic at the group level.

Tone. This variable refers to the manner or spirit in which discursive acts are performed. Degree of seriousness, formality, contentiousness, and cooperation are examples of dimensions of tone.

Norms. Norms refer to conventional practices within the computer-mediated environment. Norms of group organization are formal or informal administrative protocols concerned with how a group is formed, how new members are accepted, whether it has a leader, moderator, how messages are distributed and stored, how participants who misbehave are handled, and so on. Norms of social appropriateness refer to the behavioral standards that normatively apply in the computer-mediated context; for example, supportiveness may be expected in an Alzheimer newsgroup, but rudeness may be approved of in another newsgroup, say devoted to flaming. Norms of language refer to linguistic conventions that include abbreviations, acronyms, insider jokes, and special discourse genres.

Code. Code refers to the language or variety of language in which the interactions are taking place. Language variety refers to the dialect and register. Dialect is the standard, educated, written variety of the language used. However, regional, social class or ethnic dialects may sometimes be used. Register, on the other hand, refers to specialized sub-languages associated with conventional social roles and contexts (such as military discourse, political discourse, doctor talk). Writing system refers to the font used and its relationship to the writing system of the language; for example, use of a font in a Latin alphabet or Korean alphabet.

This kind of classification of CMC discourse helps the researchers identify the similarities and differences among the discourse samples. This kind of information can be used to select the type and extent of data as well as test hypotheses (Herring, 2007). The descriptive information that is produced by the classification brings some otherwise hidden variables to researcher's consciousness.

As the medium variables described by Herring (2007) demonstrate, the technological affordances of a CMC system may facilitate or inhibit the behaviors the participants exhibit online. The field of CMC technology is growing at an incredible pace (Woolley, 1996). Different technologies can support different kinds of instructional activities or interactions and a single technology delivery mechanism can support varying types of instructional strategies or interactions (Banna-Ritland, 2002). It is the instructors' teaching style and background that impacts course design, structure, and level of interactivity implemented (Banna-Ritland) that eventually defines the interaction between the communication system and the learner. Hillman, Willis and Gunawardena (1994) suggest that the extent to which a learner is proficient with a specific medium correlates positively with the success the learner has in extracting information from the medium. Metros and Hedberg (2002) also point out the poor design of the technological interface can place high cognitive demands upon the learner that may take his or her attention away from the subject matter at hand. Learners cannot deal with content information if they are unable to use the interface. Learners must possess skills

necessary to operate the delivery system before they can be expected to interact successfully with human and non-human resources. (Hirumi, 2002).

In a well-designed online course, where well-crafted collaborative activities are provided (Schrage, 1991; cited in McLellan, 1997), students through interacting with each other, the instructor, the content, and the interface (Hillman, Willis, & Gunawardena, 1994; McIsaac and Gunawardena, 1996; Carr-Chellman & Duchastel, 2001) create virtual communities (Turkle, 1995; McLellan, 1997). Virtual communities are social aggregations that emerge from the Net when enough people carry on those public discussions long enough, with sufficient human feeling, to form webs of personal relationships in cyberspace (Rheingold, 1993, p. 9)." The success of the creation and growth of an online community depends on the communication tools and the design approach that is incorporated in the online course.

This chapter described the various issues surrounding the communication among the students and the instructor in an intercultural online course and laid out the current status of research in this area.

The next chapter will present the methodology of this study.

CHAPTER III
METHODOLOGY

This study was conducted to answer the following research questions:

1. Does culture exhibit itself in the discourse of this particular online class? If so, in what ways?
2. Does this online course build a third culture? If so, what design features of this online course support the development of the third culture?

This chapter describes the methodology devised to answer these research questions.

Research Design

The purpose of this research and the research questions asked lent itself very well to a case study design. According to Creswell (1994), a case study is an in-depth exploration of a single entity or bounded phenomenon that occurs in a bounded context of time and activity. Merriam (1998) describes case studies as those that are "employed to gain an in-depth understanding of the situation and meaning for those involved" (p. 19). According to her "the interest [in these kind of research studies] is in the process rather than the outcomes, in context rather than a specific variable, in discovery rather than confirmation" (p.19) Case studies are usually based on the immediate accounts of the individuals themselves and draw conclusions about the participants, or that group and only in that specific time and context. By not focusing on finding a universal truth or seeking generalizations or cause -effect relationships, case studies function within the naturalistic paradigm where the researchers seek to explore, understand, construct, and interpret the realities (Lincoln & Guba, 1985). In this paradigm, the inquiry is value-bound and the researchers are in constant interaction with the phenomenon, interpreting

and constructing and reconstructing the reality. As Guba & Lincoln (1981, p. 377) eloquently expressed, "case studies can oversimplify or exaggerate a situation, leading the reader to erroneous conclusions about the actual state of affairs." A major responsibility lies on the researcher's shoulders because this kind of research is "limited by the sensitivity and integrity of the researcher [who is the] primary instrument of data collection and analysis" (Merriam, 1998, p. 21). Therefore, it is the qualitative researchers' responsibility to continually reflect on who they are, how they shape the study, and what they choose to include as well as exclude. I made a conscious effort to explain my thinking processes all throughout the research in order to make it transparent to the readers how I calibrated, refined, and used my research instrument, i.e. myself. The readers of case study research should always remember the political nature of case studies and their proneness to bias (Merriam, 1988).

One may also argue that the nature of this study also classifies it as a postmodern one, which favors 'mini-narratives' that provides explanations for small-scale situations located within particular contexts that do not involve pretensions of abstract theory, universality, and generalizability (Grbich, 2004, p. 26). In this kind of research, views of others can be incorporated into the views of the author who represents these through own lens.

Research studies investigating issues of intercultural communication in online environments used mixed methods (quantitative and qualitative) (Meagher & Castaños, 1996) and a variety of approaches to data analysis: action research (Williams, Watkins, Daley, Cortenay, Davis, & Dymock, 2001), focus group data (Gunawardena et al., 2001), content analysis (Hall, 1996), structured interviews (Goodfellow et al., 2001), corpus analysis (Collot & Belmore, 1996; Yates, 1996), interactive discourse analysis (Werry, 1996), conversation analysis (Condon & Cech, 1996), and linguistic text analysis (Herring, 1996). Despite this variety of approaches, the majority of the research studies are based on self-reported data rather than actual observation of behavior (Evers, 2001). As a result, the existing literature lacks a clear description of observable indicators of culture in the actual discourse in an online course. This research project

seeks to redress this situation through an in-depth analysis of discourse within a single course. To do so, I utilized an emerging methodology developed specifically for actual observation of behavior in the online environment: computer-mediated discourse analysis (CMDA).

The Computer-mediated Discourse Analysis (CMDA) Research Process

The CMDA research process I used in this study was based on Herring's (2004) model, with modifications derived from Job-Sluder and Barab (2004) as well as findings of the pilot study I conducted (Appendix D). An overview of this process is presented in Table 4 and explained below. The presentation of the research methodology in this chapter, the results in the next chapter (Chapter IV), and the discussion and interpretation of the results in Chapter V will be based on this research process and will follow a non-traditional manner of presenting methodology and results. I ask the traditional readers of research to keep an open mind while reading the present and the following chapters.

Table 4
CMDA research process and application to culture in discourse in an online course

CMDA research process	Application to culture in discourse in an online course
Articulate research question(s)	Does culture exhibit itself in discourse in an online class? If so, in what ways? Do online courses build a third culture? If so, what design features of an online course support the development of this third culture?
Select computer-mediated data sample	Intermittent time-based sampling (or purposive sampling) of public and private messages of a graduate level web-based course
Operationalize key concept(s) in terms of discourse features	Discourse features of intercultural communication → individuality/collaboration + masculine/femininity + power /hierarchy + uncertainty avoidance + high/low context + style
Select and apply method(s) of analysis	Follow stages of CMDA adapted from Job-Sluder & Barab et al. (Appendix D, Table A1) 1. Contextual analysis (venue, participant demographics, medium variables, context variables) 2. Case Characterization 3. Language-Focused Content Analysis (structural and semantic analyses)
Present and interpret results 1. Summarize/synthesize results of data analysis 2. Answer research question(s); explain unexpected results 3. Consider broader implications	1. Provide a thick description of the case, including characteristics of conferences, participants, the structure of discourse, most salient cultural indicators as reflected in discourse. 2. a. Culture exhibits/does not exhibit itself in the discourse:.. b. Online courses create/does not create a third culture. The design features that support the development of a third culture are… 3. Implications of these findings for the course designers are… For the online course instructors are.. For online learners are.. For higher education institutions are.. For policy makers and planners are…

Research Questions

The first step in the CMDA research process is the articulation of research questions. This study sought to answer the following research questions:

1. Does culture exhibit itself in the discourse of this particular online class? If so, in what ways?
2. Does this online course build a third culture? If so, what design features of this online course support the development of the third culture?

Data Sources and Sampling

The second step of the CMDA research process is the selection of the computer-mediated research sample. Selection of the sample of participants and the data to analyze was carried out purposefully.

The Case

A graduate level online course at a large Southwestern University in the United States was selected to conduct the research. The criteria for the selection of this course was (a) it was a graduate level course with students representing some ethnic and language variety, (b) the course used computer conferencing for communication, and (c) the course required students to participate actively in content and project-based discussions.

The course was a 15-week graduate level online course on distance education that studied the communication theory, learning theories, and systems theory related to distance learning. Students were expected to examine the foundations of distance learning from a theoretical perspective while practicing distance learning as online students.

There were 20 students taking this online course. The instructor worked with two graduate assistants throughout the course. Therefore, in total there were 23 participants in this case study. Out of the students, 13 were female and 7 were male. The instructors and graduate assistants were all female. The average age of the group was 33.7. Three students identified themselves as Chinese, one as Korean, one as Indian and the rest as U.S. citizens.

Data Sources

Data sources used in the study were: a) online course materials, b) electronic postings of the students, and c) a demographic questionnaire. In referring to the data in the excerpts, I created the following convention to use to describe the source of data: name of participant, source of data, date, and message number. For example, (Mary, Howdy conference, 3/22/03, 15) would indicate that this piece of data was from the Howdy conference, posted on 3/22/03 by Mary and is number 15 in this data file.

a. Online course materials. I used online course materials to obtain information on the course content, requirements, and also the capabilities of the course and communication platform. The course materials, including the syllabus, course schedule, reading materials, and the gradebook, were provided online, using the WebCT™course management system. It helps instructors and course designers to organize their course materials and make use of the study and communication tools, including mail, online calendar, chat rooms, discussion forums, gradebook, quizzes, and the assignment tool. Students accessed the course with their unique usernames and passwords and exchanged private and public messages in the threaded conferences to hold discussions with their groups. The course also used the FirstClass™ communication system, which provides multiple functions that promote interactive and collaborative learning through icon-based conferences with threaded discussions, private e-mail, multimedia file attachments, real-time textual chats, and collaborative documents. Students could either install the client version on their computers or use the web version through a browser. The web version, however, did not have the collaborative document capability.

The communication tools FirstClass™ offers have some advantages over WebCT™tools; users can use different fonts, colors, and font sizes easily in FirstClass™ as opposed to WebCT™ in which users need to use HTML coding to be able to do anything beyond simple text. Another advantage is the use of collaborative documents for group work (Murphy, Cifuentes, & Shih, 2001). The text-based collaborative documents allow only one person to edit a document at a time, using different font types, colors, and sizes as in word processors. However, multiple readers could access these continuous unbroken documents simultaneously. In this course, WebCT™was used as the course platform for providing content, and FirstClass™ was used as the communication system for the instructor, the students, and the teaching assistants.

b. Electronic postings of students and instructors. Students' public postings and private group discussions comprised this data set. It is often impossible to analyze all the available data, especially in the case of CMDA, due to the vast amount of textual data produced in an online course (Herring, 2004), therefore the researchers must usually select a sample. Because random selection usually results in sacrificing the context and context is critical to interpreting results of discourse analysis (Herring), I chose to select the data sample based on the following rationale:

- I wanted to include the beginning-of-semester communication of students so that I could analyze how they initiated the communication among themselves. I chose to include the introductory unit (week one and two) for this purpose. This unit took place between 9/01/2003 and 9/14/2003.
- Similarly, I wanted to include students' end-of-semester communication to have access to the data to analyze how they end the semester. I included the Wrap-up unit to achieve this, which was the last week of the semester. This unit took place between 12/08/2003 and 12/12/2003.
- I also wanted to capture the time period where the students could be expected to reach a certain expertise and comfort with the course platform, overcoming information overload (Chen, 2003); for this reason, I included a mid-semester discussion as well. I chose Unit 3, which spanned the eighth and ninth weeks of

the semester. This unit was on Distance Technologies and took place between 10/13/2004 and 10/26/2004.

In cases where a particular discussion extended beyond the time limits of a course unit, I included all the messages in that particular thread, independent of the time they were posted, in order to preserve the context of the communication and to avoid the truncation of the interactions. This approach helped me obtain coherent threads of discussion and also incorporate the advantages of thematic sampling.

For the purposes of the semantic analysis conducted in the third stage of the CMDA, I selected a subset of students to be able to conduct an in-depth analysis. This subset included all five international students and the five most active U.S. students. In selecting these U.S. students, I looked at those who posted the highest number of messages in the course. These students happened to be the ones who initiated the greatest number of threads as well. I chose the most active U.S. students because I wanted to preserve the volume of data as much as I can but at the same to be able to focus on individual students and their cultural backgrounds. The ten students posted 1871 messages, which accounts for 66% of all the messages produced in the course. These students also posted 60% of the unit discussion messages. By sampling these ten students and the unit discussions during units 1, 3, and 6, I was also able to capture the activities of seven students during their facilitation experience. The ten students who were chosen for the semantic analysis, their corresponding number of messages posted, and threads created are displayed in Table 5.

Table 5

Students selected for analysis and their level of participation

Student	Number of messages posted	Number of threads initiated
Gabe	287	54
Samantha	210	70
Mia	171	30
Scott	155	28
Liu	154	32
Tom	143	42
Mary	140	23
Seenu	138	33
Xia	102	22
Xiu	75	29

This data sampling of purposefully choosing data to examine resembles the intermittent time-based sampling (Herring, 2004), which is considered particularly appropriate for CMDA.

c. Demographic questionnaire. A 16-question demographic questionnaire (Appendix A) was administered online to all students. The questionnaire consisted of questions on personal information (name, email, department, phone, and address), frequency and length of computer, email, and Internet use, and cultural and language background. This demographic questionnaire was an adaptation from Evers (2001). The questionnaire originally consisted of 15 questions when administered to the pilot group. As a result of this administration, I decided to add one more question (question 16), in order to identify any students who had experience teaching online courses (as opposed to participating as a student).

Key Concepts and Their Operationalization in Terms of Discourse Features

The third step of the CMDA research process is the operationalization of key concepts in terms of discourse features. I used Hofstede (2001), Hall (1976), and FitzGerald's (2003) frameworks on cross-cultural and intercultural communication to identify the key concepts in the study.

a. Individualism/collectivism (Hofstede, 1997, 2001): the degree to which the society emphasizes individuals and individual goals or collaboration, group identity and goals, and avoidance of conflict.
b. Masculinity/femininity (Hofstede, 1997, 2001): the rigidity and definition of gender roles in a society.
c. Power distance (Hofstede, 1997, 2001): the different approaches societies take in dealing with the basic problem of human inequality.
d. Uncertainty avoidance (Hofstede, 1997, 2001): the level of stress in a society when there is an unknown future.
e. Confucian dynamism (Hofstede, 1997, 2001): the choice of focus for people's efforts, long-term versus short-term orientation in a society.
f. High/low context (Hall, 1976): the degree to which the explicit message code is independent of the physical context.
g. Style (FitzGerald, 2003): instrumental/exacting style (English speaking, North and West Europe), spontaneous/argumentative style (Eastern Europe), involved/expressive style (Latin, Southern European), elaborate/dramatic style (Middle Eastern), bureucratic/affective style (South Asian); succinct/subdued style (East Asian).

Methods of Data Analysis

The data was analyzed using the stages of CMDA shown in Table 6. These stages are based on those proposed by Job-Sluder and Barab (2004), with minor modifications.

Table 6

Stages of CMDA used for the main study

Stage	Description
I. Contextual analysis	
a. Venue	Describing the specific features and design characteristics of the online environment in which the communication is taking place. I made an extensive description of the course, course requirements, and course platform.
b. Participant demographics	Identifying important characteristics of the participants. In this study, I used the demographic survey and the information from the electronic postings to compile and collect this information.
c. Medium variables	Characterizing the medium of communication used in sample, including synchronicity, buffer size, and message persistence. The goal is to describe the technical features of the medium that may influence how the participants structured their discourse. I used Herring's (2007) classification of medium variables to carry this out.
d. Context variables	Describing the context of the discussion using key variables such as discussion purpose, language, participation structure, and anonymity. The goal is to describe the contextual features as a basis for comparison to other contexts. I used Herring's (2007) classification of situational variables to carry this out.
II. Case Characterization	Cycling through the raw data, examining the meaning of posts, reviewing the analysis of the first two stages of CMDA, and offering a summary characterization of each discussion forum being examined. The spirit of this characterization should be ethnographic in that the goal is to provide the reader with an insider feel. Includes analyzing the general themes of discussion and making a thick description of the course, the activities, and the discussion forums. I examined three unit discussions and all the rest of the course communication that took place during this time period in detail to provide a deeper understanding of the case.
III. Content Analysis	
a. Structural analysis	Examines the features such as word counts, word frequencies, sentence or utterance length, message length, and vocabulary size. I compared and contrasted these numbers according to students' cultural background.
b. Semantic analysis	Classifies text features into categories according to various types of meaning, requiring the researcher to interpret what the author of the message meant to say. This is where I used semantic analysis matrix to look for deeper meaning and to find connections to author's background and made interpretations based on the literature on intercultural communication.

Contextual Analysis

The first stage of the CMDA was to conduct a *contextual analysis* of the case study; this included the characteristics of the participants using the demographic questionnaire and online postings (participant demographics), characteristics of the medium of communication (medium variables), and description of the context of discussion in each computer conference (context variables). An additional element –

venue – was included in order to better capture specific design features and design characteristics of the course. In describing the venue, I used the online course materials to describe the course, course requirements, and the course platform. For participant demographics, I used the demographic questionnaire and analyzed the participant characteristics such as age, gender, nationality as well as their computer access and preferences for computer and Internet use. Medium variables were related to the affordances of the course platform (WebCT™) and the computer conferencing system (FirstClass™). These variables are mostly technical and include synchronicity, buffer size, and message persistence and they are the same across conferences and throughout the course. Context variables, on the other hand, are more situation-specific. These variables describe the purpose of discussion, language used, participation structure, and anonymity. Due to the fact that these variables are situation-specific, I carried out this analysis for each conference type I analyzed because depending on the type of conference the purpose, the tone, and participation structure changed.

Case Characterization

The second stage of the CMDA was *case characterization* where a thick description of the course, the activities, and the discussion forums are provided to give an insider feel to the reader. I provided a detailed description of the course throughout the semester, focusing on the three units I analyzed, including discussions that took place and the activities.

Content Analysis

The final stage of CMDA was the content analysis, which is a structural and semantic analysis. Semantic analysis was carried out using the semantic analysis matrix displayed in Table 7.

Structural analysis. The structural analysis included message counts and threads initiated in each conference. I conducted a comparison of these numbers according to students' background.

Semantic analysis. The semantic analysis was by far the most complex and comprehensive component of the data analysis. Based on the review of the literature and the results of the pilot study, the matrix presented in Table 7 was developed and used for the semantic analysis. This matrix provides a structure for possible ways culture exhibits itself in the online discourse.

Linguistic Structure. Typography, orthography, morphology, syntax, and discourse schemata are the phenomena observed under this classification. Discourse behaviors that may point to the individuality/collectivity dimension of intercultural communication and manifest themselves in the structure of the discourse are the use of jargon and CMC lingo, and references to in-group/out-group language. Collectivist cultures would have more references to the in-group language and would be expected to use more jargon. On the other hand, they would also be expected to explain jargon and lingo of the other group members.

Power distance can manifest itself in the linguistic structure as the choice of formal or informal use of language. For example, in some languages like Spanish, people have the choice of referring to each other with formal or informal second person singular; *tu* or *usted.* The choice of the use or even the existence of this linguistic phenomenon in a language can point to the power distance dimension of that culture.

High and low context aspect of intercultural communication can manifest itself as the amount of quoting, and citing resources in the structure of discourse. People from low context cultures may tend to quote from other messages more due to their inclination to communicate openly in the actual "text". However, this behavior may also be compensated and complicated by the differences in style, i.e. Westerners ' tendency to have short turns as opposed to Middle Easterners' tendency to embellish and write long messages.

Style as an aspect of intercultural communication manifests itself in the structure as inductive or deductive organization. In addition to this indicator, use of paragraphs can also point to the structural style of intercultural discourse.

Table 7

Semantic analysis table: Discourse behaviors versus domains of language

Domains of language / Phenomena	**Discourse behaviors hypothesized to point to intercultural aspects of communication**						
	Individuality/ collectivity	*Masculinity/ femininity*	*Power distance*	*Uncertainty avoidance*	*High and low context*	*Style*	*Confucian dynamism*
Linguistic Structure typography, orthography, morphology, syntax, discourse schemata	Using CMC jargon, references to group, in-group/out-group language		Formal /informal uses of language		Use of quoting, citing resources	inductive/ deductive organization use of paragraphs	
Meaning meaning of words, utterances (speech acts), macrosegments		answering, asking, requesting, agreeing, offering, volunteering, congratulating, greeting, thanking, accepting	ordering, giving instructions, suggesting,		Vagueness or excessive details	disagreeing, apologizing,	
Interactional Coherence turns, sequences, exchanges, threads			Reciprocity, complementing communication			Long or short turns; turn taking	
Social Function linguistic expressions of status, conflict, negotiation, face-management, play; discourse styles, etc.	Relationships vs task	avoidance of conflict, negotiating vs confrontation	expressions of status	references to planning; sense of security		maintaining positive or negative face, humor, avoidance of conflict	Concern with face, willingness to subordinate
Participation (not a linguistic category) number of messages and responses and message and thread length	excluded from semantic analysis						

Meaning. Meaning of words, utterances (speech acts), and macrosegments are the phenomena under this category of language. Masculinity/femininity can manifest itself in this domain as in the form of speech acts such as asking, answering, requesting, offering, volunteering, supporting, congratulating, greeting, accepting, thanking. People from feminine cultures are expected to display these behaviors more than people from masculine cultures do.

Power distance manifests itself in the meaning domain as speech acts like ordering, giving instructions, and suggesting. People from cultures of power distance tend to have an easier time fulfilling orders, following instructions, when they perceive a power distance, as in instructor-student communication, or when communicating with older peers. At the same time these people are more inclined to perform these speech acts when they perceive themselves to have authority over others; for example, when they lead a group or communicate with younger peers. These manifestations may be further complicated or compensated by masculinity/femininity or differences in styles.

High and low context cultures manifest themselves at the meaning level in the form of excessive details or vagueness. People from high context cultures may tend to give deeper and more contextual meaning to words and leave room for interpretation whereas people from low context cultures may tend to include too much information in their discourse and be excessive. Sometimes use of words such as *certainly, absolutely,* or, *positively* are closely associated with low context cultures whereas *perhaps, maybe,* or *probably* are associated with high-context communication (Okabe, 1983).

Differences in style can be observed in the meaning level of language when people disagree or apologize, or when they handle conflict. For example, people from certain cultures may avoid conflict and use apologetic speech acts more than others.

Interactional Coherence. Turns, sequences, exchanges, and threads fall into the domain of interaction. Power distance can manifest itself as reciprocity; people from low power distance cultures may reciprocate more frequently than people from high power distance cultures. Complementing communication with the instructor or with elders may not be a proper way of communicating, say, for Chinese students coming from a high

power distance culture, whereas that silence can be perceived as negative in low power distance Western cultures.

Differences in style can be observed in the turn taking of people in the domain of interactional conherence. Westerns Europeans and North Americans may tend to maintain shorter turns whereas, for example, Eastern Europeans have longer turns in communication. In asynchronous online communication though, the concept of turn taking has a different flavor because there really is not the turn taking as we define it in the face-to-face settings. There is basically no overlap of communication; anybody can post a message anytime. Holding on to the floor and turn taking actually becomes initiating new threads of communication and maintaining position in one or more threads (Simpson, 2002). Due to lack of visual cues that are observed in face-to-face turn taking, in online communication, taking a turn and participating in a conversation can become a culturally problematic issue. Some cultures value silence, thus lurking in an online environment does not necessarily show lack of learning or meaningful participation for these students. Some students, especially from high power distance cultures may feel the need to call upon to actually speak in a conversation.

Social Function. Linguistic expressions of status, conflict, negotiation, face-management, play, and discourse styles fall under this domain of language. Individuality and collectivity manifests itself in the form of maintaining relationships versus focusing on tasks. People from collective cultures will care about the relationships even when the communication is about a task. This concern may show itself in greeting sentences such as “how are you today” or closing sentences and wishes, whereas people from individualistic cultures may totally omit such kinds of expressions in their communication when there is a certain task involved. Similarly, emotional displays can be observed from people from collectivist cultures to facilitate the group work.

Masculinity/femininity dimension can be observed in the avoidance of conflict in the ways in which people prefer to negotiate, and compromise versus fighting the conflicts out. Masculine cultures prefer the latter where confrontation is the primary way to resolve conflicts.

In high power distance cultures, certain expressions of status can be the manifestation of cultural difference in the domain of social function. For example, people from these cultures can rarely refer to their instructors, their bosses, or their elders with their first names. Excessive use of sir, Mr.. Dr., director, etc. can point to these differences in power distance.

Uncertainty avoidance manifests itself best in people's need for security. People from high uncertainty avoidance can have a harder time dealing with ambiguity and in the context of the online course this is observed as frequent questions about expectations or discontent about change.

Differences in style are manifested in how people feel the need to maintain a positive face, their use of humor, avoidance of conflict, their emotional expressiveness, and how they establish relations. For example, Chinese people are very concerned about maintaining a positive face, therefore, this need usually determines the social function of their communication.

Similarly, Confucian dynamism will manifest itself in the social function domain in the form of concern with face. People with short –term orientation will be concerned about maintaining a positive face whereas people with a long-term orientation will not have problems to subordinate for the sake of harmony.

Participation. Participation is characterized by number of messages, number of responses, message length, and thread length. Comparison of these numbers across cultures may indicate different intercultural domains including power, influence, engagement, roles, hierarchy, and turn-taking. This domain of language is excluded from the semantic analysis since it is not a linguistic category. However, another step of CMDA, structural analysis, includes this information on participation.

Presentation and Interpretation of Results

The results of the data analysis were summarized and synthesized. The research questions were answered based on the results of the data analysis. These results are presented in Chapter IV. Implications of the study for the broader settings were

discussed and recommendations were made for further research. These discussions are presented in Chapter V.

Validity, Reliability, and Trustworthiness

Validity in qualitative research does not carry the exact same connotations as it does in the quantitative research and overall, reliability and generalizability play a minor role in qualitative inquiry (Creswell, 2003). However, there are certain guidelines and strategies to be followed, though it remains a highly debated topic (Lincoln & Guba, 2000).

Internal Validity

According to Merriam (1998) investigators can use, among others, some basic strategies to enhance internal validity, including triangulation, member check, long-term observation, peer examination, and revealing researcher's biases.

Triangulation

This is the combination of different methods, study groups, local and temporal settings, and different theoretical perspectives in dealing with the phenomenon (Flick, 2002). Denzin (1989) presents four types of triangulation: data, investigator, theory, and methodological. Denzin further differentiates between data triangulation as time, space, and persons and suggests studying phenomena at different dates and places from different persons. Investigator triangulation refers to having different observers or interviewers detecting and minimizing biases resulting from the researcher as a person. Theory triangulation is approaching the data with multiple perspectives and hypotheses in mind and placing multiple points of view side by side to assess their utility and power when the inquiry at hand is concerned. Methodological triangulation can be within-method or between-method; for example, using different subscales for measuring an

item in a questionnaire can be an example for within-method triangulation whereas combining the questionnaire with a semi-structured interview can be an example for the between-method triangulation. To achieve triangulation I used three data sources: demographic survey and online course materials to help me contextualize, electronic postings to understand how participants communicate, and the instructor to help clarify my questions or give insight to some communication or contextual information that I did not have access to as a researcher.

Member check

Member check refers to taking data and tentative interpretations back to the participants and checking back with them the plausibility of results. I tried to accomplish this by discussing my interpretations with the course instructor.

Long-term observation

Long-term observation is achieved at the same research site or by repeated observation of the same phenomenon. I observed the communication in this online class for a semester and chose the data from different periods of the semester so as to represent the phenomenon better.

Peer examination

Peer examination refers to the sharing the findings as they emerge with colleagues. The input from my research committee helped me achieve this.

Revealing researcher's biases

Clarifying the researcher's assumptions, worldview, and theoretical orientation are essential to the qualitative research. I intended to make how I approached the problem and how I devised the methodology very clear and I made my thought processes as transparent as possible.

External Validity

External validity in the general sense of scientific inquiry is the extent to which results are applicable to other situations. Qualitative researchers have been plagued by the issue of external validity/generalizability (Merriam, 1998). Merriam suggest the following strategies "to enhance the possibility of the results of a qualitative study generalizing in any of the senses (working hypothesis, concrete universals, naturalistic generalization, user generalization)" (p. 211): rich, thick description, typicality or modal category, and multisite designs.

Rich, thick description

Researchers provide enough description so that readers will be able to determine how closely their particular situations match the research situation and consequently the extent to which the results can be transferred. The contextual analysis and extensive case characterization of the CMDA provide this kind of description that would warrant external validity.

Typicality or modal category

Researchers describe how typical or exceptional the case, the individual, the event, or the program is so that the readers can make comparisons with other situations (Merriam, 1998). Obviously, some aspects of the case can be unique whereas other aspects may as well be ordinary and the researcher may not always be a good judge of what is typical and what is exceptional. In my point of view, it is again the reader's call to make this decision on the extent of the resemblance between the two situations and I tend to think that it is the thick description, rather than the researcher's idea of typicality that will give a more accurate idea to the reader.

Multisite designs

Using several sites, cases, or situations that diversify the phenomenon help readers apply the results to a wider range of situations (Merriam, 1998). Purposeful or

random situations can help researchers achieve this diversity. I chose a particular online graduate course and made a purposeful selection of online data. Further research on this subject analyzing other situations will achieve external validity through multisite designs.

Reliability

Reliability is the extent to which research findings can be replicated. Due to the non-static nature of human behavior, reliability in social sciences is always problematic (Merriam, 1998). Lincoln & Guba (1985) recognize this difficulty as well, and suggest reliability to be conceptualized as dependability or consistency. Rather than demanding that outsiders get the same results, researchers are expected to try to convince the reader that given the data collected, results make sense. Therefore, in order to ensure that my results are consistent with the data I collected, I took the following into consideration: the investigator's (my) position, triangulation, and audit trail.

The investigator's position

It is the researcher's responsibility to explain the assumptions and theory behind the study, the basis for selection of groups to study, and the biases and contexts surrounding the study. I made a conscious effort to reveal my thought processes, my inclinations, and biases. For example, I explicated how I designed the pilot study, how I used the outcomes of the pilot study, including how I incorporated these outcomes in the major study.

Triangulation

Although reliability does not relate to validity at all, internal validity assures some degree of reliability. Similarly, triangulation strengthens reliability as well as internal validity (Merriam, 1998). Multiple methods of data collection helped me provide the triangulation; demographic survey and online course materials, electronic postings, and the instructor's input and insight all provide information on different aspect of the phenomena under investigation.

Audit trail

Just like an auditor's authentication of the accounts of a business, it is the researcher's responsibility to provide the details on how data were collected, how categories were derived, and how decisions were made throughout the inquiry, so that the independent judges can authenticate the results of the study by following the trail of the researcher (Merriam, 1998). By providing thick descriptions of the case I sought to present an audit trail for the reader. The explicit steps of the CMDA provides for a dependable trail as well.

Trustworthiness

The above-suggested strategies provide for validity and reliability; however, as Lincoln and Guba (1985) state, interpretive researchers seek to achieve trustworthiness, which can be described as the credibility, transferability, dependability, and confirmability of the interpretations. From the moment I started thinking about conducting a study on the issue of intercultural communication in online learning, I was conscious of my personal interest in this issue, my bias, and why this matters so much to me. The kind of research I presented here is very much my own construction of how I saw the issue at hand, the data, and how I chose to present the results. However, as a researcher, I made an effort to fulfill the common technical quality assessment criteria (Popay, 2003): I chose a method appropriate to the questions I asked; I made an explicit link to the theory and clearly stated the purpose of this inquiry; I made a clear description of context, sample, and methods; I provide some validation of the data analysis by providing examples from previous research studies, and I included sufficient data to support interpretations. Moreover, I made a good faith effort to establish trustworthiness (Lincoln & Guba, 1985) in my research. I sought triangulation to establish credibility. I presented a thick description of the data and the context to allow the readers to grasp a close picture as possible and see if the results could be transferable to a different but similar setting. However, one has to always keep in mind that this

"generalizability" in the qualitative paradigm is more of a logical one rather than a probabilistic one (Popay).

Human Subjects Protection

This research involving human subjects was reviewed and approved by the Institutional Review Board (IRB) at the Southwestern university the research was conducted (Appendix C). At the beginning of the research study, I informed participants of the purposes of the study and asked them to complete an online consent form. The consent form stated that their participation was entirely voluntary and confidential (Appendix C). To ensure confidentiality and to protect each participant's identity, I used a first-name only pseudonym. Initially, I kept the identities of the students secret in the discussions that I held with the course instructor, who also was one of the committee members of this research study. However, approximately one year after the data were collected, this instructor retired and left the institution. Only after that I discussed the data with her as an informant as well as a member of this research study.

During the only face-to-face orientation meeting at the beginning of the semester, I briefly described the research to the students. A demographic questionnaire was provided online for the students to fill out (Appendix A). Students completed and submitted this questionnaire. Both the online consent form and the online demographic survey were associated with a database tool, which was made available by the College of Education of the southwestern university. The submitted data were collected in this database. I then downloaded this data to an Excel® sheet for further analysis.

Summary

This chapter described the methods and procedures used to answer the following research questions

a. Does culture exhibit itself in the discourse of this particular online class? If so, in what ways?

b. Does this online course build a third culture? If so, what design features of this online course support the development of the third culture?

First, the research approach was described. Second, the CMDA process was described including the steps that were followed to conduct the study, analyze the data, and present the results. A discussion on validity, reliability, and trustworthiness was presented together with how each of these criteria was addressed in the study. Finally, how human subjects protection was handled in the research was discussed.

The next chapter will present the results. The discussion will begin with a thick description of the case study including a contextual analysis (the venue, the participant demographics, medium variables, and context variables), a case characterization with extensive descriptions of the online course and activities, and language-focused content analysis including structural and semantic analysis will follow. The research questions will be answered.

CHAPTER IV
RESULTS

The previous chapter presented the methods and procedures used to answer the research questions. This chapter will first present a thick description of the case study, employing CMDA. The discussion begins with a contextual analysis of the case study followed by a case characterization with extensive descriptions of the online course and activities. A content analysis including structural and semantic analysis will conclude the thick description. Next, the research questions will be answered.

Description of Case

The CMDA process, based on the work by Herring (2004) and Job-Sluder (2004) provides the rigor in presenting a thick description (Merriam, 1998) of the case study, as well as analyzing the results. The detailed presentation of the course, the communication among the students, the discussion conferences guarantee the validity, reliability, and trustworthiness of the case study.

Contextual Analysis

Venue: The Online Course

The first step of the contextual analysis, the venue, describes specific features and design characteristics of the online environment in which the communication is taking place. This section extensively describes the online course, course requirements, and course platform.

The online course was a graduate level course offered in Fall 2003 semester at a large Southwestern university in the United States. It was a course on the study of communication theory, learning theories, and systems theory related to distance learning as well as the application of effective and efficient instructional methodologies to educational / instructional settings via multiple distance education technologies and techniques. According to the course syllabus, students would examine the foundations of

distance learning from a theoretical perspective while practicing distance learning while focusing on

1. examining definitions of distance education, distance learning, distributed learning, and open learning
2. describing issues and trends in distance education
3. applying communication and learning theories to distance education settings
4. identifying distance educators, journals, and other resources
5. selecting appropriate delivery technologies for specific contexts and learner characteristics
6. demonstrating effectiveness and efficiency in using varied distance education technologies.

The course followed a 15-week schedule consisting primarily of two-week units defined by content topics that began on Mondays and ended on Sundays at midnight. Table 8 shows these units, time periods, and topics covered.

Table 8

Units, corresponding time periods, and topics covered

Unit	Date	Topic
Introduction	9/01-9/14	Getting it Together This unit allowed students to become familiar with the class web site and FirstClass. The class met on September 7, 2003 for orientation.
Unit 1	9/15-9/28	Foundations of Distance Education An introduction to and overview of the field of distance education
Unit 2	9/29-10/12	Distance Learners Characteristics of distance learners, strategies for learning at a distance
Unit 3	10/13-10/26	Distance Technologies Principles of designing distance education environments using appropriate technology
Unit 4	10/27-11/09	Teaching, Training and Course Design Computer conferencing, interaction, role and responsibilities of the distance instructor
Unit 5	11/10-11/23	Management, Administration, and Policy in Distance Education Existing and emerging issues in the management and administration of distance education
Unit 6	11/24-12/14	Assessment and Evaluation in Distance Education Formative and summative evaluation and importance of feedback in distance education

This 15-week long course utilized a combination of WebCT® and FirstClass® as the course platform for the content delivery and computer conferencing. Students were expected to have regular access throughout the semester to the Internet. Course content delivery was conducted through the WebCT© platform, however, due to the limitations of the WebCT® platform FirstClass® was used for the computer conferencing. WebCT was used as the course website and for posting the grades. Information about the course,

the syllabus, units, and schedules and students' responsibilities were explained on this platform. WebCT also contained links to online resources that would supplement the readings. Students accessed the WebCT platform with their username and passwords that they used to logon to their official university mail system.

All the course communication among the instructor, teaching assistants, and the students took place in FirstClass®, which offered private email, threaded discussions, real-time chats, and collaborative documents. In addition, FirstClass® had capabilities of giving selective access to conferences meaning student postings could be public and open to all, or private. These private postings were accessible to a selected number of people, who were usually the group-mates and the instructor or the teaching assistants. The instructor required students to download the client version of the program for them to be able to perform certain functions, such as access to collaborative documents.

The class had one face-to-face orientation meeting in the beginning of the semester on September 7, 2003. The orientation was also available by live streaming video and real-time chat through FirstClass®. During this orientation students received information about the course content and structure, some technical training on WebCT® and FirstClass®, and had the opportunity to ask questions. They were also assigned to their respective groups in which they would work. This course required the students to perform group activities; participate actively in facilitating unit discussions, keep an individual distance learning journal, and writing a research paper. During the orientation, students had a chance to form groups for facilitating unit discussions and work together on the specifics of the group work. This orientation session was part of a weekend orientation for all Educational Technology online courses and included library orientation, technical training, and a get-together in the evening of September 6, 2003.

Course Requirements. Students had five requirements to complete for this course. The instructor specified these requirements in the syllabus are shown in the table below.

Table 9

Course requirements and corresponding point values

Component	Points
Research paper	35
Introduction Unit	5
Unit 1 Discussion	7
Unit 2 Discussion	7
Unit 3 Discussion	7
Unit 4 Discussion	7
Unit 5 Discussion	7
Unit 6 Discussion	7
Facilitation of Discussion*	8
Journal	10
Total	100

* Note: For the unit in which students are facilitators, their grade were equal the unit points plus the 8 points for facilitation, which was a maximum total of 15 points.

i. Research paper. The students were required to write a paper on a distance education topic of their choice, using FirstClass. They were expected to follow guidelines of the 5th Edition of the Publication Manual of the American Psychological Association to ensure correct use of citations and references in their final paper. They were given the option of choosing from three types of papers: literature review, article for publication, or research proposal. They were required to use the class discussions and readings and at least seven external sources to develop their paper, which was not to exceed 2,000 words. The paper was to include a 200 to 400-word abstract as well. The instructor provided online resources on good technical writing and APA style. Students worked on their research papers throughout the semester with every unit containing an assignment related to their paper. Table 10 shows the related research paper assignments and the corresponding due dates.

Table 10

Research paper process, assignments, and due dates

Assignments	Due Dates
Post research topic ideas	9/14
Describe topic	9/21
Locate & post key sources	9/28
Add to sources and consider approach	10/05
Consider outline	10/12
Post draft outline	10/19
Review outline of a peer	10/26
Final outline	11/02
Work on draft paper	11/09
Write first draft of paper	11/16
Review draft of a peer	11/23
Begin finalizing paper and abstract	11/23
Submit paper, abstract, and presentations	12/14

In the course of writing their papers, students were given the opportunity to receive feedback from their peers. Each student was required to review another student's outline and first draft of the paper. The students were provided with guidelines in reviewing the draft outlines. They were also given the criteria on which their papers would be graded. This rubric is presented in Table 11.

Table 11

Grading rubric for research papers

Element of paper	Points	
Technical		
	Formatting (appropriate for type of paper, APA)	4
	Clarity, quality, and accuracy of writing	4
	Quality of resources	5
		Total=13
Components		
	Process	5
	Abstract	1
	Presentation	2
		Total=8
Content		
	Understanding of course content as reflected in the topic	2
	Clarity and quality of analysis	5
	Quality of review of relevant research & conceptual literature	5
	Creativity	2
		Total=14
Total		35

The instructor also warned the students in the syllabus about possible obstacles that could get in the way of success on this assignment. She listed some of these obstacles as selecting topics that are too broad, not thinking through the topic well enough to proceed effectively, not using an outline to guide the writing of the paper, and not meeting deadlines and receiving peer feedback in a timely manner.

ii. Unit Discussions. The students discussed the readings for each unit in discussion conferences held in FirstClass. Online discussions were a major component of this course, and all students were expected to actively participate in them in every unit. Discussions are centered on stimulus questions that address key issues for each unit. In general, there were two or three stimulus questions for each unit. Each student was assigned to a group in which they were expected to read all the postings contributed by the other group members. For each unit, several students served as unit facilitators, and one facilitator was assigned to each of these groups. Every student in the class served as a facilitator for one unit.

During the course of the semester, all students were a member of two different types of groups: discussion groups and facilitation groups.

a. Discussion Groups: In each unit, the class was divided into small groups (5-6 people) for the discussion. Each student assigned to one of these groups. All the groups in the class discussed the same stimulus questions, but each student was only responsible for reading the postings of the members of their own discussion group. One member of each group was the facilitator.

b. Facilitation Groups: Each student in the class was responsible for facilitating one of the units. Each unit had several facilitators, and these facilitators worked together to determine key ideas that should be addressed in the discussion of the stimulus questions. Each facilitator was responsible for one of the discussion groups in that unit. The instructor monitored all online discussions but did not participate in them. Instead, the instructor sent messages to all members of the class or she interacted with the facilitators in their private facilitation conference regarding the issues relevant to the discussion.

Each unit began on a Monday, with the first few days designated for reading the assigned articles. The students were urged to read the articles during the first few days of a unit so that they would be prepared to participate fully in the online discussion. Unit discussions were open for a total of six days; from the first Friday of the unit to the

second Wednesday. The instructor told the students to plan to be in FirstClass a minimum of four of the discussion days and encouraged them to try to participate more often. In the beginning of the discussion, everyone was expected to post a substantial response to the stimulus questions. After all students posted their initial ideas, group members responded to each other's ideas, creating a discussion. The students were expected to read all of the postings of their classmates in the discussion group. During the unit students were expected to post five substantive messages, and anywhere from two to five other shorter messages. Agreeing with classmates, posing a question, or adding minor points were given as examples of appropriate content for shorter messages, but they did not count as substantive contributions. Substantive contributions were several paragraphs long and they demonstrated what students learned from the readings. They built on the ideas of classmates in at least two substantive messages and two shorter messages. They were asked to post unique substantive responses to two of the stimulus questions within the first three days (Friday, Saturday, and Sunday) after the stimulus questions have been posted. In the next days of the unit, they were expected to begin discussing key issues raised by their groupmates. In the final days of the unit, they were required to post their remaining messages. Once the unit discussion was closed, no further messages were allowed.

The online discussions for units 1 through 6 were facilitated by members of the class. Students worked with a group of their classmates to facilitate one of the units. Each facilitator was responsible for one of the small discussion groups. Each facilitation group had a private conference in FirstClass that was used for planning. Students were asked to post messages here rather than sending private emails to their co-facilitators. The co-facilitators developed and posted a Group Learning Contract, which was an agreement about the rules of the group work and an adherence to the agreement students made. The instructor provided the stimulus questions for the unit. Co-facilitators posted a welcome message to the conference for the discussion group on the first Monday of the unit. Each questions was posted in a separate message to help create a threading structure, with each question being its own thread. The first four days of the unit was

planned as the reading and preparation days. The co-facilitators met in FirstClass to work on the major ideas that should be brought up in the discussion and to clarify any points of confusion that they had about the readings. The instructor was available to meet with the facilitators for an online chat to discuss any concerns or questions they had. The facilitators were asked to try to be online every day during their unit discussion. They were required to contribute at least eight postings to the discussions during the unit discussion through providing quotes or references to specific points in the readings that group members may not have addressed, tying participants' comments to other points made in the readings, asking students to elaborate on specific statements they made, making connections between comments made by different participants, encouraging elaboration and additional debate of interesting points by asking questions, playing devil's advocate by expressing alternative opinions, querying students directly using their names, telling the group about key issues being discussed by other groups, and reading some of the messages being posted in discussion groups other than the ones they are facilitating to be able to share with their own group. The instructor also advised the facilitators to contact through email any participants that they felt might be lagging behind. She also suggested them to schedule a chat or create a collaborative document in their facilitators' conference and contribute two good ideas that emerged from the discussion to create an opportunity for sharing of good ideas from one group to help stimulate discussion in another group. After the end of the unit discussion on second Sunday, facilitators were expected to work together to complete the Peer Participation Evaluation and assign 0-7 points to each participant based on the number and quality of their online contributions during the unit. This evaluation was also a part of each student's grade for the unit. This evaluation was to be sent privately via FirstClass to the instructor. The facilitators also wrote a synthesis of the discussion and posted it on the syntheses conference. Facilitators also filled out a Private Group Evaluation where they evaluated their co-facilitators in the group work and sent it in a private mail to the instructor.

iii. Distance Learning Journal

This requirement was two parts: a journal and a learning orientation activity. For the journal, the students were required to keep a bi-weekly journal about their reflections on learning and teaching in a distance-learning environment. Students posted their journal entries in their own private workspace in FirstClass in a collaborative document that only the instructor and the designated graduate assistant read and commented on. During each unit, the students reflected on their own growth in addition to addressing specific questions or issues, which were posted in the units. Additionally, students reflected on and replied to questions or comments that the instructor or the graduate assistant raised.

iv. Participation and Attendance

The students were told that they were expected to read the assigned materials in advance and participate actively in class discussions, group discussions, and other assigned activities. The students were evaluated individually as well as their commitment to collaborative work. The instructor made it mandatory to attend all synchronous sessions scheduled to discuss and plan group work for unit discussion facilitation. The particular participation requirements for unit discussions were presented under the discussions heading. The students were told to expect to spend a minimum of 12 hours weekly for 15 weeks on this class.

Participant demographics

The second step in the contextual analysis is participant demographics. This section describes the important characteristics of participants. This information was obtained from the demographic survey and the online postings of the students.

There were 20 students taking the class. The instructor worked with two graduate assistants throughout the course. Therefore, in total there were 23 participants in this case study. Out of the students, 13 were female and 7 were male. The instructors and graduate assistants were all female. The average age of the group was 33.7. Only two

participants never took an online class before and nine participants took three or more online courses. Table 12 describes the participant characteristics.

Table 12

Participants' characteristics

Question	Summary
Age on the first of July 2003	Average = 33.7
Gender	7 male, 13 female
Number of online classes prior to this one	2 participants = more than 5 2 participants = 5 2 participants = 4 3 participants = 3 9 participants = 1 2 participants = none

All students used the Internet and computers on a daily basis. Those who used computers for ten years or more were twelve. They usually used the computer for typing, emailing and surfing the Internet, followed by for using spreadsheet programs, games, and for coursework. All participants were PC users. They mainly used computers at work. When they used the Internet, they used it for emailing and doing work-related tasks or school work. Table 13 details participants' use of computers and the Internet.

Table 13

Participants' computer and Internet use

Question	Summary
Frequency of computer use	All participants use it daily
Number of years of computer use	more than 10 years = 12 participants;
	5-10 years = 7 participants;
	1-2 years = 1 participant
Types of activities with the computer	All Internet and email;
	typing = 18;
	spreadsheets = 11;
	games = 9;
	course work = 5;
	miscellaneous software = 2;
	research = 1;
	publishing = 1;
	bookkeeping =1
Type of computer	All PC
Preferred venue for computer use	home, work, and school = 1;
	both home and work = 2;
	work = 12;
	home = 3;
	school = 2
Frequency of Internet use	multiple times a day, including the weekends = 18;
	once every day, including the weekends = 2
Reason for Internet use	Email = 20;
	schoolwork = 20;
	work-information = 17;
	online_facilities = 14;
	personal interests = 14;
	online chatting = 5;
	games = 5;
	working on homepage = 4;
	research = 1;
	teaching = 1

Out of 20 students, three identified themselves as Chinese, one as Korean, and one as Indian. The rest of the students were from the United States. Three U.S. citizens were raised in neighborhoods where most people had the same culture as them but most people outside of the neighborhoods had some other culture. One student grew up in a Polish Catholic neighborhood and another grew up in a Houston-Filipino community. When asked about the cultural background they felt they belonged to, the participants responded in different ways. While ten of the U.S. students said they belonged to the American culture, several of them identified themselves as Irish/German, German/American, Afro-American, Caucasian, or even Polish/Hungarian. The Indian student defined her cultural background as Hindu (the religion) whereas one of the Chinese students said she belonged to the Eastern culture. Table 14 presents participants' language and cultural background.

Medium

Medium variables describe technological features of computer-mediated communication systems. These are determined by messaging protocols, servers and clients, as well as the associated hardware, software, and interfaces of user's computers. Table 15 displays the medium variables for the data under examination.

Table 14

Participants' language and cultural background

Question	Summary
Nationality as stated in passport	U.S. Citizen=15; Chinese=3; Korean=1 Indian=1
First language (the language used most of life)	English = 15; Chinese = 3; Korean = 1; Telugu (Indian) = 1
Language background	Only English = 14; Chinese & English = 2; English & Tagalog (Philippines) = 1; Korean & English = 1; Chinese, English, & Japanese = 1; Telugu & English = 1
Languages spoken well enough (a reasonable conversation with a local person)	English=20; Chinese=3; Korean=1; Japanese=1; Tagalog (Philippines) =1;
Cultural background	American=10; Chinese=2; Afro-American=1; Irish/German=1; German/American=1; Hindu=1; Caucasian=1; Polish/Hungarian=1; Korean=1; Eastern=1

Table 14 (cont'd)

Question	Summary
Country where spent the most time	United States = 15; China = 3; Korea = 1; India = 1
Duration of stay in this country (where spent the most time)	whole life = 9; over 18 years = 11;
Number of generations in this country	many generations of participant's family = 14; participant's parents and grandparents = 3; participant and parents = 2; only the participant = 1
Grew up in a neighborhood where most people had the same culture as self and parents, but most people outside of the neighborhood had some other culture?	Yes = 2; No = 18

Table 15

Medium variables for the study

Medium variable	Classification of data
Synchronicity of participation	Synchronous and asynchronous; the WebCT™ course platform provides for both modes, however, WebCT data included in the analysis for the study comprised only the course materials provided through WebCT™. FirstClass software has both synchronous and asynchronous capabilities, but the data analyzed in the study did not include synchronous communications of the participants.
One-way vs. two-way message transmission	One-way message transmission; the transmission unit is message. The messages appear on the discussion area as complete messages. The students do not know if others are posting at the same time.
Persistence of transcript	Persistent transcript for the asynchronous communication; non-persistent for the chat sessions unless the participants themselves make a copy of the transcript (which they were advised to do so by their instructor). The messages remain on the discussion area until the course designer, course instructor (or anyone who has the certain privileges) deletes them. In this particular institution, the messages, along with the other student information is reset at the end of each semester automatically, unless the instructor requests the opposite.
Size of message buffer	Virtually no size restriction to the messages; no limit to the message size is known.
Channels of communication	One channel; visual (text-only). Although the discussion area allows for the upload of attachments, which can contain virtually anything (audio, video, or both), the messages themselves are text-based.
Anonymous messaging, private messaging, filtering and quoting	No anonymous messaging; everybody logs on with a username and password. Moreover, the instructor asks all students to give personal contact information (e-mail, phone number, etc.) Private messaging; both WebCT and FirstClass provide for private messaging along with the possibility of external e-mailing among participants. No auto-filtering; all posted messages appear in the discussion area. There are restrictions on who can post to which conference though, decided by the course instructor or designer. FirstClass provides the option for quoting text.

Context

Context (situational) variables consist of social features associated with the context of communication. These features include information about the participants, their relationships to one another, their purposes for communicating, what they are communicating about, and the kind of language they use to communicate. There were several different discussion areas in the course that provided context for students to communicate. Howdy/Introductions was for initial communication and introducing oneself whereas Café was for informal communications that were not course-related. I decided to present context variables individually for each type of conference.

One of the very first activities the students conducted in the course was to post their information in the Howdy/Introductions conference. They were required to post who they are and their background and interests, as well as their expertise. All students posted messages in this conference. Table 16 presents the situational variables for the Howdy/Introductions conference.

As predicted, the context variables for the Research Paper conference were slightly different. Students posted more messages in this conference compared to the other individual conferences since this was a semester-long conference. The messages were brief, usually just referring to the attached files. Table 17 presents the situational variables for the Research Paper conference.

Table 16

Situational variables for the Howdy/ Introduction conference

Situational variable	Classification of data
Participation structure	• One-to-many (one person posting messages to others) • Public: The conference was open to everyone in the class. • No anonymity, no pseudonyms; participants interacted with their real identities, using their real logon names and signed their real names in the messages. • Group size in the conference= 22; 20 students, 1 TA, and the instructor; all students were required to participate. 42 messages were posted. • Required by the instructor, as stated in the course syllabus: "Write a brief introduction of yourself and post it in FirstClass/ Howdy/Intros and in your Resume in FirstClass. Add your picture to your Resume."
Participant characteristics	• All students participated in the conference.
Purpose	• Of group = Introduce themselves to the rest of the group. • Goal of interaction = Get to know each other better.
Topic or Theme	• Of group = Information about self. • Of exchanges= Personal information such as hometown, nationality, etc.; professional background; family information; expectation from the course; expectations from the group.
Tone	• Informal and candid; supportive; polite.
Activity	• Posting personal information, usually solitary messages, except for several cases where students asked each other some specifics about their background.
Norms	• Students usually followed the example provided by the course instructor in the first posting of the conference • Social appropriateness (greeting, thanking, polite, complimenting) • Created subject lines with their names, i.e. "Tom's introduction" or "Who's Jim?"
Code	• English, use of emoticons, sometimes mimicking the real live exclamations • Use of local or colloquial language • Font/writing system; various font types, sizes and color were used – FirstClass system allows variety in terms of fonts, colors, etc. and students used this feature.

Participation in the Resources to Share conference was voluntary. In this conference, students were expected to share online resources or books and articles of relevance with each other. Of 20 students in the course, 11 of them participated in the conference. Four of the five international students posted in this conference. This high degree of involvement from the international students in sharing resources with their fellow classmates can be an indication of their high level of motivation and desire to be a part of the learning community. The three most active students of this conference produced about one third of the total number of messages posted. Table 18 presents the situational variables of Resources to Share conference.

The situational variables for the Q&A Conference are presented in Table 19. Participation in the Q&A conference was also voluntary. Students, instructor, and one of the TAs posted 340 questions in this conference. The instructor posted the highest number of messages in this conference. The high and widespread level of participation in this conference, which is created to ask questions and answer others' questions, may be an indication of the high level of collaboration in the course. Instructor's and the TA's high level of involvement in answering students' postings in this conference may be a factor in the creation of a collaborative culture in this online course.

Table 17

Situational variables for Research Paper conference

Situational variable	Classification of data
Participation structure	• One-to-many (one person posting messages to others) • Public: The conference was open to everyone in the class. • 6 sub-conferences: Draft Paper, Final Paper, General Discussion, Outline, Paper Topics, Presentations, Sources. Draft paper conference was for posting the draft paper to receive feedback. Final Paper is where students submitted their final papers by posting them attached to a message. General Discussion was for asking questions, getting answers, and sharing ideas related to the paper assignment. Outline conference was for students to create and revise their paper outline. Paper Topics is where students posted their initial ideas on what to write a paper on and they received feedback from peers and instructors. Presentations conference contained the PowerPoint presentation associated with the papers. Sources is the conference where students posted their major sources to use when writing the paper. • No anonymity, no pseudonyms; participants interacted with their real identities, using their real logon names and signed their real names in the messages. • Group size in the conference: Depending on the sub-conference, group size varied between 4 and 23. A total of 385 messages were posted in the 7 conferences, ranging from 18 messages in Paper Draft to 147 messages in Paper Topics. • Required by the instructor, as stated in the course syllabus.
Participant characteristics	• All students, instructor, and the co-instructor responsible for grading the research papers.
Purpose	• Of group = Post related components of research paper, share ideas and receive feedback. • Goal of interaction = Make progress on the research paper requirement.
Topic or Theme	• Of group = Components of research paper and information and feedback on the individual progress. • Of exchanges= As defined by the sub-conferences; draft paper, final paper, outline, sources for paper, general discussion, presentations, and resources.
Tone	• Focused and to the point, usually short sentences referring to the file attachments to the messages.
Activity	• Posting research paper related files, usually solitary messages, except in the case where the instructors replied back to give feedback or the students replied back to their original messages with revisions to their initial work.
Norms	• Students usually followed the directions given in the syllabus and posted the messages in the corresponding sub-conferences. • Students created subject lines with their names, i.e. “Tom’s outline” or “Sue’s sources?”
Code	• English, rare use of emoticons • Font/writing system; various font types, sizes and color were used – FirstClass system allows variety in terms of fonts, colors, etc. and students used this feature.

Table 18

Situational variables for Resources to Share conference

Situational variable	Classification of data
Participation structure	• One-to-many (one person posting messages to others) • Public: The conference was open to everyone in the class. • No anonymity, no pseudonyms; participants interacted with their real identities, using their real logon names and signed their real names in the messages. • Group size in the conference= 11 students, 1 TA, and the instructor; 61 messages were posted. • Optional. Students voluntarily read and posted in this conference.
Participant characteristics	• All international students except for Liu participated in the conference. Three students combined produced one third of the total messages posted.
Purpose	• Of group = Share resources with each other and find out about resources that may be useful. • Goal of interaction = Communicate the existence of useful resources.
Topic or Theme	• Of group = Resources that are relevant to the course. • Of exchanges= URLs, books, articles, news that are relevant to the course content and activities.
Tone	• Minimal exchanges. Usually postings with explanations about the resource being posted.
Activity	• Posting usually solitary messages with information about the resources.
Norms	• Students usually followed the example provided by the course instructor in the first posting of the conference • Subject lines giving an idea about the resource in the message.
Code	• English, use of emoticons • Font/writing system; various font types, sizes and color were used – FirstClass system allows variety in terms of fonts, colors, etc. and students used this feature.

Table 19.

Situational variables for Q&A conference

Situational variable	Classification of data
Participation structure	• One-to-many (one person posting messages to others) • Public: The conference was open to everyone in the class. • No anonymity, no pseudonyms; participants interacted with their real identities, using their real logon names and signed their real names in the messages. • Group size in the conference= 20; 18 students, 1 TA, and the instructor; all students were required to participate. 340 messages were posted. • Optional. Students voluntarily read and posted in this conference.
Participant characteristics	• All students except for Jim and Scott participated in the conference. The instructor posted the highest number of messages in this conference.
Purpose	• Of group = Get answers to questions related to the course. • Goal of interaction = Ask course content and technology-related questions and provide answers to them.
Topic or Theme	• Of group = Questions about the course. • Of exchanges= Questions, URLs, resources that illuminate the answers to questions asked in the conference.
Tone	• Supportive and helpful. Not only the instructor but also the students provided answers to questions asked.
Activity	• Asking questions and helping each other with answers. Information exchange.
Norms	• Students usually followed the example provided by the course instructor in the first posting of the conference • Subject lines giving an idea about the question in the message. • Create a thread when answering a question.
Code	• English, use of emoticons • Font/writing system; various font types, sizes and color were used – FirstClass system allows variety in terms of fonts, colors, etc. and students used this feature.

The unit discussion conferences included conversations revolving around stimulus questions addressing unit content. The participation structure was set by the course instructor in the syllabus by providing some minimum expectations for contributions to unit discussion conferences. The bulk of the course communication took place in these unit discussion conferences. Table 20 presents the situational variables for the Unit Discussion conferences.

Case Characterization

Before reporting anything about the online course, I should probably introduce the researcher, myself, and my relationship to the course and the participants, since this information is important in terms of evaluating the validity and trustworthiness of my interpretations of the research data.

At the time of this research, I was a doctoral candidate at this same department the course was being offered. I had been a student in the department for four years, recently completed the course work and passed the preliminary examinations.

I was an international student from Turkey, one who is often referred to as "assimilated" into the American university culture. I was fluent in the language and was actively involved in leading and participating graduate student organizations.

I was very similar to the participants of this research study in many aspects, in fact had taken courses together with several of them. Therefore, in this sense, I was an insider. But at the same time I was different enough to give me a perspective to be able to distance myself enough to process and interpret the data.

I had been involved with online courses as a student, by taking online courses myself and also as a teaching assistant, helping the instructor of the course in this particular case study. At the beginning of Fall 2003 semester, I had agreed to be a teaching assistant of this particular course; however, when we decided to collect my research data from this course, I bowed out of my responsibilities from the course and stayed as a silent observer.

Table 20

Situational variables for the Unit Discussion conferences

Situational variable	Classification of data
Participation structure	• One-to-many (one person posting messages to others) • Public: The conference was open to everyone in the class, except for the private group discussion conferences where co-facilitators and the instructor planned for the upcoming unit discussions. • No anonymity, no pseudonyms; participants interacted with their real identities, using their real logon names and signed their real names in the messages. • Group size in the conference= 23; 20 students, 2 TAs, and the instructor; all students were required to participate. 2134 messages were posted in 6 unit conferences. • Required by the instructor, as stated in the course syllabus. During each unit, students as participants were expected to post five substantive messages, and anywhere from two to five other shorter messages.
Participant characteristics	• All students participated in the conference.
Purpose	• Of group = Discuss unit contents. • Goal of interaction = Co-construct knowledge and understanding of unit content.
Topic or Theme	• Of group = Depending on the unit content, the three stimulus questions and the discussion generated from them created the topic and theme for that unit discussions. • Of exchanges= Understanding from the readings; personal experiences and ideas related to content; questions to peers asking for details, thoughts, feedback.
Tone	• Supportive; polite; collaborative; informative, and insightful.
Activity	• Posting replies to the stimulus questions posted by unit co-facilitators where students asked each other some specifics about their background. • Posting replies to peers' responses to give input, ask questions, or to weave the discussion.
Norms	• Students usually followed the instructions provided by the facilitators in the first posting of the conference. • Social appropriateness (greeting, thanking, polite, complimenting)
Code	• English, use of emoticons to create a real life sensation. • Use of local or colloquial language • Font/writing system; various font types, sizes and color were used – FirstClass system allows variety in terms of fonts, colors, etc. and students used this feature.

This course was a graduate-level online course offered at a U.S. institution in Southeastern United States. The course was offered by the Department of Educational Psychology by the Educational Technology program. Students taking this course were either U.S. citizens currently living in the United States, or foreign students who are actually in the United States for pursuing a graduate degree.

At the beginning of the semester, the instructor of the course announced the students that she was going to have three helpers in the course, for helping her with the different course requirements. I was one of these three assistants initially, but because I decided to conduct research in this course, I bowed out of my responsibilities as teaching assistant. One of the other two assistants volunteered to help with the research paper requirement and the other helped with class discussions.

Halfway through the semester the instructor of the course was diagnosed with breast cancer. This required some readjustments to be made to the course. One of the assistants was hired as a co-instructor and she took over the responsibilities of the research paper requirement exclusively as well as the private learning journals. The instructor continued to mentor the students through the discussion groups as much as she could. The students, overall, did not have major problems with these readjustments that were necessary.

Soon after the instructor, one of the international students, Liu, was also diagnosed with breast cancer. The instructor and Liu had candid conversations about their common fate in Liu's private learning journal, exchanged tips and supported each other. The private learning journals were not included in the data set for this research. However, this is an important element of the student-instructor interaction that was worth mentioning.

The instructor conducted two anonymous evaluations throughout the semester. One was halfway through the semester, which was called a formative evaluation. The instructor created a collaborative document in FirstClass, which was an anonymous means of collecting the feedback. The instructor asked questions about how the students liked the course so far, how much time they are spending per week on the unit activities,

what changes they would like to see made for the rest of the semester. Students used different font types and colors to differentiate their responses but still remained anonymous. The instructor used the outcome of this formative evaluation to make changes and revisions to the course. For example, one of the suggestions the students made was the re-shuffling of unit discussion groups. At the beginning of the semester students were assigned to three discussion groups within which they were expected to conduct discussions. However, the students wanted to be able to talk to everyone in the course, at the same time recognizing the difficulty of a large group discussion. The instructor created three new discussion groups and reassigned students to these three groups. The last two units of the course the students worked in these new groups.

The final evaluation was also conducted through the use of collaborative documents in FirstClass. The instructor asked similar questions. Students usually wrote positive comments about the course. They also showed appreciation about the mid-semester readjustments that were made.

The students were also required to keep a private learning journal where they recorded their learning activities during the unit. For each unit they were presented with several questions to address in their journals. Some students just answered these questions and some others went above and beyond this minimum requirement. In the summative evaluation some students said the journal requirement was unnecessary and tedious whereas some others said that it was a great way to have a personal interaction with the instructor.

Content Analysis

Structural

This section looks at the structural characteristics of the computer-mediated communication in the course. These include message, word, and sentence counts. For the purposes of this research, only the message counts in the course conferences will be presented. Table 21 presents the number of messages each student posted in the public course conferences.

In this table, students with bolded names are the ones chosen for the next step, semantic analysis. The numbers in bold are the number of messages that were posted during the unit in which the students were the co-facilitators. As can be seen in the table, all students except for Mary and Jim posted more messages during their co-facilitation. Similarly, in a given unit, highest number of messages was posted by the unit co-facilitators. Therefore, participation in the unit discussion conferences, as measured by the number of messages posted, can not be explained by the cultural background of the students, but rather their role in the particular unit, i.e. whether or not they were co-facilitators in the unit discussion.

All international students participated in the optional conferences such as Q&A, Café, and Resources to Share just like the local students. Especially Mia, Liu, and Seenu became heavy participants of these optional conferences, posting more messages than many of their local peers.

Semantic Analysis

This section of analysis will look at the discourse and delve into the deeper meanings utilizing the semantic analysis matrix displayed in Table 21. This semantic analysis matrix was developed based on the review of the literature and the results of the pilot study.

Table 21

Students and number of messages posted in course conferences

Student	Café	Discus.	Unit 1	Unit2	Unit3	Unit4	Unit5	Unit6	Howdy	Res. to Share	Q&A	Res. Paper	Unit Totals	TOTAL
Gabe	3	8	15	24	24	19	34	**147**	3	1	10	11	263	288
Samantha	2	5	16		13	13	34	**96**	5		24	13	172	210
Mia	9	3	16	**40**	13	18	20	21	1	2	30	24	128	173
Scott		3	7	10	14	20	16	**83**	2			26	150	155
Liu	6	4	10	**40**	11	10	9	31	4		29	8	111	154
Tom	3	4	4	8	22	**49**	16	16	4	7	16	13	115	149
Mary	3	3	**21**	14	15	17	23	17	2		25	18	107	140
Seenu	2	3	**35**	13	14	17	21	10	2	2	21	12	110	140
Terry	3	4	14		9	11	**19**	10	2	7	36	40	63	123
Anne	4	3	4	3	12	**38**	12	13	2	4	19	17	82	113
Michael	3	5			8	9	9	**50**	5	1	13	12	76	104
Jim	1	3	16	17	14	15	**12**	21	2			11	95	102
Chen	4	3	**20**	10	9	8	13	13	5	6	17	11	73	108
Carla	1	2	4		**36**	22	12	12	2	2	2	8	86	96
Charles	2	3	6	10	11	13	**17**	11	2		1	8	68	76
Xia	1	4	8		**20**	7	12	11	2	1	7	17	58	76
Susan		3	8	8	10	**24**	9	6	2		1	10	65	72
Kelly		3	5	**16**	10	7	7	7	6	1	8	10	52	70
Tess	3	3	6		4	**29**	7	7	3		3	15	53	65
Tim		3	**12**		5	7	6	7	3		3	9	37	48

Student with bolded names are the ones chosen for the semantic analysis. Bolded numbers denote the number of messages posted during the student's facilitation unit.

Manifestations of culture in the discourse

The cultural background of students did not really emerge in the major themes that surfaced as a result of the semantic analysis (Table 21). In situations where students were expected to act in a certain way to reflect their cultural background, they did not exhibit this communicative behavior. Here are some examples:

Collectivist versus individualistic behavior. People from collectivist cultures are expected to have a focus on relationships and family. Students coming from these cultures would be expected to mention their families in their discourse more than the students from individualistic cultures. However, in their personal introductions in the course discussions, we have personal life/family oriented introductions from both local and international students. Similarly, there are career oriented introductions from both students from collectivist and individualistic cultures.

In addition, both groups were comfortable with exchanging feelings with each other and cared about strengthening relationships:

> I'm so glad I took this course with you this semester. You are not only my classmate, you are also my teacher. I wish you and your family a happy holiday.
>
> (Mia, Café, 12/11/03, 24)

> I think I learned as much from you as I shared with you this semester. During the discussions you always helped me look at things from a different perspective. I appreciate this very much. Have a great time with your family and don't forget about Houston and all it has to offer. Enjoy the break!
>
> (Gabe, Café, 12/12/03, 14)

> I wanted to let Group B know that I'll be attending a 2-day UT Telecampus workshop in Austin (10/23-24). It is located at the main campus. The agenda is quite full with discussions on how to go about implementing a successful DE course. I hope to give you all a full report on my return.
>
> (Tom,Unit3GrpB,10/20/03,101)

Low context versus high context behavior. Both local and international students used quoting feature in their messages, whereas this would expected to be a preference for low-context cultures since they would want to include everything to the coded

message leaving as little room as possible for the interpretation based on the context. Quoting in this particular course is an affordance of the course communication software (FirstClass®) and is extensively used by the course instructor. This observation is an example of how the software features and instructor's modeling can facilitate the communication and impact its nature.

Uncertainty avoidance. Based on postings and facilitator planning conferences, students displayed equal anxiety and insecurity about the expectations of the course, independent of their culture. They asked for others' input and asked questions in the Q&A conference to seek help.

Power distance. Online learning environments are designed to be "low power distance", in other words, highly egalitarian environments. However; students from high power distance cultures are expected to be more subordinate, hesitant to take initiative and make decisions, show respect to older classmates and the instructor. I was not able to find instances of this kind of difference that would reflect the power distance aspect in their discourse.

Assuming roles. Students from all cultures took roles in the course as both participants and co-facilitators, since this was a course requirement. When we look at group leadership we see that independent of their culture, people volunteered or shied away from taking leadership responsibilities. Causes for this can be various; language proficiency, for one, is an important aspect, as well as experience with online environments. Female students from Asian cultures may be expected to refrain from taking on leadership roles and additional responsibilities, because these cultures are masculine where there is a strong role expectation for sexes. Taking on leadership roles and challenges are not necessarily female roles. However, in this course we see both American and foreign students taking on leadership roles and hesitation exists in both groups:

> I had group work for all the courses that I've taken so far, so I think I'm pretty comfortable with it. I'm a responsible person, and I usually took a leader role in the group work although I didn't mean it originally. I guess I'm too responsible, so I prefer to work with punctuate persons who could be responsible as well. I'd like to do the editing work in the group, but since English is my second language, I've never been the final editor so far. :-o I usually do the draft version. ;-)
>
> (Mia, ResearchPaper, 9/3/2003, 7)

> I had group work for all the courses I have taken so far, so I think I am pretty comfortable with it. I'm a responsible person, and I usually took a leader role in group work […]
>
> (Mia, Howdy/Help Hotline, 9/3/2003, 7)

> Teaching Language Arts gives me ample opportunity to edit and assimilate material. I will help who, how, when, and however I can, and I don't mind proofreading. Taking on a leadership role is a challenge I would welcome as long as I am not on my own in this cyberspace jungle.
>
> (Samantha, ResearchPaper, 9/1/2003, 12)

Self-criticism. Asian cultures give high importance to face-saving and they avoid losing face in their interactions. However, in the data sample I found instances where two Asian students were engaged in self-criticism and revealing personal weakness in public, in spite of the risk of losing face:

> I often make mistakes, forget something important or even go somewhere else when driving.
>
> (Xia, Howdy/Introduction, 9/1/2003, 11)

> I feel a bit nervous about this 2nd EDTC course, because I'm not sure when I would miss something while being unaware of that.
>
> (Liu, Howdy/Introduction, 9/3/2003, 14)

Backlash in interactions. According to Belz (2003, 2005b), when cross-cultural interactions backlash, this shows itself in the form of high rate of negative judgmental appraisal, high frequency of rhetorical questions, and lack of mitigation in the performance of critique. The current data did not show instances that could be classified under these observations.

Main themes resulting from the Semantic Analysis

The semantic analysis based on the semantic analysis matrix (Table 21) did not reveal the predicted manifestations of culture in the online discourse. However, based on this analysis, several main themes emerged. These themes are presented and explained next.

Sharing personal experiences / Sharing instances of own culture. Students shared their personal experiences and feelings, as well as aspects of their own culture in the course discussions:

> You know China is changing at an amazing speed now. But I can tell you some examples from my family. […] I think they're positions are equal to full professor level. Once you are at this level, you can retire anytime you want.
>
> (Mia, 09/22/03, Unit1GrpA, 68)

> I am in traditional class this semester, and I really don't like learning that way anyway. I feel like I'm being pushed back into rote memorization that I will have to spit back on a test.
>
> (Mary, 09/19/03, Unit1GrpA, 93)

> If you are already having to work to support yourself and your family, the inclination might be to search out classes that offer a more flexible type of participation. […]. I know that's what I try to do. ☺
>
> (Gabe, 9/23/06, Unit1GrpA, 60)

> The reason I asked you this question is because I have special interest in instructional video product. I took two video courses this past semester.
>
> (Mia, 9/23/03, Unit1GroupA, 52)

> My hometown is Jingzhou, Hubei Province, China. It is a central-south city in China and along the Yangtze River. I studied in Nanjing University for 7 years, getting my B.A. in English Language and Literature and M.A. in Applied Linguistics. Nanjing is the capital city for Jiangsu Province-a coastal province, and is about 1-2 hours train away from Shanghai. Nanjing is a beautiful city, I actually think it is better than Shanghai, because I can enjoy both city life and rich cultural activities there without being pressurized as in big cities.
>
> (Xiu, 9/1/03, Howdy/Introduction, 11)

> But I don't think there are different racial groups in China, because we all are yellow-skinned. That's why I didn't quite understand "critical race theory" in the EHRD 651 course. But I know how race is important in America.
>
> (Liu,Unit6GrpB,12/09/03,8)

> Group work is not emphasized in both these countries [China and Japan] This is why I was not comfortable with this type of study when I started studying here. I think Asian schools usually emphasize the authority of teacher. Students need to "digest" the knowledge provided by the teacher, then learning how to use it to solve the problems by themselves. Personally, I think the education in the USA allows students to think very flexible. The education in Asia is more rigid, however, encouraging students to go deeper.
>
> (Chen,Unit6GrpB,12/07/03,72)

Sometimes these sharing of experiences and feelings were extremely candid and humble.

> As a student relatively new to technology, I am always worried that I will push the wrong button or lose myself in cyberspace. [....]I have a knack for disaster as relates to computers! Ask anyone who knows me.
>
> (Samantha, Howdy/Introduction, 9/1/03,8)

> I feel a little bit nervous about this 2nd EDTC course, because I am not sure when I would miss something while being unaware of that.
>
> (Liu, Howdy/Introduction, 9/3/03,14)

> I will manage to accomplish what I begin although it may be much slower than anyone else.
>
> (Samantha, Howdy/Introduction, 9/1/03,8)

> I often make mistakes, forget something important or even go somewhere else when driving!!
>
> (Xiu, Howdy/Introduction, 9/1/03,11)

> Do I have that quality? Not yet… I am really struggling.
>
> (Xia, 09/23/03, Unit1GrpC, 5)

> My opinion may not be correct, I'll be very happy to hear different comments from the others.
>
> (Mia, 09/22/03,Unit1GrpA,67)

There were times where students witnessed differences within the same culture:

> Well, actually I also studied English at Beijing 2nd Language Institute for two years. I do not remember we had many group work. Even in the same country, the teaching and learning styles are so different.
> (Mia,12/10/03,Unit6GrpB,38)

Giving positive feedback and showing agreement. Students, as well as the instructor and TAs frequently gave positive feedback in their communication. Whenever they agreed, they showed it.

> Great insight, Jim.
> (Chen, 9/23/03, Unit1GroupA, 21)

> You make a great point about the medium getting in the way.
> (Gabe, 9/23/03, Unit1GroupA, 20)

> Very cool, Michael! I especially like the smile :-)
> (Kelly, Howdy/Introduction, 9/10/03, 32)

> I definitely agree with the statement above.
> *(Gabe, 9/22/06, Unit1GroupA,23)*

> Your discussions are going very well, and you are doing well!
> (Unit3PrivateFacil,10/20/03,21)

> I have just finished reading the discussions. I am so proud of you and your facilitation of the discussions! The discussions were so illuminating, and you really did a good job of keeping them going. Not too much, not too little.
> (Unit3PrivateFacil,10/26/03,45)

Showing curiosity about others' culture and appreciation for cultural exchange. Students showed appreciation and excitement about the opportunity to share first-hand cultural experiences with each other.

> As you no doubt realize, reading something about another culture or society is one thing, but "hearing" it from a person that has experienced it first-hand can make all the difference in understanding. Thanks for the explanation. It did highlight the fact that things are changing in China.
>
> (Gabe, 9/23/06, Unit1GroupA, 62)

> Since I came to the States, I am amazed at how creative American students are. Besides, they are always "ready" to do things.
>
> (Liu, 12/08/03, Unit6GrpB, 17)

> I was curious about something you wrote. You stated the age for retirement in China depends on people's education level. Is this dictated by state policy? How is the actual age arrived as a cut-off point?
>
> (Gabe, 09/22/06, Unit1GrpA, 70)

> I am interested in knowing if China has any program similar to our affirmative action program.
>
> (Scott, Unit6GrpB, 12/09/03, 8)

> I always wanted to know about the details of Affirmative Action, could you explain it to me?.
>
> (Liu, Unit6GrpB, 12/09/03, 8)

> It's great such a perspective from an international student. I hadn't considered the fact that DE could make the learning experience more balanced for international students. Are there other attributes that could contribute to the success of international students?
>
> (Mary, 09/20/06, Unit1GrpA, 89)

> I read a lot of reports concerning racial issues in the Battalion recently, does that have to do with affirmative action? These discussions are all very fresh to me as an international student, and make me think.

(Liu,Unit6GroupB,12/10/03,2)

> You know I really enjoy corresponding with you about us and Chinese culture. I find it fascinating. I really appreciate you taking the time and effort to respond so thoughtfully and thoroughly.
>
> (Scott,Unit6GrpB,12/10/03,4)

> Thank you for sharing your educational experiences in China and Japan. It's amazing to me how education can be so different. I'm wondering which perspective is best for the student. For the business world. Will we ever know?
>
> (Pat,Unit6GrpB,12/08/03,68)

Creating an in-group or "us" language. During the course of the semester, students started using collective language, e.g. "us", " our", "we":

> This kind of convenience is not available everywhere, aren't we lucky?
>
> (Liu, Unit3GrpB, 10/21/03, 15)

> Could you share with us how all these things had an impact on your teaching strategies?
>
> (Seenu, Unit3GrpB, 10/21/03, 23)

They also exhibited loyalty for their group:

> I wanted to let Group B know that I'll be attending a 2-day UT Telecampus workshop in Austin (10/23-24). It is located at the main campus. The agenda is quite full with discussions on how to go about implementing a successful DE course. I hope to give you all a full report on my return.
>
> (Tom,Unit3GrpB, 10/21/03, 101)

This kind of loyalty was also displayed by their commitment to the communication as well. One student wrote:

> I do not have it [the material] in front of me right now, so I will answer you tomorrow when I can refocus the information.
>
> (Pat, Unit6GrpB, 12/10/03, 80)

This kind of "I will get back with you" reply almost creates a synchronous communication effect.

Another student responded to a fellow student's question by only saying she didn't have the response for her

> Sorry, Pat. I have no idea either ☹.
>
> (Liu, Unit6GrpB, 12/08/03,109)

These students wrote back immediately although they did not have to or did not have much to say at that very instance. This implies two things at the least: loyalty to the group and to the conversation, as well as the high expectation of the community in terms of immediate response in the communication.

Handling cultural gaps or lack of understandings. In a discussion topic where the future learning technologies were being discussed, a student said:

> I'm waiting for the day when we have transporter technology and actually have our own molecules constituted and then reconstituted. Cool huh? Maybe one day you can "beam me up, Liu".
>
> (Tom, Unit3GrpB, 10/21/03,62)

In a follow-up posting, Liu asked Tom

> But what does "beam me up" mean?
>
> (Liu, 10/22/03, 77).

The student took the time to explain the TV show this expression is based on. Obviously, for a person from a different culture, a phrase from a TV show is a totally foreign concept, even though the show may have played in other countries we still have the issues of translation. Tom says

> The phrase "Beam me up, Scotty" comes from the Paramount TV show, Star Trek. In a nutshell, it is story about a group of space explorers searching out new lifeforms across the galaxy in a ship named Enterprise.[…] So when Captain Kirk is ready to be beamed up on the Enterprise, he informs Mr. Scott to 'beam him up'.
>
> (Unit3GrpB, 10/22/03,79).

The local students did use some lingo, culturally biased language, or references to concepts that would only make sense to fellow countrymen. International students did not do this. When they used concepts from their own cultures they always made explanations or formed parallels with current context. This may be because they are constantly conscious of the fact that they are in a foreign country so they are conscious of the fact that what they are talking about is foreign. However, on the other hand, local students are not constantly aware that not everything they say or refer to is trivial or intuitive, universal or obvious for everyone.

> Amen, amen, amen.
>
> (Samantha, Unit3GrpC, 10/23/03,32)

> The federal government looks at it from a defensive position. If that means putting money into education, then it will happen. It's Sputnik all over again.
>
> (Elizabeth, Unit3GrpA, 10/19/03, 45)

Since it is inevitable for local students to sometimes refer to these kinds of non-universal concepts, ideas, or events, it seems to be essential for the course design and instructor to create an environment where people can freely ask questions and seek clarifications.

Informal communication / side conversations. There were many instances throughout the course where students communicated on matters unrelated to the course content or activities. Most of these side conversations took place in the Howdy conference.

> I have good news to share with everyone, especially, I want to thank those who pray and wish my parents getting their visas smoothly. […] Long live the friendship or America and China.

(Mia, 12/11/03, Café, 21)

Her classmates reacted:

> I am happy for you Mia. Enjoy the holidays.
> (Gabe, 12/11/03,Café,13)

> That's great news!!!! I am so happy for you Mia. Happy holidays.
> (Seenu, 12/11/03,Café,19)

Together with Introductions conference, Café also helped students find expertise in their own group. One student was in search of a Japanese speaker and posted an announcement in Howdy. Another student reminded that Chen, although Chinese, lived in Japan and speaks Japanese. Chen responded:

> Yes, I am the person you are looking for! I spent more than 8 years in Japan. I can read, listen, and write in Japanese almost at a native speaker level. I would be able to offer any help to your students.
> (Chen, 9/17/03, Café, 9)

This also shows that students actually paid attention to what others wrote in their introductions and appreciated each others' expertise and experiences.

Students shared sincere feelings for each other:

> I'm so glad I took this course with you this semester. You are not only my classmate, you are also my teacher. I wish you and your family a happy holiday.
> (Mia, 12/11/03, Café, 24)

and Gabe, who was the recipient of this comment, responds:

> I think I learned as much from you as I shared with you this semester. During the discussions you always helped me look at things from a different perspective. I appreciate this very much. Have a great time with your family and don't forget about Houston and all it has to offer. Enjoy the break!
> (Gabe, 12/12/03, Café, 14)

These side conversations break the boundaries created by the absence of face-to-face contact:

> Mia, you have been an inspiration with your "sunny" attitude and you very much deserve to see your family and have a wonderful trip with them.
>
> (Liz, 12/14/03, Café, 12)

Students shared feelings and thoughts which also created a cultural awareness for the group at-large:

> I miss the autumn in China too. We have different colors in autumn, yellow gingko leaves, red maple leaves, and green mixed together, and also fragrant flowers – this season is the time when sweet-scented osmanthus blossom. I remember the time when we use the flowers to make osmanthus sugar – when you add this kind of sugar to your drink, the drink will have the fragrance of the flower. It was so unforgettable.
>
> (Liu, 10/10/03, Café, 37)

In these informal conversations, students continued to hear from the instructor and got the most recent update on her health while she was in the hospital.

> How wonderful to receive a greeting in Chinese! I'm in the hospital. The surgery went fine and I am quite alert and moving about comfortably. I am currently attached to a machine feeding me antibiotics intravenously. I don't get to go home quite as soon as I thought, because they must find an appropriate antibiotics that reacts appropriately to me-probably Monday. Please don't worry.
>
> (Instructor, 12/13/06, Café, 50)

and students responded:

> I am so glad you are not going to have chemotherapy. Now you should not worry about a wig anymore! Good luck for your follow-up surgery and happy holidays!
>
> (Chen, 12/11/03, Café, 51)

Through the end of the semester, students started having these side conversations even within the "formal" unit discussion conferences. This indicates that students got really comfortable with the course content and design, technology, and with each other:

> Scott, If you run for the office, you've got my vote!
>
> (Pat,Unit6GrpA,12/12/03,54)

and Scott responded:

> Want to be my campaign manager?
>
> (Scott, Unit6GrpA,12/10/03,48)

And another student joined in:

> I volunteer to be the spin doctor and to help with damage control.
>
> (Gabe,Unit6GrpA,12/10/03,47)

They showed a sincere interest in each other's well-being. Chen sent the following message to a classmate:

> Good luck for your surgery.
>
> (Chen,12/06/03,Unit6GrpB,28)

And Pat wrote to the same classmate

> You're back now, so how are you? I was hoping you'd be able to report you're bright eyed and bushy tailed.
>
> (Pat,12/10/03,Unit6GrpB,35)

Answers to Research Questions

The four stages of CMDA were followed to analyze the data to find answers to the research questions. The contextual analysis and case characterization provided the thick description for the study. It helped understand the context, interpret the results, and identify the design features that may have facilitated the creation of a third culture. The structural analysis helped see the participation patterns in numbers. Finally, the semantic analysis provided a tool to look for the manifestations of culture in the discourse and helped understand the discourse patterns.

Question 1. Does culture exhibit itself in the discourse of this particular online class? If so, in what ways?

Based on the results of the structural and semantics analyses, culture did not exhibit itself in the discourse of this online course. Participation patterns were not governed by the students' cultural backgrounds but the pattern defined by the course instructor. Cultural differences in discourse were not observed in across the members of the same culture nor were they observed within the discourse of a single individual. Differences in discourse behavior were related to students' role in that particular communication (co-facilitator or participant) rather than their cultural background. When they were co-facilitating the unit discussions, students posted more messages, created more threads, asked more questions, gave more feedback, and made more supportive comments. Students did not bring up any cultural issues in the anonymous student feedback the instructor collected in the collaborative documents in FirstClass®.

Question 2. Does this online course build a third culture? If so, what design features of this online course support the development of the third culture?

The online discourse in this study did not exhibit the students' culture. However, it is important to find out how it was possible that these people coming from different cultures were able to communicate in the absence of visual cues and whether they

created a third culture to be able to effectively communicate.

Third Culture Indicators

According to compilation of the literature and previous studies on third culture, there are several characteristics of a communication that indicates the creation of a third culture. These characteristics of third culture showed high resemblance to the themes evolved as a result of the semantic analysis.

Producing timely and intelligent comments and equal levels of participation. This is how the knowledge base is constructed in a traditional or online course (Goodfellow, et. al. DE 22). When we look at the participation structure in the course, we see that foreign students coming from other cultures produced as many messages as well as meaningful contributions as the local students. The participation numbers also show that these foreign students also had high participation rate, as indicated by the number of messages they posted. Table 22 shows the total number of messages posted by international students in comparison to local students. Three out of these five international students posted more messages than the class average. The five international students on the average posted more messages (128) than the class average (120.25).

Table 22

Messages posted by international students in comparison to the class average

Students	Messages posted
Gabe	287
Samantha	210
Mia	171
Scott	155
Liu	154
Tom	143
Mary	140
Seenu	138
Terry	116
Anne	111
Michael	103
Jim	102
Chen	102
Carla	94
Charles	76
Xia	75
Kelly	69
Tess	65
Tim	48
Cindy	46
Class Total	2405
Class Average	120.25
International student total	640
International student average	128

Students shown in bold are international students

Materials from both cultures are used. These materials include personal experiences, cultural experiences, materials, ideas from own culture, practices (Lindin 1996, cited in Mason 1998). Many times during the discussions students used their personal experiences to highlight an issue or strengthen their argument. They also asked particular questions about their backgrounds. They connected these personal experiences to the material they studied. These themes were observed in the current data set and were described in the previous section under semantic analysis.

Constant interaction. According to Kramsch (1998) an important aspect of cultural literacy is to establish a constant interaction among the representatives of these diverse cultures. The online course that was analyzed in this research was structured in such a way to make this constant interaction happen. Interaction and participation was a course requirement defined in the syllabus. Students were assigned facilitator or participant roles for each unit discussion. They were also prompted in each unit to make certain postings in different conferences, such as Research Paper or Howdy. The students interacted from the beginning to the end of the course in these various conferences. Although the unit discussions took place during particular days of the week students continued to post messages in other conferences.

Creating a side conversation. Carrying out a side conversation between different cultures can create the pragmatic coherence (Kramsch, 1998) that will bridge the existing linguistic and cultural gap. Students in this course carried side conversations both within unit discussions, alongside the content discussions, as well as in other conferences such as Café and Q&A, where their participation was entirely voluntary. These side conversations have been exemplified in the previous section, semantic analysis.

A common discourse accent. Common words, expressions, and acronyms created in a conversation points to a common discourse accent (Kramsch, 1998). In this course, students created ways to refer to themselves, to the group, and to the course. Working with technology and the particular medium also created its own expressions and acronyms, such as FirstClass terminology:

> Post two good ideas from discussion in 608f03-Discuss/ 608f03-Unit1/ 60803-Unit1-Priv
>
> (Course website, Unit1)

Curiosity, sensitivity, and openness. Intercultural competence enables one to interact both effectively and in a way that is acceptable to others when working in a group whose members have different cultural backgrounds. According to (Schutz, 2005), curiosity, sensitivity, openness towards others' cultures, critical engagement with others, and ability to understand and tolerate different perspectives and cultural phenomena are indicators of cultural competence.

Students in this course showed curiosity about each other, their expertise, and their background. They showed appreciation for the first-hand cultural exchange and different perspectives. When these differences arose in their perspectives, students pointed out the interesting differences. This has been exemplified in the previous section under semantic analysis.

On the basis of these evidences, we can say that a third culture was created in this course. However, it is also important to look at the characteristics of the design of this course that facilitated the creation of this third culture.

Course design features that facilitated a third culture

The students in this course had a face-to-face meeting at the beginning of the semester where they had the chance for a direct interaction. They were also required to post who they are and their background in the Introductions conference at the beginning of the semester. This may have facilitated their interaction later on since they know who everyone is and they are aware of their classmates' backgrounds and what they bring into the learning environment. This may have created the awareness about existence of different perspectives and cultures, as well as the appreciation for the expertise and experience everyone else brings.

The optional conferences like Café, Q&A, and Resources To Share helped them create the side conversations they facilitated the creation of a third culture among the students. The participation in these voluntary informal communication areas and the rise

and popularity of social networking sites like MySpace and Facebook may confirm the importance of the social aspect of interactive communication technologies.

Nielsen (2006) asserts that in online communication platforms 90% of users are lurkers, 9% are occasional participants, and only 1% are real contributors. When left on their own people do not necessarily overtly participate in online environments. In this online course, the instructor created the expectations for participation at the beginning of the semester and announced this to the students. The existence of these expectations governed the participation behavior, rather than students' differences in their backgrounds, level of motivation, or experience with online environments.

Langer (1989) defines mindfulness as being aware of the existence of multiple perspectives. The face-to-face meeting and initial introductions in this course created awareness for the students that there are people from different backgrounds in this course, which may bring multiple perspectives to the communication. One student exhibited this mindfulness in his posting as:

> It took a while to respond to your question because this topic can be very emotional and "heated" discussions usually arise from mentioning it. I used that time to find resources online that will help. I figured it was better to share what others say about Affirmative Action rather than try to explain it myself in writing from a distance. A "hot" topic like this is difficult to discuss online because a lot of communication is in the form of body language and inflections in our voices but I am willing to try with anyone who is interested. I would love to discuss it in more depth with you next time I see you on campus.
>
> (Gabe, Unit6GrpA, 12/01/03, 39)

In the absence of scripts to follow when dealing with new communication situations, especially with strangers, adults tend to act mindful and observe what others do. One of the strengths of this course was the instructor's modeling the expected behavior for the students and scaffolding this behavior through her postings in the public conferences as well as in the private facilitator conferences where she guided the co-facilitators on expected facilitation behavior. These mentoring and scaffolding were not only related to

the coursework, but also with the facilitation, and technology. This way, students had an example to follow in dealing with the unknown:

> Are you aware that you can move a conference directly to your FC desktop?
>
> (Instructor, Unit3PrivateFacil, 10/13/03, 8)

> Your welcome message is very good! You might want to improve it slightly by including the discussion topics. That would help your classmates focus a bit better.
>
> (Instructor, Unit3PrivateFacil, 10/16/03,14)

> The collaborative documents are not protected. Please remember to save the documents to your hard drives daily in case someone makes a mistake and deletes something or changes formatting.
>
> (Instructor, Unit3PrivateFacil, 10/16/03,14)

> It would be good idea to do one of two things when your participants share a useful resource or URL: either you post it in ResourcesToShare, giving credit to the student who is responsible for posting it originally, or you ask the student to post it. They are excellent resources and should be preserved rather than being "lost" in the discussions.
>
> (Instructor, Unit3PrivateFacil, 10/20/03,21)

> It will be helpful to remind anyone who doesn't use Reply with Quotes to do so. It is so much easier for everyone to read when the original quote is used.
>
> (Instructor, Unit3PrivateFacil,9/28/03,6)

The computer conferencing software chosen for this online course, FirstClass, provided the students with the ability to embellish their thoughts. They did this through using different font types, colors, and sizes, without having to use HTML coding. They also used the "reply by quote" feature to reply to each other and create a sense of conversation.

The instructor collected anonymous feedback in the collaborative documents in the middle and at the end of the semester. None of the students mentioned anything about an issue or a difficulty in communicating with classmates, especially those who come from a different culture. Quite the opposite, they found the class discussions very enriching:

> Definitely my peers enriched the discussions and I learnt a lot from the others. It is a very good course for peer collaboration.
>
> (Anonymous, FinalThoughtscolldoc, 12)

This comment was dittoed by two more anonymous students.

Students also found the course very well structured so despite the instructor's health problems things ran smoothly:

> My overall experience with this course is great. Dr. M. did a great job in spite of her health condition. Thanks to her. It is a very well structured course. I thoroughly enjoyed it.
>
> (Anonymous, FinalThoughtscolldoc, 13)

Students also mentioned the discussions with fellow students as their best-liked thing in the course when anonymously asked in the formative evaluation conducted midway through the semester:

> I enjoy the level of communication between my classmates.
>
> (Anonymous, Form-eval-coll-doc,2)

> The discussion groups are very stimulating and help integrate the readings.
>
> (Anonymous, Form-eval-coll-doc,3)

Based on the feedback collected on the Formative Evaluation the instructor shuffled the discussion groups:

> I don't like working with the same group throughout the whole semester. I think we are missing out on rich discussions from our other classmates.
>
> (Anonymous, Form-eval-coll-doc,8)

Three other students agreed to this feedback.

One student posted an insightful comment about the discussion groups:

> This is definitely the first web-based course I have been in as a student (or instructor for that matter) that didn't seem "fake". Everyone is not following a cookie-cutter method of discussion responses. Usually, discussion forums read like a radio call-in-show-
> 'Uhhh. First time caller, long time listener. I just wanted to say I love your show. I listen all the time. etc.' Typical discussion forum mimicking a radio call-in show- "Hello everybody. I've been really thinking about the material and digesting the questions. I have to say I completely agree with everything everyone said so far. ..etc.
> The fact that this discussion forum is not doing this makes it seem and feel more real. One possible explanation is that most (if not all) of us are interested in this course.
>
> (Gabe, Unit3GrpA, 10/22/03, 39)

The next chapter will discuss the conclusions and implications of this research study.

CHAPTER V
CONCLUSIONS AND DISCUSSIONS

Computer networks have made interaction between peoples of different cultures possible on a scale, scope, and speed never before available (Ess, 2002). However, in many cases, this interaction does not happen without issues. The usual challenges that come with the cross-cultural nature of the interactions are further complicated by the lack of paralinguistic or non-linguistic clues and non-verbal behavior, like body language. Online learning is a growing area of interest worldwide, as it provides learning opportunities for large groups of people independent of differences in time, pace, and location. However, issues are reported to arise, partly due to the dominant mode of interaction being text-based and stripped from the non-verbal and visual clues to communication. These issues do not only stem from the communication between and among the students and the instructors, but also from the differences in worldview as reflected in teaching-learning practices and processes.

An example of this conflict coming from the differences in worldview is discussed by Sofield (2000). The Kiribati tribe in Africa saw direct conflicts with the values embedded in computer technologies and those of their own culture. A commitment to economic equality that severely sanctions, “shining”, i.e. standing apart from the others in terms of material possessions, etc. created a challenge in terms of buying and owning computers and related hardware; this unequal access to CMC technologies would also issue distinctive advantages for a few, which was a threat for the Kiribati. A tradition of secrecy, especially with regard to governmental information, versus the openness of CMC created a conflict. Finally, traditions of paternalism and communalisms in government versus the ways in which computer technologies may foster individualisms and individual in dependence had to be reconciled before a computer technology initiatives can succeed in this community. This example may seem a literally marginal case; however, as philosophers know, such margins and limits are

essential as they demarcate and define the boundaries of concepts, ideas, and constructs (Ess, 2002).

So how do people communicate in intercultural online courses despite all these differences in their background and the challenges? One indication of effective online communication in an intercultural learning environment may be the creation of a third, polycentric culture (Goodfellow et al., 2001; Mason, 1998). Mason cites Lundin's (1996) depiction of a third culture being constructed when materials from one culture are studied by people in a different culture. Hence, the creation of a third culture can be an indication of successful communication in an online learning environment.

Based on the importance of communication in online courses in a globalized world and the complexities such communication can bring, the present research examined how people created a third culture in an intercultural online course.

This research sought the answer the following questions:

1. Does culture exhibit itself in the discourse of this particular online class? If so, in what ways?
2. Does this online course build a third culture? If so, what design features of this online course support the development of the third culture?

Conclusions

This study answered the research questions by employing CMDA as the research methodology. This methodology involved three steps: Contextual analysis, case characterization, and language-focused content analysis. The method was based on the previous work conducted by Herring (2007) and Job-Sluder & Barab (2004). In-depth analysis of the data through CMDA revealed the following results:

Manifestations of Culture in Online Courses

Culture did not exhibit itself in the discourse of this particular online course. The structural and semantic analyses did not reveal striking differences originating from cultural backgrounds. When and if these manifestations of culture existed, these were not exhibited consistently across participants nor were they observed repeatedly in the communications of the same participant.

Online learning environments are designed to be "low power distance", in other words, highly egalitarian environments. Students from high power distance cultures are expected to have difficulties with this aspect of the online environment; they are expected to be more subordinate, hesitant to take initiative and make decisions, show respect to older classmates and the instructor. I was not able to find instances of this kind of a power distance in the online discourse of the students.

People from collectivist cultures usually define themselves through their group memberships rather than their personal accomplishments. We see examples of students talking about themselves in relation to the other people in their lives in the Introduction conference, where students introduce themselves. However, we see American students introducing themselves and refer to their families and relationships as well the international students.

Students from high anxiety avoidance cultures would be expected to express more discomfort with the unknowns of the online environment. However; in the individual postings and facilitator planning conferences, students displayed equal anxiety and insecurity about the expectations of the course, independent of their culture.

As part of the course requirements, students participated in the unit discussions as both participants and co-facilitators. When we look at group leadership we see that independent of their culture, people volunteered or shied away from taking leadership responsibilities. Causes for this can be various; language proficiency, for one, is an important aspect, as well as experience with online environments. Therefore, although there are differences in undertaking roles, these differences cannot be attributed to culture.

The way participants communicated was governed mostly by the medium and situational variables, rather than their cultural background. For example, they used the capabilities of the FirstClass medium, such as quoting, threading, collaborative documents, font types and sizes, to enhance their messages. They used more humor and informal language in optional conferences like Howdy and Q&A, rather than the unit discussion conferences. Their communicative behavior was also governed by their role in that particular situation; for example, when they were facilitators, they posted more messages, asked more questions, complimented more, gave more feedback, and refer to the content resources within the unit. Therefore, these kinds of discourse elements within their communication had more to do with their particular role in that situation in the particular conference, rather than their cultural background.

Third Culture in Online Courses

As mentioned in Chapter II, research findings and related literature suggests that the following behaviors indicate the existence of third culture in a community:

- Producing timely and intelligent comments and equal levels of participation (Goodfellow, et. al. DE 22)
- Materials from both cultures are used: personal experiences, cultural experiences, materials, ideas from own culture, practices (Lundin 1996 in Mason 1998)
- Constant interaction among participants (Kramsch, 1998)
- Creating a side conversation between two different cultures (Kramsch, 1998)
- A common discourse accent (Kramsch, 1998); words, expressions, acronyms created in the course
- Curiosity, sensitivity, openness towards otherness, critical engagement with others (Schuetz, 2005)
- Ability to understand and tolerate different perspectives and cultural phenomena (Schuetz, 2005)

Based on these and the results of the data analysis, we can claim that a third culture was indeed created in this online course.

Culture, in essence, is a meaning system that is shared by a majority of individuals in a particular community. The co-construction of meaning, as in the unit discussions, then, can be conceptualized as a means of creating a culture. Therefore, the activities of repair, repetition, establishing a common ground are all manifestations of creating a third culture.

Course Design That Supports the Development of Third Culture

Course design features may as well act as factors that mediate the influence of the various dimensions of the cultural variability on the individual level communication. Causality cannot be claimed as an outcome of this research, between the features of the online course and the manifestations of the third culture in the discourse of the students; however, some features of this online course are worth bringing forth that may have supported students in developing a third culture.

In this particular online course, most the students initially met face to face at the beginning of the semester, and those who could not physically come to this initial meeting were able to join via audio conferencing. This may have created an initial bond among the students. Another important part of this initial encounter and getting to know each other was accomplished via the Introductions conference, in which, participation was required of the students during the first unit. These introductions gave the students the opportunity to know each other better; their backgrounds, experiences, expertise, and what they bring to the learning environment as well as some information about their personal lives.

Throughout the course, the students had the opportunity to carry out side conversations in the Café conference as well as the Q&A and Resources to Share conferences. These conferences provided them the environment to express other interests, share information, and carry on conversations that go beyond the discussion of unit contents and the required participations. These ancillary communications resembled the conversations taking place in social networking sites such as MySpace and

Facebook; these were voluntary contributions geared towards getting to know each other better. Such ancillary communication is shown to add to student satisfaction and instructional effectiveness in online courses (Jones & Harmon, 2006).

Mindfulness is defined as being aware of the existence of multiple perspectives (Langer, 1989). In this particular course, students were required to discuss the content through their own interpretation, which in essence, creates the notion that there may be at least as many interpretations and/or answers to discussion questions as the number of students. This creates an environment of sharing ideas, values, and perspectives. They were also required to reflect on their learning and thought processes through their journals, which made them aware of their own communication processes. This awareness of multiple perspectives may have created mindful learners. In the absence of scripts to follow when dealing with new communication situations, especially with strangers, adults tend to act mindful and observe what others do. In this case, modeling, mentoring, and scaffolding become essential to the learning process. One of the strengths of this course has been the instructor's modeling the expected behavior for the students and scaffolding this behavior through her postings in the public conferences as well as in the private facilitator conferences where she guided the co-facilitators on expected facilitation behavior. The mindful learners may have followed these examples in this new environment with unknowns.

When left on their own, participants of the online discussion group prefer lurking over contributing (Nielsen, 2006). In such cases, the rate of participation depends on individual characteristics of the participants (e.g. motivation, level of interest, etc.) rather than the characteristics of the online environment itself. In this course, the instructor defined the participant and facilitator roles at the beginning of the semester and created participation expectations for these roles. The students were well aware of the requirements of participation and followed these rules of engagement to be able to receive credit for the participation and discussion portions of their course grade.

One last characteristics of the course design was the choice of CMC software. FirstClass enabled the students to use a variety of font sizes, types, and colors, which

enabled them to embellish their messages as well as easily quote each other's contributions through "reply with quote" feature. These affordances that the CMC platform brought to picture helped the students carry out conversations that had continuity, as well as enable them to easily express their thoughts with embellishments.

Discussions and Implications

Creating Culturally-flexible Learning Environments

As instructors, it is our responsibility to create learning environments that are founded on the appropriate instructional technologies and methodologies and flexible enough to consider individual differences in learning that may originate from a certain cultural origin. On the other hand, however, culture is fluid and dynamic and it is constructed through our online intercultural encounters (Hewling, 2002). One of the findings of this research was that certain affordances of the course platform and its design may facilitate the creation of a third culture for the students. Further research should focus on identifying these aspects of learning environments, rather than classifying students according to a cultural background and trying to explain differences based on these classifications.

Especially in the case of adult learners with diverse backgrounds, classifications according to nationality or a specific dimension of culture can be superficial. These adult learners bring a wide variety of experiences and resources to the learning environment that makes them individually unique. In addition to this, if we can claim that students create a third culture, "a common space to interact", in a matter of a semester, than we should also take into consideration that these adult learners may have as well been in diverse interactions throughout their lives that would place them in a different space than what their national identity would have placed them.

It is impossible to test the causal explanations of behavior based on cultural-level explanations, because culture cannot be controlled in an experiment. It is ever-changing through interactions; individuals constructing and reconstructing their identities through

these interactions, culture becomes an unstable variable. Individuals may as well and do act in ways not expected from their culture; they may be members of subcultures that conflict with certain aspects of the macroculture. Although there are frameworks that explain how people behave as a culture, at the individual level these frameworks need modification. Hofstede and Hall assume that culture is synonymous with national identities, thus ignoring internal ethnic and linguistic diversities (Ess & Sudweeks, 2005). In all cultures one dimension or tendency may be the predominant one; however, at the individual level the tendency that does not dominate may be the explanation behind the behaviors. Japan tends to be a collective culture whereas the communication in close friendships is guided by individualistic values. (Gudykunst and Matsumoto, 1996). This analytic gap between culture-level and individual-level behavior should be studied at a more microscopic level. There is still need for more research on the individual-level factors that mediate the influence of the various dimensions of cultural variability on communication behavior (Gudykunst & Matsumoto). Therefore, the extrapolations from one's culture to the behavior at the individual level are at best an educated guess.

Third Culture

A third culture is created through the interaction of national cultures, experience, and technology (as a covert carrier of cultural values) in an online environment (Raybourn, Kings, and Davies, 2003). This third culture is the product of an intercultural interaction when persons from different cultures communicate equitably with respect for the other such that the emergent culture reflects appropriate input from each interlocutor (Raybourn, et. al.). A third culture is the co-creation of meaning in which all interlocutors are participants as well as co-owners. The quality and nature of the interactions determine the direction and the rate at which a third culture emerges.

According to Kramsch, not only the grammatical, lexical, and phonological features of their language differentiate the discourse communities from one another, but also the topics they choose to talk about, the way they present information, the style with

which they interact, and their discourse accent. From this standpoint, all discourse communities, e.g. online courses, create their own little "culture", a third one.

By looking at the discourse, we can pinpoint the indicators of a third culture, as in this study, but without longitudinal studies of CMDA, we can not for sure claim that this third culture emerged in this course. These students may have already been exposed to similar situations where they already had started the process of creating this "third space" where they can communicate with each other, without culture "getting in their way". We cannot for sure claim that certain design features facilitated a third culture to be created, but we can for sure claim an association between these design features and the existence of these discourse indicators. The observation of the emergence of these indicators is probably more significant if they manifest themselves in the discourse of students who are in an intercultural or online environment for the first time.

Online courses become intercultural when students of diverse backgrounds come together. Individual students' cultures become the minority culture whereas the host institution's culture becomes the majority culture. Now the question is, what is host institution's culture and how different is it from local students' culture? When we separate the institution's culture from the individual students' culture, isn't a third culture is bound to form in all instances?

Science is parsimonious; it strives to find simplest explanations for the phenomena and tries to reduce complexity. Proliferation of constructs is against this ideal of science. Therefore, as social scientists, we need to be cautious of introducing variables and constructs when we try to understand and explain the world around us. In an earlier research, Job-Sluder and Barab (2004) examined the discourse characteristics of community formation in online environments. There are parallels between their research and the present one in terms of the discourse manifestations of community formation and third culture. This begs the question: discursively, is creating a third culture any different than creating a community? If not, introducing the concept of third culture only creates a proliferation of concepts, which decreases the parsimony of

research endeavor. Future research can explore this similarity between these two concepts.

As the Internet fuels the processes of globalization and the development of the third or hybrid identities (Ess & Sudweeks, 2005) resulting from the intercultural flow that it makes possible, the frameworks of Hall and Hofstede will become increasingly ill-suited to analyzing intercultural communication online as undertaken by such hybrid identities.

Interactive digital technology is a covert carrier of cultural values, (Mudur, 2001, p. 304) thus an element of creating a third culture itself. This culture includes specific discourse "accent" (Kramsch, 1998), such as terminology, acronyms, and expressions. We can even hypothesize that, when interacting with technology, people are one culture, technology is the other and the resultant interaction, as a product, is third culture. Therefore, as designers, it is our responsibility to guide a community's culture to emerge from the user's co-creation of narratives and the subsequent communication events transpiring in the online course. The learners should own the cultural co-creation process. The quality and nature of the users' interactions determine the direction and rate with which a third culture emerges (Raybourn, et al., 2003).

Language

It is difficult to strip the effects of language competency from the findings of this research. English-language ability is a significant cultural factor in the diffusion of CMC technologies (Yoon 2001, cited in Ess, p. 237). The more the students were competent speakers of English; the more they felt comfortable "blending in".

According to Sapir-Whorf hypothesis, "the structure of language one habitually uses influences the manner in which one thinks and behaves" (Kramsch, 1998, p.11). Whorf insists that the English language binds English speakers to a "Newtonian view of objectified time, neatly bounded and classifiable ideal for record-keeping, time saving, dock-punching, that cuts up reality into 'afters' and 'untils', but is incapable of expressing time as a cyclic, unitary whole". (p. 12). This influence of language in the way people behave might as well be the driving force behind the fact that cultural

differences did not manifest themselves in this particular course. Students communicated in a common language which drove them into expressing themselves in a certain paradigm; however, this would be an indication of assimilation into the Western ways of thinking and communicating, not the evolution of a third culture.

Data Collection

Although the data collection strategy employed in this research was very sound in terms of trying to get to the natural data rather than creating an artificial environment to collect data, one may argue that looking at natural data is not the best way to see if culture has an impact in the way people communicate. It may be the case that students learn how to behave and communicate and how to self-regulate in the public communications taking place in the course. So, the observed behavior may actually be biased. In the case of this research interviews and private journaling may be an alternative or complementary way to get at the real impact of culture. However, from a learning standpoint, if people are able to learn to behave and communicate in a way to eliminate the impact of culture, there is no reason to dig deeper into covert behaviors about the culture. After all, this research is about the manifestations of culture, thus, the "observed" behavior.

Similarly, there may be discrepancies between how people communicate publicly versus privately. Gao (1996) asserts that in Chinese culture public conversations are ritualized to avoid face-threatening situations; private conversations are substantive. Gossip in this way becomes an important communicative activity because it is less self-threatening. Similar concerns may exist in other cultures, therefore, looking solely at public communications may not create the complete picture; however, it answers the research questions at hand. Future research can look at the personal and public communication and make comparisons.

The current research analyzed only the asynchronous communication that took place in the course. When communicate asynchronously, people have the opportunity to think deeply, read their messages several times, and run a spell-check before posting their messages. This extra time to compose the message is especially important in the

case of speakers of English as a foreign language. This extra "filtering" of the messages in the asynchronous environment may have helped the students in their communication and minimized the impact of background differences. A study on synchronous communication may as well find different results.

One final issue to consider when interpreting the results of this study is that the international students in this online course were actually residing in the U.S., attending the institution on its main campus. These students adapted and assimilated to the American university environment in differing degrees. Had they been taking this course over a distance, from their own home culture, their communicative behavior, and thus the results of this research, would have been different.

Future Research

As majority of research studies do, this study also created new questions to explore, new horizons for other researchers to discover. The most problematic criticism for understanding intercultural interactions in the online classroom is that the frameworks provided by the research literature governed by Hofstede, Hall and others, which essentialize national culture as something fixed. These frameworks offer no means of understanding how collaboration happens among members of different national groups who do not share cultural understandings supposedly afforded by shared nationality (Hewling, 2003). The findings of the present research may provide a pathway towards understanding these interactions among people from diverse national backgrounds.

One of the strengths of this research stems from the fact that it examined the actual behavior (online discourse) of participants rather than asking them how they would behave in a certain situation or asking them about how they rate themselves on certain domains. Future studies can conduct deeper examinations of issues that were found in this research and ask online students about these issues. Some other questions future research can address are

> Langer (1989) defines mindfulness as "the creation of new categories, openness to new information, awareness of more than one perspective" (p.62). An interesting

research study would examine mindfulness in an online learning environment and analyze how it impacts intercultural communication.

What are the ways to evaluate whether learners are successful in stepping back from their cultural models in order to judge behavior, according to criteria that are locally relevant within the foreign cultures? (Schuetz) How does the level of success in doing this relate to effective communication in an online course?

According to Lantolf and Pavlenko (2000), "participation [in communication] is not just about taking part in new cultural setting; it is about a profound struggle to reconstruct a self." (p. 174) Future research can look at the creation of a third culture in terms of individual students' reconstruction of their selves. One possible way of looking at this could be the discourse analysis of private learning journals. Language impacts and shapes how people communicate, thus speakers of the same language may have fewer difficulties or issues stemming from cultural differences. It may be interesting to see instances where people study materials prepared in a different culture but communicate in their own language. For example, an online course designed and created by American institution in English, that is being taken by Middle Eastern students who communicate in the course in Arabic.

According to Raybourn et.al. (2003), intercultural interaction online involves the construction of a third culture, which is a process, not an entity itself. It is true that this third culture may be influenced by cultures that communicators bring to each exchange. More insight may be gained by investigating the evolving processes and tools that each person bring into play and employs to negotiate and represent personal and group identity and collective construction of meaning. According to Macfadyen (n.d.), questions that future research can answer are "what role does linguistic competence play in the process of creating this third culture?", or "does the process of creating a third culture take place differently in text-based media and rich-

media?" Such research would reveal findings that would help computer-human interaction practitioners in a way to illuminate the shortcomings of design approaches that attempt to match contextual features with supposedly static cultural preference.

One other finding of this research is that students shared sincere feelings and thoughts and reached out to know more about each other and communicated beyond the requirements of the course. These side conversations created in this course mimicked those that are encountered in the online networking sites such as MySpace and Facebook. Some of the potential of these social networking sites then, can be exploited in learning environments, as in the case of creating a Café conference in addition to the formal, content-related conferences.

More and more people become cultural hybrids or third identities that entail operating from at least two national cultures (Hewling, 2003). We see class participants generate a new third culture precisely through their distinctive engagements online. As Scollon and Scollon (2001) suggest, cultures do not talk to each other, people do. It is essential for us, educators, to be aware of this premise and focus on designing and creating environments that provide for open communication among people, which are not based on strict conceptualizations and assumptions about people's backgrounds that will lead to the developments of third cultures.

According to Ess (2002), the goal of 21st century education is to create "cosmopolitans", the citizens of the world, who deeply understand and can maneuver comfortably among multiple cultural worldviews and communicative preferences. These cosmopolitans ought to engage with one another via global forms of CMC in ways that preserve and enhance foundations of culture, rather than simply colonize them into a single homogeneity. Hence, an education that is shaped with philosophy based on global ethics, rather than rigid classifications of people, is necessary for a genuinely intercultural electronic global village.

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APPENDIX A

DEMOGRAPHIC QUESTIONNAIRE[1]

These questions are asked to find out about your computer-experience and your cultural background.

1. How often do you use a computer? *(Please select only one)*
- Every day and in the weekends
- Every weekday
- Only on weekends
- 3 to 4 times per week
- 1 to 2 times per week
- 1 to 3 times per month
- Other (how many times):……..

2. How many years have you been using a computer? *(Please select only one)*
- Less than 1 year
- 1-2 years
- 3-4 years
- 5-10 years
- More than 10 years

3. For what activities do you regularly use a computer?*(Select as many as needed)*
- Typing/word-processing
- E-mail
- Internet for other things than E-mail
- Games
- Spread sheets/ statistical packages
- Other (what activities):……..

4. What sort of computer do you like using most? *(Please select only one)*
- Personal computer (e.g., IBM, PC)
- Apple Macintosh
- Sun workstation
- Solaris
- Other (which one):…….

5. Where do you use a computer most?
- At home
- At work
- At school
- Somewhere else:……

6. How often do you use the Internet? *(Please select only one)*
- Multiple times every day including the weekends
- Once every day and in the weekends
- Every weekday
- 4 times a week
- 3 times a week
- Twice a week
- Once a week
- Other (how many times):……..

7. What do you use the Internet for most? *(Select as many as needed)*
- E-mail

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[1] Adapted from Evers, V. (2001b) *Cultural aspects of user interface understanding: An empirical evaluation of an e-learning website by international user groups*. Unpublished Doctoral Thesis: the Open University. [Online]. Available: http://www.swi.psy.uva.nl/usr/evers/Final%20thesis%20SS.pdf, Accessed April 29, 2003.

- Online chatting
- To find information on personal interests
- To find information for work or study
- Use of online facilities (like ordering books, shopping)
- As part of schoolwork
- Teaching
- Game related
- Working on homepage
- Other:……

8. In which country you have spent the most time? (This may be the country where you were born, but not necessarily.)
a. Most of my life I have lived in: .....……

b. How long have you lived there? *(Please select only one)*
- My whole life
- 1-9 years
- 10-12 years
- 13-15 years
- 16-18 years
- Over 18 years

c. How many generations of your family have lived there? *(Please select only one)*
- Only I have lived there
- My parents and I have lived there
- My parents, grandparents from my mother's side, and I have lived there
- My parents, grandparents from my father's side, and I have lived there
- Many generations of my family have lived there

9. Did you grow up in a neighborhood where most people had the same culture as you and your parents, but most people outside of the neighborhood had some other culture? (For example: you are Chinese in Chinatown in New York)
- yes (what neighborhood):……..
- no

10. The following questions are to find out more about your language background
a. What language do you consider your 'first language' (the language you have used most of your life)?
:.....……

b. Which languages do you speak well enough so that you can have a reasonable conversation with a local person? *(Select as many as needed)*
- English (British)
- English (American)
- English (Australian and New Zealand)
- English (Indian)
- French
- Spanish
- Hindi
- German
- Dutch
- Russian
- Japanese
- Chinese
- Arabic
- Other :……..

11. What cultural background do you feel you belong to? :……

12. What is your nationality, as it would be stated in your passport? :.....……..

13. What is your age on the first of July 2003?……..

14. What gender are you?
- Male
- Female

15. How many online classes have you taken before this class?

- None
- Only one
- 2
- 3
- 4
- 5
- More than 5 _____

16. . How many online classes have you taught before?

- None
- Only one
- 2
- 3
- 4
- 5
- More than 5 _____

APPENDIX B

INFORMED CONSENT FORM – PILOT STUDY

INFORMED CONSENT

I am being asked to participate in a study, titled "Intercultural Communication in the Context of Online Courses" This study will examine how people communicate in online courses and suggest ways to design more effective online environments based on the findings. Yakut Gazi is a graduate student at the Texas A&M University College of Education and is the Principal Investigator for this study. Participation in this study will involve completing a demographic questionnaire and sending it back to the researcher. It also involves granting the researcher permission to use the password protected online archives of my postings in the EDTC XXX class computer conferences. These postings will be analyzed using content and discourse analysis methods. I may also be invited to participate in an online individual or group interview. These interviews can either be face-to-face or by telephone. The researcher will audiotape the interviews. Approximately 35-40 people will participate in this study.

I understand that if I agree to participate in the study, my participation is entirely voluntary, and I am free to stop participating in the study at any time without penalty of any kind. This Informed Consent Form will be filed separately from the rest of the data. The online postings and interviews will be analyzed. The excerpts of the postings and chat session may be used for research; they may be published in book, journals, academic web sites. There are no risks involved in this research except for the potential loss of confidentiality. The researcher will take all measures to ensure my privacy; she will keep the data locked up in a safe place. I understand that answers to the responses on the demographic questionnaire and the interviews will be kept confidential. My name or anyone's name from my family or from the people I know will not appear in the final report. When names are used, these will be fake names. In case of publication, the researcher will change all the information that may reveal my identity. I have the right to refuse to answer any question. If I want anything to be deleted from the data the researcher will do it immediately; if I do not want certain postings of mine or my interview data to be used, they will not be.

I understand that I may contact Yakut Gazi at Texas A&M University, College of Education, College Station, Texas 77843-4225, 979-571-0377 or by email at yakut@tamu.edu, or her research advisor, Dr. Karen Murphy, Dept. of Educational Psychology, TAMU, 77843-4225, 979-845-0987 about any questions regarding this research. I understand that this research study has been reviewed and approved by the Institutional Review Board – Human Subjects in Research, Texas A&M University. For research related problems and questions regarding subjects' rights, I can contact the Institutional Review Board through Michael W. Buckley, Director of Support Services, Office of Vice President for Research at (979) 458-4067 (e-mail: mwbuckley@tamu.edu).

I have read and understand the explanation provided to me. I have had all my questions answered to my satisfaction, and I voluntarily agree to participate in this study.

I have been given a copy of this consent form.

I, _____, hereby consent to the conditions described above. (Please type).

_____ _____
Participant's Name (Type) Date

Yakut Gazi Date

I would like to receive a copy of this research once it is completed. (Please check).

____ Yes____ No

APPENDIX C

INFORMED CONSENT FORM – MAIN STUDY

INFORMED CONSENT

I am being asked to participate in a study, titled "Intercultural Communication in the Context of Online Courses" This study will examine how people communicate in online courses and suggest ways to design more effective online environments based on the findings. Yakut Gazi is a graduate student at the Texas A&M University College of Education and is the Principal Investigator for this study. Participation in this study will involve completing a demographic questionnaire and sending it back to the researcher. It also involves granting the researcher permission to use the password protected online archives of my postings in the EDTC XXXX class computer conferences. These postings will be analyzed using content and discourse analysis methods. I may also be invited to participate in an online individual or group interview. These interviews can either be face-to-face or by telephone. The researcher will audiotape the interviews. Approximately 50-60 people will participate in this study.

I understand that if I agree to participate in the study, my participation is entirely voluntary, and I am free to stop participating in the study at any time without penalty of any kind. The instructor of the course will not know whether I chose to participate or not until after the course grades are turned in. This Informed Consent Form will be filed separately from the rest of the data. The online postings and interviews will be analyzed. The excerpts of the postings and chat session may be used for research; they may be published in book, journals, academic web sites. There are no risks involved in this research except for the potential loss of confidentiality. The researcher will take all measures to ensure my privacy; she will keep the data locked up in a safe place. I understand that answers to the responses on the demographic questionnaire and the interviews will be kept confidential. My name or anyone's name from my family or from the people I know will not appear in the final report. When names are used, these will be fake names. In case of publication, the researcher will change all the information that may reveal my identity. I have the right to refuse to answer any question. If I want anything to be deleted from the data the researcher will do it immediately; if I do not want certain postings of mine or my interview data to be used, they will not be.

I understand that I may contact Yakut Gazi at Texas A&M University, College of Education, College Station, Texas 77843-4225, 979-696-2131 or by email at <yakut@tamu.edu>, or her research advisor, Dr. Karen Murphy, Dept. of Educational Psychology, TAMU, 77843-4225, 979-845-0987 about any questions regarding this research. I understand that this research study has been reviewed and approved by the Institutional Review Board - Human Subjects in Research, Texas A&M University. For research related problems and questions regarding subjects' rights, I can contact the Institutional Review Board through Michael W. Buckley, Director of Support Services, Office of Vice President for Research at (979) 458-4067 (e-mail: mwbuckley@tamu.edu).

I have read and understand the explanation provided to me. I have had all my questions answered to my satisfaction, and I voluntarily agree to participate in this study.

I have been given a copy of this consent form.

I,_____ , hereby consent to the conditions described above. (Please type your name).

Participant's Name : _____Date : _____

Yakut Gazi , December 4, 2003

I would like to receive a copy of this research once it is completed. (Please check).

___Yes
___No
This research study has been approved by the Institutional Review Board (Protocol Number 2003-0262).

APPENDIX D

PILOT STUDY

This section describes the pilot study conducted to devise a robust approach and test this approach to answer the research questions.

A pilot study of this research was conducted during the second summer session in 2003 to help devise a methodology. Because it is difficult to foresee how much data are sufficient to conduct the computer-mediated discourse analysis (CMDA) to answer the research questions, pilot studies that are based on a small amount of data are highly recommended (Herring, in press) so that the researcher can then expand or reduce the sample size as necessary to conduct the larger study. I also took the pilot study as a chance to do more research on the approaches to CMDA and fine-tune my approach for the research questions and data that I have at hand.

The main question guiding this research was "How do people from diverse cultural backgrounds communicate in online courses?" Related with this question were the following auxiliary questions:

1. How can online discourse be analyzed to reveal the intercultural communication patterns?
2. What are the discourse indicators of third culture in online courses?
3. What are the design features of an online course that facilitate intercultural communication?

A graduate level online course at a large Southwestern University in the United States was selected to conduct the pilot research. The criteria for the selection of this course was (a) it was a graduate level course with students representing some ethnic and language variety, (b) the course used computer conferencing for communication, and (c) the course required students to participate actively in content and project-based discussions.

Human Subjects Protection

This research involving human subjects was reviewed and approved by the Institutional Review Board (IRB) at Texas A&M University (Appendix A). At the beginning of the pilot research study, I informed participants of the purposes of the study and asked them to complete a consent form. The consent form stated that their participation was entirely voluntary and confidential (Appendix B). To ensure confidentiality and to protect each participant's identity, I used a first-name only pseudonym. I kept the identities of the students secret in the discussions that I held with the course instructor, who also was one of the co-chairs of this research study.

I contacted the students through private email within the WebCT™system to tell them about the study that I was planning to conduct (Appendix D). In addition to this, during the only face-to-face orientation meeting at the beginning of the semester, I briefly described the research. I also collected the informed consent forms from all the participants except for four distant students, who sent me their consent forms electronically within the following days. The demographic questionnaire was provided online. Students completed and submitted this questionnaire. This questionnaire provided the background information of the participants.

Identification and Selection of Data Sources

This section will talk about the steps and procedures undertaken to identify data sources, select data to be used, and the methods used to analyze the data.

Data Sources

Data sources used in the study were: a) online course materials, b) electronic postings of the students, c) a demographic questionnaire. In referring to the data, I created the following convention to use to describe the source of data: name of participant, source of data, date. For example, (Mary, Howdy conference, 3/22/03) would indicate that this piece of data was from the Howdy conference, posted on 3/22/03 by Mary.

Online course materials

I used online course materials to obtain information on the course content, requirements, and also the capabilities of the course and communication platform. The course materials were provided online, using the WebCT™(short for Web Course Tools) course platform. Students accessed the course with their unique username and password. WebCT™is an online course management system. It helps instructors and course designers to organize their course materials and make use of the study and communication tools, including mail, online calendar, chat rooms, discussion forums, gradebook, quizzes, and the assignment tool. The students exchanged private and public messages in the threaded conferences to hold discussions with their groups. The course also used FirstClass™ communication system that provides multiple functions that promote interactive and collaborative learning through icon-based conferences with threaded discussions, private e-mail, multimedia file attachments, real-time textual chats, and collaborative documents. Students could either download the client version to their computers or use the web version through a browser. The web version, however, did not have the collaborative document capability.

The communication tools FirstClass™ offers have some advantages over WebCT™'s tools; users can use different fonts, colors, and font sizes easily in FirstClass™, as opposed to WebCT™ in which users need to use HTML coding to be able to do anything beyond simple text. Another advantage is the use of collaborative documents for group work (Murphy, Cifuentes, & Shih, 2001). The text-based collaborative documents allow only one person to edit a document at a time, using different font types, colors, and sizes as in word processors. However, multiple readers

could access these continuous unbroken documents simultaneously. In this course, WebCT™ was used as the main course platform and the communication tool and FirstClass™ was used for students to work on the collaborative documents, particularly for their needs analysis projects with their group mates and clients.

Electronic postings of students

Students' public postings and private group discussions comprised this data set. Although course communication took place in both WebCT™ and FirstClass™ environments, the latter was only used for the collaborative document capability in the needs analysis project. Therefore, I chose to include only the content-driven public unit discussions that took place on the WebCT™ course platform in the pilot study analyses.

Demographic questionnaire

A 15-question demographic questionnaire (Appendix C) was administered online to all students. The questionnaire consisted of questions on personal information (name, email, department, phone, and address), frequency and length of computer, email, and Internet use, and cultural and language background. This demographic questionnaire was an adaptation from Evers (2001). I changed some of the alternatives in the questions to make them more appropriate for the sample. I deleted some question alternatives that did not apply to my sample, e.g. "I never use the Internet", because my sample participants were online learners. I also changed some formatting and grammatical usage and added a question about the number of online courses taken previously. Nine out of 10 students submitted the online survey.

Selection of Data

Context is critical to interpreting results of discourse analysis (Herring, 2004), therefore I did not choose my data sample randomly, which would erase the context. Rather, I purposefully chose a single unit to analyze. I chose Unit 2 for three reasons. First, the time period this unit spanned was almost mid-semester, where the students could be expected to reach a certain expertise and comfort with the course platform, overcoming the information overload (Chen, 2003). Secondly, there were 73 messages posted to three content-driven public discussion conferences in the three conferences in Unit 2,

which provided me with a rich amount of data to work with. Lastly, the number of messages posted in Unit 2 discussions (73) was a good representation of the number of messages posted in the units 3, 4, and 5 (69, 79, and 90, respectively).

Computer-mediated Discourse Analysis (CMDA)

This section will present the stages I followed in analyzing the pilot study data through CMDA.

Table A1 displays the stages of CMDA as developed and described by Job-Sluder and Barab (2004). In this model, I added a sub-stage to the contextual analyses and named it "Venue" to be able to describe the environment, specifically the online course from which I collected the data. Without a description of the online course, the requirement and some features of the course design, directly presenting the participants and the medium and contextual variables was not very descriptive and insufficient for the reader to see a full picture of the context of the study.

Stage I: Contextual Analysis

First step of the research was to collect data for the contextual analysis. This step also resembles Scollon's (2003) nexus analysis in the sense that it is aimed at providing a thick description (Merriam, 1998). The four aspects of this analysis were venue, participant demographics, medium variables, and context variables.

Table A1

Stages of computer-mediated discourse analysis

Stage	Description
I. Contextual analysis	
a. Venue	Describing the specific features and design characteristics of the online environment in which the communication is taking place. I made an extensive description of the course, course requirements, and course platform.
b. Participant demographics	Identifying important characteristics of the participants. In this study, I used the demographic survey and the information from the online postings to compile and collect this information.
c. Medium variables	Characterizing the medium of communication used in sample, including synchronicity, buffer size, and message persistence. The goal is to describe the technical features of the medium that may influence how the participants structured their discourse. I used Herring's (2007) classification of medium variables to carry this out.
d. Context variables	Describing the context of the discussion using key variables such as discussion purpose, language, participation structure, and anonymity. The goal is to describe the contextual features as a basis for comparison to other contexts. I used Herring's (2007) classification of situational variables to carry this out.
II. Case Characterization	Cycling through the raw data, examining the meaning of posts, reviewing the analysis of the first two stages of CMDA, and offering a summary characterization of each discussion forum being examined. The spirit of this characterization should be ethnographic in that the goal is to provide the reader with an insider feel. Includes analyzing the general themes of discussion and making a thick description of the course, the activities, and the discussion forums. For the purposes of pilot study, I examined the Unit 2 discussions in detail to provide a deeper understanding of the case.
III. Content Analysis	
a. Structural analysis	Examines the features such as word counts, word frequencies, sentence or utterance length, message length, and vocabulary size. However, for the purposes of pilot study I skipped this rather straightforward step.
b. Semantic analysis	Classifies text features into categories according to various types of meaning, requiring the researcher to interpret what the author of the message meant to say. This is where I looked for deeper meaning and found connections to author's background and made interpretations based on the literature on intercultural communication.

(adapted from Job-Sluder & Barab, 2004, p. 384)

a. Venue: The Course

The online course was a 5-week long graduate level summer semester course on management of educational technology, utilizing a combination of WebCT™ and FirstClass™ as the course platforms for the content delivery and computer conferencing. Course content delivery and majority of the computer conferencing was conducted through the WebCT™ © platform, however, due to the limitations of the WebCT™

platform FirstClass™ was used for its collaborative documents feature. Both online platforms offer selective access to conferences; student postings can be public and open to all or private, that is, accessible to a selected number of people, who are usually their group-mates and the instructor.

The class had one face-to-face orientation meeting in the beginning of the semester, where four people participated through distance technologies such as video-conferencing, streaming video and synchronous computer conferencing (online chat). During this orientation students received information about the course content and structure, some technical training on WebCT™ and FirstClass™®, and had the opportunity to ask questions. They were also assigned to their respective groups in which they would work. This course required the students to perform group activities; participate actively in facilitating unit discussions and working with clients on a needs analysis project. During the orientation, students had a chance to meet their needs analysis clients and work together on the specifics of the group work.

Course Requirements. The instructor specified the course requirements in the online syllabus as shown in Table A2.

Table A2.

Course requirements and corresponding point values

Requirements	Points
Needs Analysis / Report	50
Online Discussions: Participation	35
Online Discussions: Facilitation	10
Online Resources	5
Total	100

i. Needs analysis project.

For the needs analysis project students were required work in a team with a client to develop a telecommunications plan including a needs analysis and a

telecommunications report. They were to use the FirstClass™ environment for the collaborative teamwork and WebCT™ to communicate with their clients. They were to conduct self-assessment and peer-assessment at the end of this teamwork. Each team member earned the same number of points for the first three parts of the project (instrument, matrix, and report). Points differed among team members on the process, which was the last portion of the project. Process points took into account the instructor's assessment of individual contributions, the students' feedback as measured by the product evaluation form, and online assessments (self-assessments and peer assessments). The students worked on the following needs assessments projects:

- Develop an online course and performance evaluation method for the Recreation, Parks, and Tourism department of the same university
- Develop a faculty training framework for online instruction for a local community college
- Develop a website for the Educational Research and Evaluation Laboratory for the same university
- Assess training needs and delivery preferences for national credential for international trade professionals for the Business School of the same university

ii. Online discussions.

The online course was divided into five instructional modules, which are called units, which began on Mondays and ended on Sundays. Similarly, weekly discussions on unit topics also began on Mondays and ended on Sundays. Discussions were structured by the unit co-facilitators, who posted stimulus questions in the discussion area by the first day of the unit. During the unit, students were required to post an initial thoughtful and substantive single screen response to one of the questions about one of the readings. They were then expected to reply to one of their classmates' responses to the same topic. The students were encouraged to demonstrate what they learned from the readings and to promote the discussion. Later in the week, they were expected to become involved in one or two of the other questions or topics, and react to two of their classmates' replies.

They were advised to spread their postings throughout the time allotted to online discussions in each unit to allow for developing their thinking during the unit and for the online discussion to "be a give-and-take exchange", as the instructor wrote in the syllabus.

The students were also advised to logon to WebCT™ a minimum of three days a week and try to participate more often. They were expected to read all of the postings of their classmates as well. Quality of their participation was determined on the basis of their demonstration of the following two criteria:

1. What they learned from the readings by responding to a portion of a post by using two of the following approaches:
    - A personal experience relevant to the question
    - A personal opinion relevant to the question
    - A scholarly response based in academic thought and presented in an appropriate academic manner (e.g., citing course text; citing journal articles that they have read but were not introduced or required by the course; cite personal conversations that were conducted as scholarly discourse you had with faculty or other learners).
2. Their ability to promote the discussion with in-depth responses that may lead the discussion into new and/or related areas by responding substantively to postings that will result in deepening the current thread or beginning a new thread.

The online discussion for units 2, 3, 4, and 5 were co-facilitated by the 10 students. These facilitators had the following responsibilities:

Before the unit began, they studied the required readings thoroughly. They met in WebCT™ in their private conference with the other facilitators for the unit. Together, they determined three key issues they wanted to discuss during the unit and created stimulus questions for each issue. They usually set up a time with the instructor or the teaching assistant for a planning chat in WebCT™ by the Friday prior to the beginning of the unit. During this chat session, they made decisions about the questions they would

and how they would facilitate discussions. They posted three stimulus questions covering the objectives of the unit and their welcome message by 10 am on the first Monday of the unit. Throughout the unit they logged onto WebCT™ . They were advised to weave the discussions daily: comment on the responses of the participants; tie participants' comments to other points made in the readings; make connections between the comments students contribute; encourage elaboration and additional debate of interesting points; provide links to additional relevant information; and query students directly using their names. The instructor also suggested that they contact any participants through email they felt might be lagging behind. At the end of each unit, facilitators were required to write a short synthesis of the discussion. Then they assigned zero to seven points to each participant based on the number and quality of their online contributions during the unit based on the guidelines provided by the instructor. They also completed a private group evaluation where they evaluated the performance of their fellow facilitators. They earned up to 10 points for co-facilitating the unit discussions, and up to a total of 35 points for participating in each of the other discussions.

Students were required to make a minimum of four quality postings during the unit to earn seven participation points for that unit. The total quality replies ranged within each unit from zero to four or more. The range of participation points for each unit was 0 - 7. To receive the full seven points for participation, students had to comply with all of the requirements of participation. The rubric for participation points provided by the instructor in the syllabus is shown in Table A3.

Table A3
Rubric for Participation Points in Unit Discussions

Number of postings	Points
0	0
1	2
2	4
3	6
4 or more	7

The units were scheduled as shown in Table A4 throughout the semester.

Table A4
Unit Schedule

Unit	Dates	Unit Topic
Introduction	7/07/03-7/08/03	Orientation & Training
Unit 1	7/08/03-7/013/03	Analysis & Planning
Unit 2	7/14/03-7/20/03	Personnel & Staffing
Unit 3	7/21/03-7/27/03	Technology
Unit 4	7/28/03-08/03/03	Assessing & Maintaining Quality
Unit 5	8/04/03-8/10/03	Policy Issues

iii. Online Resources.

The students were required to subscribe to DEOS-L (Distance Education Online Symposium) and any other electronic mailing lists of interest. They were also required to subscribe to or locate an e-journal on the Web and use a database on the Web. They were expected to incorporate and share information and ideas that they learned from these various resources in the unit discussions.

Course Communication. Course communication took place in the WebCT™ environment, although the FirstClass™ environment was also used for the collaborative document feature. The course was designed to have separate conferences (discussion

areas or bulletin boards) for different purposes. Table A5 lists the WebCT™ conferences and number of messages posted by the students and the instructor in each conference.

Café conference, as the name may imply, was designed for informal, non-course related conversations in general. Instructor and students expected to talk about movies, holidays, and other daily life topics in this conference. There were only three messages posted in this conference, which were unrelated to the purpose of the conference. Café conference was not used extensively in this course probably because of the short and hectic nature of the summer semester.

Table A5

General computer conferences in the WebCT™ platform and number of messages posted in each conference

Conference	Number of Messages Posted
Main	10
Café	3
Group Learning Contracts	3
Instructor Announcements	21
NA Blinn	24
NA Business	16
NA EREL	49
Question and Answers	26
Resources to Share	21

Resources to Share conference was designed for student and the instructor to share resources of interest with each other. There were 21 messages in total in this conference, which indicates participants did care to share resources with each other. These resources included technical and course-related resources as well as campus resources.

Message no. 297 posted by Chen on Mon Jul 21, 2003 00:15

Subject Adult and Graduate Student Services

> Do you all realize this service is existing in [our university]? I did not until today! Take a look at it:
>
> <URL follows>

Questions and Answers is where people ask questions about technology, course, virtually anything. Students or the instructor answered these questions and posting questions in this conference was encouraged by the instructor:

Message no. 281 Branch from no. 271 Posted by Instructor on Sun Jul 20, 2003 19:35

> Chen,
>
> Would you please post this resource in Resources to share? You can follow the example of the URL for Adobe Acrobat Reader. Thanks!

Another example from this conference is:

Message no. 104 posted Wao on Sun Jul 13, 2003 19:39

Subject Trouble with FirstClass™.

> Hi:
>
> I have trouble with FirstClass™. I could not log in. I followed every step in the webpage, but I either get a message saying that my user ID or password is not correct or the connection has been disabled. I am supposed to meet Jeremy and Tof today virtually. But I am not seeing them. I don't know whether they are on FirstClass™ now or what.

> If anyone is seeing them now in FirstClass™, could you please pass this message to them? Thanks.

Needs Analysis (NA) conferences were where students interacted with their respective clients about their needs analysis project.

In addition to these conferences, unit discussions were where bulk of the interaction in the course took place. Facilitators posted messages on unit topics, three questions per unit, and a separate conference was used for each topic of discussion. Separate conferences within the same unit could not be grouped under a single unit conference because WebCT™ does not allow conferences to be created within conferences. Table A6 shows a list of unit discussion conferences and number of messages.

Table A6

Unit conferences in WebCT™ and number of messages posted

Conference	Number of Messages	Discussion Total
Unit Facilitators List	1	
Unit1Private	2	
Unit1Question1	24	
Unit1Question2	20	75
Unit1Question3	21	
Unit1Synthesis	1	
Unit2Private	69	
Unit2Question1	27	
Unit2Question2	22	73
Unit2Question3	24	
Unit2Synthesis	1	
Unit3Private	50	
Unit3Question1	31	
Unit3Question2	23	69
Unit3Question3	15	
Unit3Synthesis	1	
Unit4Private	68	
Unit4Question1	32	
Unit4Question2	14	79
Unit4Question3	33	
Unit4Synthesis	1	
Unit5Private	51	
Unit5Question1	18	
Unit5Question2	33	90
Unit5Question3	39	
Unit5Synthesis	2	

b. Participant demographics

The class was composed of 10 students, 2 males and 8 females. Two of these students were from China, one from Turkey, and the rest were from the United States. Five students participated at a distance, from different cities of the same Southwestern state.

The demographic questionnaire administered to the participants included questions about participants' cultural and language background. Nine participants, seven females and two males, answered the questionnaire. Tables A7 through A9 display the summary of the answers to the questionnaire. Of these nine, six identified their nationality (as stated in their passports) as American. Two participants were Chinese and one was Turkish. The average age of the participants was 31 years. Among the participants, except for one in Turkey and two in China, all spent the majority of their lives in the U.S. Four of these participants spent their whole lives there, whereas four spent over 18 years and one participant spent between 1-9 years. In the cases of seven participants many generations of their family spent their lives in that country. One participant's parents and grandparents and one other participant's parents lived there. In the case of only one participant, the participant himself is the only member of the family who lived in that country. Five of these participants grew up in neighborhoods where most people had the same culture as themselves and their parents but most people outside that neighborhood had some other culture (for example, Chinese town in New York). Five participants identified English as their first language (the language that they spoke most of their lives). One participant identified American English as the first language whereas two participants spoke Chinese and one spoke Turkish. Two participants identified themselves with the African-American culture, two with German/Irish culture, two with Chinese culture, one with American culture, one with French-English, and one with the Turkish culture.

Table A7
Participants' characteristics

Question	Summary
Age on the first of July 2003	Average = 31.11
Gender	3 male, 6 female (+1 female participant who did not fill out the questionnaire)
Number of online classes prior to this one	3 participants = more than 5 2 participants = 4 2 participants = 3 2 participants = 2

Table A8
Participants' computer and Internet use

Question	Summary
Frequency of computer use	All participants use it daily
Number of years of computer use	more than 10 years = 5 participants; 5-10 years = 4 participants

Types of activities with the computer	typing, email, Internet = 9;
	spreadsheets = 6;
	games = 3;
	graduate school work = 2;
	work related software = 1;
	webpage design = 1;
	preparing stand-alone and web-based applications = 1

Type of computer	All PC

Venue for computer use	home, work, and school = 1;
	both home and work = 2;
	at work = 4;
	at home = 2

Frequency of Internet use	all multiple times a day, except for one who uses once a day

Reason for Internet use	Email = all;
	work-information = 8;
	schoolwork = 8;
	online_facilities = 7;
	personal interests = 7;
	working on homepage = 3;
	games = 1

Table A9

Participants' language and cultural background

Question	Summary
Nationality as stated in passport	American=6; Chinese=2; Turkish=1
Language Background	English=5; Chinese=2; American English=1; Turkish =1
First language (the language used most of life)	English = 4 American English = 1 Chinese = 2 Turkish = 1
Languages spoken well enough (a reasonable conversation with a local person)	American English=8; Turkish=1; Japanese=1; Chinese=2;
Cultural background	Chinese=2; African-American=2; German/Irish=2; American=1; French-English=1; Turkish=1
Country where spent the most time	Turkey= 1; China= 2; USA=6;

Duration of stay in this country (where spent the most time)	whole life = 4;
	over 18 years = 4;
	participant 1-9 years = 1

Number of generations in this country	many generations of participant's family = 7; participant's parents and grandparents = 1; participant and parents = 1; only the participant = 1
Grew up in a neighborhood where most people had the same culture as self and parents, but most people outside of the neighborhood had some other culture?	Yes = 5; No = 5

c. Medium variables

In order to characterize the medium of communication used in sample, I used Herring's (2007) approach to classifying computer-mediated data. Table A10 displays this classification according to the medium variables for the pilot study.

d. Context variables

Job-Sluder & Barab (2004) present this stage as a means of describing contextual features as a basis for comparison to other contexts. Along with medium variables, Herring's (2007) classification according to situational variables seemed useful to serve this purpose. However, in the process of the data analysis for the pilot study, it became clear to me that this kind of a global classification might not be accurate. It was accurate for the data sample at hand, because I was simply working on a unit discussion conference, whereas there were other conferences in the course with discussions and conversations of a different nature. For example, although I did not analyze conferences like Howdy (the conference where everybody introduces themselves and present contact information) or Café (the conference where informal discussions on which movie to see, what book to read etc., are carried out), I have a feeling that these conferences had a much different nature on the basis of situational variables. For example, Café conference might have a more relaxed and friendly nature than the unit discussions. Table A11 summarizes the classification of data, which was composed of Unit 2 content-related discussions, according to the situational variables.

Table A10

Classification of data according to the medium variables

Medium variable	Classification of data
Synchronicity of participation	Synchronous and asynchronous; the WebCT™ course platform provides for both modes, however, data included in the analysis for the pilot study comprised only the asynchronous communication. FirstClass™ software has both synchronous and asynchronous capabilities, but the data analyzed in the pilot study did not include FirstClass™ communications of the participants.
One-way vs. two-way message transmission	One-way message transmission; the transmission unit is message. The messages appear on the discussion area as complete messages. The students do not know if others are posting at the same time.
Persistence of transcript	Persistent transcript for the asynchronous communication; non-persistent for the chat sessions unless the participants themselves make a copy of the transcript (which they were advised to do so by their instructor). The messages remain on the discussion area until the course designer, course instructor (or anyone who has the certain privileges) deletes them. In this particular institution, the messages, along with the other student information is reset at the end of each semester automatically, unless the instructor requests the opposite.
Size of message buffer	Virtually no size restriction to the messages; no limit to the message size is known.
Channels of communication	One channel; visual (text-only). Although the discussion area allows for the upload of attachments, which can contain virtually anything (audio, video, or both), the messages themselves are text-based.
Anonymous messaging, private messaging, filtering and quoting	No anonymous messaging; everybody logs on with a username and password. Moreover, the instructor asks all students to give personal contact information (e-mail, phone number, etc.) Private messaging; the course platform provides for private messaging along with the possibility of external e-mailing among participants. No auto-filtering; all posted messages appear in the discussion area. There are restrictions on who can post to which conference though, decided by the course instructor or designer. The course platform provides the option for quoting text.

Table A11

Classification of Unit 2 Discussion conferences according to the situational variables

Situational variable	Classification of data
Participation structure	• One-to-many (one person posting messages to others) • Public or private. Discussion areas are open to everyone unless the instructor or designer specifies access to certain students but not others. In private facilitator conferences, for example, only the facilitators of that particular unit are able to post/view messages. • No anonymity, no pseudonyms; participants interact with their real identities, using their real names and login IDs. • Group size= 10 students; all are required to participate – facilitators participate the most. Number of messages posted in class conferences, including Unit 2, is presented in Table 1. • Specified by the instructor, as stated in the course syllabus: During the unit, post an initial thoughtful and substantive single screen response to one of the questions about one of the readings. Then reply to one of your classmates' responses to the same topic. The point is to demonstrate what you have learned from the readings and to promote the discussion. Later, become involved in one or two of the other questions or topics, and react to two of your classmates' replies. Spread your postings throughout the time allotted to online discussions in each unit. • Figure 1, 2, and 3 depict a more detailed participation structure for Question 1, 2, and 3 conferences in Unit 1 Discussion.
Participant characteristics	• 10 students (2 male, 8 female) • 2 from China, 1 from Turkey, 7 United States • 5 participating at a distance; four of them, from different cities of the same Southwestern state • More data collected through the demographic questionnaire, presented in tables 10 through 12.
Purpose	• Of group = Instructional/academic/degree related • Goal of interaction = cover course content, reflect on course readings, get course credit, and exchange ideas on course-related issues.
Topic or Theme	• Of group = Unit 2, three questions posed by unit facilitators • Of exchanges= Personnel and Staffing, relating unit reading to personal experiences, reflecting upon issues.
Tone	• Topic-oriented; semi-serious; professional but relatively informal; friendly; supportive; cooperative; polite
Activity	• Discussion; answering questions, developing insight into course content, sharing experience related with topic of discussion
Norms	• Following the question thread • Social appropriateness (greeting, thanking, kindness) • Fulfilling the requirement for the number of minimum postings
Code	• English, use of emoticons, grammar mistakes • Font/writing system; plain text – WebCT™ discussion board does not allow variety in terms of fonts, colors, etc. unless students know how to embed HTML code in their messages.

Stage II: Case Characterization

This stage requires a cycling through the raw data, examining the meaning of posts, reviewing the analysis of the first two stages of CMDA, and offering a summary characterization of each discussion forum being examined. The spirit of this characterization should be ethnographic in that the goal is to provide the reader with an insider feel. It also includes analyzing the general themes of discussion and making a thick description of the course, the activities, and the discussion forums.

When doing this phase of the analysis, I used the online course materials (syllabus) to describe the online environment, the nature of expected discussions in the conferences, course requirements, and the main themes of discussion. For the pilot study this phase was brief because I studied only the Unit 2 discussions on the three stimulus questions posted by the facilitators, so there was not much variety in terms of nature of discussions. I read the printed transcripts of the messages three to four times. While reading these messages I used color markers to mark emerging themes and took side notes on these themes.

Unit 2 Discussion

The topic of Unit 2 was Personnel & Staffing, which ran between July 7th and 20th in 2003. The facilitators asked the following content-related questions during this unit:

> Question 1
> In chapter 5, Bates reports on a study conducted by the American Productivity & Quality Center that discovered that "Faculty development seemed to work best when the institution had a culture pervaded by the use of technology and supported by a wide range of strategies..." Bates also discusses various training techniques, strategies for resistant users and support for faculty once they have received training. Do you think faculty training or faculty support is more important in implementing everchanging technology to all faculty and personnel? Why? How do you think the two should co-exist?
>
> Question 2
>
> Please use the e-reserves article written by Hillman, Willis, and Gunawardena "Learner-Interface Interaction in Distance Education: An Extension of

Contemporarary Models and Strategies for Practitioners" to answer the following question:

According to Hillman, et al. they claim there should be four types of learner interaction instead of three. The authors claim "learner-interface interaction" should be included with "learner-learner" interaction, "learner-instructor interaction", and "learner-content" interaction. Do you agree with their suggestion? Why or Why not? Also, do you think you would have enjoyed a pre-distance education course to teach you all about the "learner-interface interaction" tools you would be using during your DE courses? Explain why or why not. (meaning: would you have enjoyed a course that explained all about WebCT™ , FirstClass™, and any other software / hardware used in DE?)

Question 3
Throughout the Toby Levine article, "Going The Distance...," the author describes seven student support services essential for successful distance education program. Name 4 of the services you feel are most important and a)explain why they are important and b)what has been your experience with them.

Co-facilitators and participants posted 27, 22, and 24 messages in all three conferences in Unit 2 discussions. This similar number of questions in three conferences showed a balanced discussion around all three questions. Students used the quoting feature of the course platform to reply to a specific portion of the question asked or as a reaction to someone else's comments. Students differed in their use of the quoting feature though; some used it intentionally and wisely; quoting only the necessary portion of the previous posting, whereas others quoted the entire message, sometimes at the beginning and sometimes at the end of their posting.

Because the WebCT™ discussion area does not have an HTML editor and only allows for plain text messages, students did not have access to colors, fonts, sizes to enhance their messages or to emphasize their ideas.

Stage III. Content Analysis

The next step in the analysis was to look more closely at the discourse. The pilot study was limited to the student-student interaction due to the fact that the conference chosen for analysis only included student-student communication around the unit content, with

virtually no input from the course instructor (except for one instance where she posted a message giving advice on posting information in some other conference as well).

Structural Analysis

This stage examines features such as word counts, word frequencies, sentence or utterance length, message length, and vocabulary size. I skipped this step for the pilot study because of its straightforwardness.

Semantic Analysis

Five domains (levels) of language are suggested by Herring (2004): linguistic structure, meaning, interactional coherence, social function, and participation. These domains and their corresponding reflections in the language are presented in Table A12.

Table A12

Domains (levels) of language (Herring, 2003) and examples

Linguistic structure	Meaning	Interactional coherence	Social function	Participation
Typography	Symbols	Turn-taking	Signaling identity	Number of messages
Spelling	Words	Back-channels	Group membership	Message length
Word choice	Utterance	Repairs	Humor & play	Thread length
Sentence structure	Exchanges	Topic decay	Managing face	
Message organization			Conflict	
			Negotiating power	

Based on the research questions, I chose to include the three domains of this classification in the pilot study analysis: interaction, social behavior, and participation, because I predicted that these domains would give a better insight to how people

communicate in intercultural online courses. From the findings of the literature and previous studies (FitzGerald, 2003; Herring, 2007), I created a matrix of the three domains of language and discourse patterns (Table A13). This table guided me in my semantic analysis of the data. The matrix can keep growing as the data is analyzed since these categories are neither intact nor previously established. Because the pilot study data was limited, not all the possible instances of discourse patterns and aspects of intercultural communication were observed.

Table A13

Three domains (levels) of language (Herring 2004) and corresponding aspects of intercultural communication

Domain of language	Phenomena	Aspects of intercultural communication that may surface in these discourse domains
Interactional coherence	Turns, sequences, exchanges, threads	Reciprocity, extended (in-depth) threads, core participants, sense of time (monochronic vs. polychronic, particularly when planning), novel uses of medium to create a better sense of interaction, repetition, short/long turns, maintaining position in one or more threads, creating threads, competition for attention or control of discourse
Social behavior	Linguistic expressions of status, conflict, negotiation, face-management, play; discourse styles, etc.	Solidarity, conflict management, norms of appropriateness, complimenting, apologizing, requesting, inviting, offering/responding, humor, inductive/deductive organization, high/low context, individualism/collectivism, power/hierarchy, communication, styles (FitzGerald, 2003)
Participation	Number of messages, message length, thread length	Frequent, regular, self-sustaining activity over time

Interactional coherence. In all three question conferences there were more than one thread. The participants initiated all threads, except for the original question posting. Except for the two independent (unthreaded) posting that did not have any follow-ups in Unit 2 Discussion 2 conference, all of the communication took place in these threads. Facilitators usually maintained positioned in all threads without any exceptions. This

was not the case for the rest of the participants, in general. Although they existed in more than one thread, they usually carried out their conversation in one or two threads.

Participants also created novel uses of the medium for better sense of interaction. They used expressions resembling face-to-face interactions, imitating a real life conversation:

"Joanna, you took the words right out of my mouth" (Sharon, Unit 2 Discussion 1, 07/15/2003).

Social behavior. Participants displayed certain discourse characteristics as depicted by FitzGerald's (2003) study, which is based on face-to-face communication data. Elaborate /dramatic style, which is usually observed with Middle Easterners, was observed in the posting of Ahmed, who is from Turkey. He used similes and analogies and also posted the longest messages.

> "Otherwise, like a phrase in my country, we can look at (the) train like a cow" (Ahmed, Unit 2 Discussion 1, 07/17/2003).

He also posted vague messages where the other students were expected to infer meanings from the context and other clues:

> "I know the other solution but it is difficult to say it in this course. Bates is also mentioning that solution in his chapters :)" (Ahmed, Unit 2 Discussion 1, 07/16/2003).

Similarly, succinct and subdued style usually attributed to East Asians was observed with the postings of the Chinese students in the sample. Their postings were short and to the point and they even avoided quoting in almost all cases. They also avoided conflict and emotions, which is another characteristics of the succinct/subdued style:

"Hi Ahmed. I was not saying… what I was trying to say… I agree with you.." (Wao, Unit 2 Discussion 1, 07/19/2003).

Participation. The number of messages posted by the participant in all three discussion conferences are shown in Table A14.

Co-facilitators posted the highest number of messages in the conferences they facilitated, however, other participants also posted around the same number of messages, sometimes even more as in the case of Wao, as the co-facilitators when all the three unit conferences are concerned. This is probably because of the minimum participation requirement set by the instructor. Co-facilitators did not participate at all in the other two unit conferences. The course instructor posted just one message, which was just a guidance message about a piece of information to be posted elsewhere, in the Resources conference.

Table A14

Participants and the number of messages posted in Unit 2 discussion conferences

	Unit 2 Discussion 1	Unit 2 Discussion 2	Unit 2 Discussion 3	Total
Ahmet	3	2	2	7
Carmen	-	-	9	9
Chen	1	4	3	8
Instructor	-	-	1	1
Jane	7	1	-	8
Jeremy	1	2	-	3
Joanna	3	2	2	7
Sharon	4	-	1	5
Sheryl	2	1	2	5
Sue	-	8	-	8
Wao	6	2	3	11
Total	27	22	23	71

The number of threads in the conferences and the number of messages in each thread is presented in Table A15.

Table A15

Number of threads and thread length

	Unit 2 Discussion 1	Unit 2 Discussion 2	Unit 2 Discussion 3
Number of threads	7	8	7
Number of messages in the longest thread	8	5	8
Number of messages in the shortest thread	2	2	2

The longest thread in the conferences usually initiated by those participants who post early in the unit. The longest threads have 8, 5, and 8 messages, respectively in the three unit conferences. In these long threads there have been at least one co-facilitator question weaving the discussion. There were 7 threads in the Unit 1 Discussion 1 conference, 8 threads in the Unit 1 Discussion 2 conference, and 7 threads in the Unit 2 Discussion 2 conference.

Outcomes of the Pilot Study

This section talks about the outcomes of the pilot study and how they will be used in the main research.

Modifications to Data Collection

A minor revision to the demographic questionnaire was made after the pilot study. An additional question inquiring the number of online courses taught was added. Some alternatives to questions were modified. This revised version of the survey was used in the main study (Appendix A).

The pilot study also revealed that focusing on a single course as a case study rather than including more than one courses in this type of in-depth analysis would reveal better and more accurate findings. Concentrating on a time period to select the data from and analyzing all conferences and communication within that specified time period would provide a more thorough picture in terms of the communication patterns and structure.

Modifications to the CMDA

The aim of the pilot study was to help bring together the literature on discourse analysis, computer-mediated communication, and intercultural communication and help me create a methodology with a certain degree of rigor that would be utilized for the major study data. Through working with real data, I was able to justify certain choices I made in terms of data collection, going about analyzing the data, and modifications to the literature findings. As a result of these analyses, I modified the CMDA research process proposed by Herring (2004). This process, which is presented in Table 4, was followed in the major study.

Semantic analysis matrix. One final outcome of the pilot study was the creation of a skeleton for a semantic analysis matrix that would guide the analysis of the data fo99r the main study. Based on this skeleton I created a matrix that I used for the main study (Table 21).

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Languages:
Turkish, English, Spanish