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CoMIC : an exploration into computer-mediated intercultural communication

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**CoMIC: AN EXPLORATION INTO COMPUTER-MEDIATED INTERCULTURAL
COMMUNICATION**

by

Simone Alder

**A Thesis Submitted to the
Faculty of the Graduate School
In Partial Fulfillment of the
Requirements for the Degree of
MASTER OF ARTS**

**School of International Studies
Intercultural Relations**

**University of the Pacific
Stockton, California**

2007

DEDICATION

This thesis is dedicated to my father who gave me my first computer—a Commodore 64—with the words “this is the future!” This was almost a quarter century ago. Shortly before I moved to the U.S. to dedicate myself fully to MAIR, he passed away, but not before wanting to know exactly about the topic of this thesis and encouraging me to question my initial assumptions. This is for you: I know you would have enjoyed reading it. You taught me to think in nonconformist ways and question authority so often accepted blindly; and you showed me that humans are never too old to change. I am thankful for this legacy.

This thesis is also dedicated to my mother: a wonderful woman, who taught me how to fight gender inequality from early on. This was an important lesson in my life that you taught by example. I often remembered your words when studying Computer Science, this thoroughly male dominated academic field. You traveled around the world with me and life became an invitation to my curiosity. I thank you for all your love and support throughout the years and your “down to earth” advice when necessary.

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CoMIC: AN EXPLORATION INTO COMPUTER-MEDIATED INTERCULTURAL COMMUNICATION

Abstract

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University of the Pacific
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This thesis explores how cultural differences manifest themselves in computer-mediated intercultural communication (CoMIC). This study particularly looks at the role and use of digital nonverbals (DNVs) and their regulatory functions. The data analyzed is from a global virtual team working together for a period of three months. The grounded theory method has been employed to code the electronic transcript of the team's communication. Furthermore, the participants were surveyed regarding their personal backgrounds, their work, and their perception of the communication processes that took place. The study shows that in an intercultural communication process DNVs are used to avoid intercultural misunderstandings and to underline the various communication styles. The different styles, hand in hand with the DNVs used, vary depending on the team's overall situation. However, the absence of DNVs can be an indicator for a state of crisis.

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LIST OF ABBREVIATIONS

CMC:	Computer-Mediated Communication
CMD:	Computer-Mediated Discourse
CoMIC:	Computer-Mediated Intercultural Communication
CSCW:	Computer Supported Cooperative Work
DOI:	Digital Opportunity Index
DNVs:	Digital Nonverbals
FtF:	Face-to-Face
GVT:	Global Virtual Team
HCI:	Human-Computer-Interface
ICT:	Information and Communication Technology
ICCMC:	Intercultural Computer-Mediated Communication
IM:	Instant Messaging
LOL:	Laugh out loud
MSN:	Microsoft Messenger Service
PDA:	Personal Digital Assistant
PP:	Picture Project
RL:	Real life
R U OK?:	Are you OK?

TESOL: Teachers of English to Speakers of Other Languages

VoIP: Voice over Internet Protocol

VR: Virtual Reality

Y! IM: Yahoo! Messenger

CHAPTER I

INTRODUCTION

Do you have a MySpace profile? Do you use Google Earth to find out where someone lives you met online? Do you turn on Skype to talk or chat to your clients overseas? Do you share photos, videos, or music in forums? Did you read the blogs coming out of Baghdad or Darfur? Do you send instant messages or check your e-mails with your cell phone? Do you use online banking services or an online dating service? Was the link to the latest Internet meme sent to your inbox today? Are you taking online courses from prison? Are you talking to your therapist using a teleconference system because you live too far away for a face-to-face meeting? Are you communicating with your coworkers across continents through a collaborative work platform? What are you doing—and what is your avatar—doing today? RU OK? LOL! >o)

These questions provide just a glimpse into the “digital” languages, artifacts, and electronic landscapes experienced by many people on this planet on a daily basis. Digital tools have become common and have changed the way people think about space and how to connect despite physical barriers. Google Earth (2007) is one of many services provided by Google, and it allows the user to look at the world remodeled in 3D from satellite images. Beyond the possibility of visiting—virtually—every corner of

the globe, it also allows the user to search for important geographical sites, street addresses, or roads. In turn, virtual 3D environments, either representing the *real world* or imaginary worlds allow people to meet, work, develop relationships, and form virtual societies, as for example in Second Life (2007) or Habbo (2007). People log in with their 3D persona called an avatar. For many the virtual reality (VR) offered by these 3D worlds is an extension of real life (RL) and much more than just a parallel life.

Other systems create new forms of and opportunities for intercultural communication and what it means today to connect, socialize with each other locally or globally. MySpace (2007), for example, has become popular especially among young people in many countries in order to connect, make friends, share information about common interests, and publish films, videos, and music across borders. Users' profiles are almost like digital business cards. MySpace has changed the way people present their artwork, their music, and their films; it has even changed how artists relate to their fans. The art presented on MySpace ranges from the highly commercial to do-it-yourself. Skype (2007) is a VoIP service mostly used to make calls to other Skype users or to regular phones, using the Internet to transport the data. Instant messaging (IM) has become a common form to send short messages through a Web-based chat (e.g., Yahoo!, AIM, MSM, or ICQ) or via cell phone. Instant messaging allows the user to talk to friends and family, to make new friends, and to explore different chat rooms anywhere in the world, where an Internet connection is available. For many, the inbox has become as familiar as a physical mailbox, where postal services deliver their snail mail. The inbox is the e-mails' mailbox. Similar to the speed viruses spread, Internet memes are random messages becoming popular, very fast. A good example is the

bonsai kitten Internet meme (Bonsai kitten, n.d.), a hoax, based on a webpage, which described how a kitten could be raised in a bottle and therefore remain in a miniature state. This webpage generated a chain of e-mails from appalled groups calling for a protest; this cause spread throughout the world quickly. Collaborative work tools have created new opportunities for people to and work with either remotely from home or with colleagues across the globe. In sum, independently of the communication form chosen, a multitude of new intercultural communication opportunities with known and unknown people are available.

Some humans are less *digital* than others. This is dependent on the degree they choose to use digital tools either by choice or because of their access to *Information and Communication Technologies* (ICTs). There is a clear digital divide, a split worldwide and across local communities between those who have access to digitized information and those who do not (Lallana & Uy, 2006; Lengel, 2004). This gap is illustrated in the Digital Opportunity Index (DOI) established by the United Nations' agency International Telecommunication Union (2006). The DOI, which is closely related to economic success, evaluates the amount of access people across the planet have to ICTs. The DOI of Chad, Niger, and Eritrea, for example, are the lowest worldwide. These countries are on the *digital poverty* side of the digital divide, while the Republic of Korea and Japan are on the *digital abundance* side. Factors leading to the poverty side of the digital divide can best be summarized as: "(1) local information barriers; (2) literacy barriers; (3) language barriers; and (4) cultural diversity barriers" (Lallana & Uy, 2006, ¶3). Furthermore, I would add that the cultural understanding of how and what for technology should be used could also be relevant. The members of the global

virtual team (GVT) who participate in this study are on the abundance side and are a privileged group on a global scale. They have a wide access to ICTs, which means that they do not suffer the consequences of the digital divide.

Problem Statement

On the abundance side of the digital divide is the *global village*, a term that became popular after being used by McLuhan (1962). It originally described how the world is recreated in cyberspace. Later this metaphor was widely used to describe the new virtual space in which physical borders faded and people far away from each other could communicate at the rapid speed enabled by fiber optic cables. A search on Amazon.com (2007) reveals over 11,000 books containing the term global village in their title and shows the popularity of this concept.

These new technological tools have created new forms of human interaction and communication. These technologies allow people to work with their globally or nationally distributed team; members of such teams might work together without necessarily having ever seen each other or heard each other's voices. Although tools are constantly developing, humans still interact mostly in cyberspace through the written word. Some *computer-mediated communication* (CMC) is asynchronous (e.g., e-mails, message boards, blogs, webpages), which indicates that there is a time delay between the sender and the receiver; other forms are synchronous (e.g., chats, IM). Synchronicity implies that "communication occurs simultaneously" (Baldwin, Perry, & Moffitt, 2004, p. 246). The widespread access to synchronous and asynchronous CMC has lead to new forms of interactions among people, and especially to new forms of

intercultural interactions in the global village. Communication among people with different cultural backgrounds has become easy technologically speaking. However, this does not imply that intercultural communication itself has become more or less complex than when interacting face-to-face. This thesis focuses on synchronous communication among participants with diverse cultural backgrounds and explores how nonverbal communication takes place in a largely text-based environment.

The participants of this study were culturally diverse members of a global virtual team (GVT), who worked as moderators. The work of a moderator in this specific context consisted of viewing user-generated content and determining its suitability for the public (regarding child safety issues, eliminating discriminating content, and for brand protection). The content viewed by the moderators consisted of photos and texts sent in by users who had an interest in participating in a client's public campaign. The majority of moderators had never seen each other face-to-face, talked to each other, or worked together before. The communication took place on a computer supported cooperative work platform (CSCW), which can best be described as a giant chat room. The incoming data were monitored around the clock for a period of three months. During this time, the moderators established working relationships across cultures and communicated using the means offered by their virtual environment.

Early theories mostly compared CMC to face-to-face (FtF) communication in order to understand its nature. These early approaches do not attribute any importance to the cultural backgrounds of the interactants and do not analyze CMC from an intercultural communication standpoint. These theories that Lengel (2004) called the "Deficit Approaches" (p. 48) were dominated by the idea of the scarcity of sensory

input. The models developed suggested that the absence of nonverbal cues and communication made CMC more susceptible to misunderstandings and conflicts, or simply, lacking in human warmth. Contrary to this approach, I posit that nonverbal communication exists when using CMC in general and across cultures, even when its form differs from nonverbal communication that occurs face-to-face. A few scholars, using text-based research materials, have acknowledged the existence of nonverbal communication in CMC. Baldwin, Perry, and Moffitt (2004) for example, stated that emoticons "substitute for nonverbal cues" (p. 249). Richmond and McCroskey (2004) subsumed nonverbal communication in CMC under the concept of nonverbal immediacy. They defined nonverbal immediacy as "the use of nonverbal behavior that increases the immediacy between interactants" (p. 217). Blackman and Clevenger (1990) developed a catalog of 22 nonverbal surrogate categories that are commonly used in text-based CMC (as cited in Richmond & McCroskey, 2004). The terms *substitutes* and *surrogates* used by these authors sound, in my opinion, like an assumption that text-based nonverbal communication is non-existent, a position postulated by the Deficit Approaches. In contrast to these authors, this study follows the assumption that nonverbal communication exists in CMC generally and across cultures. For the purpose of this research these active signs of nonverbal occurrences in written and synchronous communication will be referred to as *digital nonverbals* (DNVs). This thesis focuses on how participants of diverse cultural backgrounds interact, especially when using DNVs through synchronous CMC.

Research Questions

The goal of this thesis is to explore how *computer-mediated intercultural communication* (CoMIC) impacts the use of DNVs in written and synchronous communication. This thesis was guided by the following three questions:

- 1) What role do DNVs take in the intercultural communication process?
- 2) How do DNVs affect CoMIC?
- 3) How does the participants' use of DNVs evolve over time?

The theoretical foundations underlying the research questions will be discussed in chapter two and the findings addressing these research questions are found in chapter four of this thesis.

Definitions of Terms

The following section presents an operational definition of *computer-mediated intercultural communication*, as well the concepts that have influenced its development.

The term *computer-mediated communication* (CMC) is widely used in the computer science and communication fields. It is usually defined as the communication and interaction between humans through computers, e.g., through e-mails, chats, blogs, and Usenet groups (Baldwin *et al.*, 2004; Lengel, 2004). However, it is necessary to point out that these definitions are too narrow, as they are founded in the idea of communication via a computer terminal. A broader definition would include communication via cell phones, personal digital assistants (PDAs), as well as other communication devices and communication forms that will be developed with the advancement of ubiquitous computing.

Many authors have raised the question of the impact of culture on CMC, for example, the October 2005 issue of the Journal of Computer-Mediated Communication's special theme was titled "Culture and Computer-Mediated Communication." Culture had been understood in several ways. Popular definitions come from Hall (1976), Ting-Toomey (1999), and Hofstede (2001). Hofstede and Hofstede (2005) explained that culture was "the software of the mind" (p. 3) and "the collective programming of the mind that distinguishes the member of one group or category of people from others" (p. 4). Ting-Toomey (1999), on the other hand, understood culture as "a complex frame of reference that consists of patterns of traditions, beliefs, values, norms, symbols and meaning that are shared to varying degrees by interacting members in a community" (p. 10). However, the above-mentioned authors agreed that within a community values and symbols represent a cultural phenomenon. Symbols play an important role in interpersonal communication, because they are used to create messages (Gudykunst, Ting-Toomey, Sudweeks, & Stewart, 1995). The written word, transmitted from one human to another through computer technology, is a message formed of symbols, which carry, as does every symbol, cultural meaning.

In this thesis, I will use an operational definition for what I call *computer-mediated intercultural communication* (CoMIC). For the purpose of this research, I define CoMIC by using Ting-Toomey's (1999, pp. 16-17) definition of intercultural communication, as: a symbolic exchange process whereby individuals from different cultural communities negotiate shared meaning interactively via the instrumentality of computers or other digital communication devices.

A Mindful Approach to Personal Bias

My biases as a researcher are many. I have worked within global virtual teams and my experiences for the most part have been positive. Furthermore, I feel a strong fascination for virtual communication and do not cease to be amazed about how positively it has impacted my life and allowed me to be far away physically and nevertheless very close to people I care about. CMC was introduced very early on in my life and needless to say I feel very comfortable with the technology and the communication environment, even though I am not without reservations. Nevertheless, as a researcher, I tend to be biased towards its positive aspects and overlook the things it cannot accomplish. Furthermore, having been part of the team whose data I will use for this thesis, I have a preconceived notion of the impact of digital nonverbals (DNVs) on CoMIC. These preconceptions are that DNVs allow self-disclosure, help reduce conflict, and support the building of common ground. I perceive them as crucial for enabling humor and communicating human warmth online, especially across cultures. I have been as aware as possible of my biases and set them aside as I started working with my data.

Organization of the Thesis

Chapter two of this thesis will review the theoretical debate of cyberspace as cultural space. Furthermore, I will look at the important contributions regarding CMC, DNVs, and CoMIC and relate them to my research. Chapter three describes the research methodology by presenting the research design, the data collection method, and the participants. Chapter four presents the findings emerging from the electronic

transcripts and the questionnaires sent to the participants. And finally, in chapter five, I will discuss the results and the limitations of the study, as well as make suggestions for further research.

CHAPTER II

LITERATURE REVIEW

"We are there, to be sure, but we're simultaneously making ourselves over as data, as bits and bytes, as code, relocating ourselves in the space behind the screen, between screens, everywhere and nowhere." (Bell, 2000, p. 3)

For many years, my studies have been driven by the desire to explore how intercultural communication plays out when the communication is computer-mediated. There is no academic field per se that dedicates itself to exactly this question. As Lengel (2004) explained, there is not only a wide vocabulary describing the character of online communication, but also a broad variety of disciplines looking at "the points of contact between new communication technologies and traditional academic disciplines, such as: media studies/journalism, linguistics, sociology, anthropology, psychology, law, computer science, education, politics, economics/commerce, medicine/health care" (pp. 21-22). This literature review aims to situate my research questions in a larger intercultural research context. The first part addresses the importance of understanding cyberspace as cultural space. The second part reviews the literature that examines computer-mediated communication (CMC). The third part examines nonverbal communication. Finally, the fourth part explores literature relevant to computer-mediated intercultural communication (CoMIC).

Cyberspace as Cultural Space

Cyberspace¹ is integral to the concept of the global village, which in essence is a virtual form of community. Culturally speaking, it is much more than just the hardware that allows us to communicate electronically. As Bell (2000) explained, cyberspace is a mental representation or an idea. It is the cultural space at the intersection between digital communication and *Information and Communication Technology* (ICT). Pierre Lévy (Benkirane, 1998), a leading philosopher researching about the social and cultural impact of digital technology, defined cyberculture as follows:

Ce n'est pas la culture des fanatiques d'Internet, c'est une transformation profonde de la notion même de culture. Et c'est difficilement séparable des autres transformations sociales que nous connaissons depuis 20 à 25 ans: l'urbanisation galopante; la montée du niveau d'éducation; la mondialisation économique; le développement des contacts entre cultures. L'humanité est en train de se rencontrer elle-même. (§ 4)

It is not the culture of the fanatics of the Internet; it is a deep transformation of the idea of culture itself. It is difficult to consider this development separately from the other social transformations we have seen in the last 20 to 25 years: galloping urbanization, the rise in levels of education, globalization, and the development of the contact between cultures. Humanity is about to face itself. (§ 4) [translated by Simone Alder]

As is apparent in this statement, Lévy (2001) strongly believes that the occurrences in cyberspace are the "technical materialization of modern ideas" (p. 230). Other authors like Castells (2001), Gunkel and Gunkel (1997), and Escobar (2000) have also stressed the importance of understanding cyberspace as emerging from the "social and cultural

¹ Gibson (1984) coined the term cyberspace in his novel *Neuromancer*: "Cyberspace. A consensual hallucination experienced daily by billions of legitimate operators, in every nation, by children being taught mathematical concepts . . . a graphic representation of data abstracted from banks of every computer in the human system. Unthinkable complexity. Lines of light ranged in the nonspace of the mind, clusters and constellation of data. Like city lights, receding" (p. 51).

matrix" (p. 57) of modernity. Authors like Turkle (1995), Webb (1998), and Poster (2001) draw on postmodern thinkers to understand cyberspace. Turkle (1995) saw society moving towards what she called a "culture of simulation" in which humans substitute "representations of reality for the real" (p. 23). Lévy (1998) also saw in cyberspace and in the process of virtualization a shift in fundamental human understanding of how things are represented. But he did not believe, as did Turkle (1995), that cyberspace per se is a postmodern space just because it enables the deconstruction and reconstruction of identities and the physical body. Macfadyen, Roche, and Doff (2004) classified the postmodernist approach as a rupture with the conventional way of perceiving community, identity, and communication. Even though the modern or postmodern standpoints are very different regarding the nature of the virtual, all the above-mentioned authors left no doubt that cyberculture existed. Therefore, the question is: what are the different values that shape cyberspace?

The cultural values of cyberspace have been understood in a variety of ways. Similarly, interactions in cyberspace and their social impact, in which cultural values become visible, have been tackled from different angles. The research is roughly divided into three categories. Human computer-interaction (HCI) has mainly examined the question of how humans interact with the interface and the machine itself. In turn, computer-mediated communication is more concerned with the patterns of interaction and the forms of communication that arise. It is also sometimes called "human-human interaction through computer" or "human computer-mediated communication" (Escobar, 2000). Finally, cultural studies analyze the meanings people attribute to the technology and how they represent and understand it.

The Cultural Values of Cyberspace

Very little has been written about the cultural values that cyberspace itself embodies. Lévy (Benkirane, 1998) argued that cyberspace was its own cultural space but he did not elaborate what its characteristic values were. He viewed cyberspace primarily as the space where collective intelligence manifests itself. Reeder, Macfadyen, Roche, and Chase (2004) saw the cultural values as interrelated with the cultural values of the Anglo-American creators of the technology. They stated that the technology was characterized by communication that promoted "speed, reach, openness, quick response, questions/debate and informality" (p. 92).

The reason why so little has been said about the cultural values embedded in cyberspace is that many researchers have opted to see technology itself as value free. Chandler (2002) warned about this approach and offered the concept of *technological determinism* as a theoretical framework to identify frequent biases that researchers might have about technology. Technological determinism seeks "to explain social and historical phenomena in terms of one principal or determining factor" (p. 6). When technology is seen as being the driving motor of change, reductionism often comes into play as it represents the attempt to reduce complex events into one oversimplified cause-effect relationship. Chandler opposed the idea that technology was value free, an instrument or a tool (p. 8, ¶1), and acknowledged the fact that technology had a dimension of cultural symbolism. He noted that determinism was a frequently encountered bias among the researchers who had analyzed the interplay between communication, culture, and technology (p. 1). He therefore suggested an approach

where the technology itself is only seen as one factor among others to explain human behavior.

Cultural Values and Interface Design

Some studies have followed Reeder's et al. (2004) approach and examined the impact of cultural values on interface design. Ishii (1990) examined the influence of cross-cultural communication between Japanese and U.S. Americans and its implications for the design of computer-supported cooperative work (CSCW) groupware. The author proposed that the design has to "capture the structure of social processes within a group" (p. 50), while at the same time reflecting the cultural practices of each group. Ishii used the example of a public bulletin board as a decision making tool. This technology might speak more to U.S. users who were used to discussing decisions openly and visibly, while the Japanese users would rather use e-mails and a behind the scenes approach to obtain a result.

In a later publication, Heaton (1998) conducted a study, in which she compared the development of a CSCW platform by a Japanese and by a Danish group. She concluded that there were important cultural differences linked to the cultural values of the designers and their society. The Danish group developed a platform that should enable collaboration and decrease social distance between the users of the system, reflecting values of informality and equality. In contrast, the Japanese group developed a platform focusing on establishing communication channels that allowed for a maximum of nonverbal cues to be transmitted. This was done, for example, through the use of video and large displays that reflected the concern to be able to support subtle (nonverbal) communication.

Yetim and Raybourn (2003) and Zorn (2005) approached the discussion from a different angle and initiated a discussion about what it means to design tools that support intercultural communication. In recent years, the discussion around these topics has increased, as the software industry has recognized the importance of internationalization and localization (e.g., adapting Microsoft Office to different audiences world wide in a culturally appropriate way).

Cross-Cultural Differences Using Various Forms of CMC

While the studies that looked at the cultural values of the interface design were mostly concerned with HCI issues, some studies looked at how CMC was used differently across cultures. Huysman et al. (2003) analyzed the work of a U.S.-Dutch virtual student team and their choice of media to communicate. Their conclusion was that rather than being culture specific, the use of media was determined by "the mode of communication developed early in the project" (p. 431). This finding corresponds to Olaniran's (2004) opinion that in order to overcome cultural challenges, the members of GVT should be able to choose the form of CMC that works best for them and need to develop "a new group culture identity" (p. 157). He suggested that organizations needed to be conscious that "a technology can bring out different reactions among participants with different cultural orientations" (p. 156). Olaniran also pointed out the importance of time for the team to adjust to each other's interaction forms. Furthermore, he warned of telephone and videoconferencing as they may reduce the team members' willingness to interact due to language barriers and face saving issues. He explained, "When virtual teams pay attention to cultural backgrounds as factors influencing conflict management and problem solving techniques, they are likely to

experience greater satisfaction and success" (p. 158). Having seen these positions, the next section explores what happens, when interactants from different cultures only use specific technology to communicate.

Cross-Cultural Differences Within One Form of CMC

The following studies have addressed the differences within a cultural group or between several cultural groups. The first section presents the studies made about synchronous CMC, while the next section briefly presents the research about asynchronous CMC.

Allwood and Schroeder (2000) examined language use in a multicultural 3D environment, in which the users were logged in with their avatar. Their study found that although users from all over the world convened in the 3D worlds, English remained the main language. They noted that the users' contributions mostly referred to the following topics: greetings, farewells, and user's announcement that they were back. They concluded that these were the most frequent occurrences because they "follow the conventions of the real world" (p. 12). The authors also examined the use of emoticons and typical online abbreviation. The results showed that the smiley face was the most frequently used emoticon. Interestingly, although the users had the possibility to make their avatars move, this almost never happened. Instead the users preferred typing the gestures they wished to express. Sveningsson (2003) monitored the interplay between the use of English and Swedish content in a Swedish chat room. His findings showed that the users contributed song-lyrics foremost and then "emoticons/written actions" and "greetings" (p. 141). In his view emoticons were smiley faces, as well as text written between asterisks, that described actions. His

findings showed that smiley faces were used to "signal that the sender is smiling, and that the message is not supposed to be taken seriously" (p. 151). He also concluded that the large amount of messages related to a user entering and leaving the room, along with greeting, leave taking, and the emoticons had been used to "frame users' online persona" (p. 156).

Setlock, Fussell, and Neuwirth (2004) on the other hand, compared the decision-making process of student groups meeting face-to-face versus using Instant Messaging. The groups consisted either of (U.S.) American-American, Chinese-Chinese, or American-Chinese participants. Throughout their study these authors did not address the use of DNVs, instead they addressed issues around the process participants use to reach mutual understanding, the message content, and the quality of interaction.

A number of studies have examined asynchronous communication with an intercultural focus. Kim, Hearn, Hatcher, and Weber (1999) for example explored the ways Australians and Koreans used e-mails to communicate within a company. They found that the participants adapted their communication style to each other. In turn, Matsuda (2002) examined the negotiation of identity and power in a Japanese online community of TESOL professionals using e-mail. In turn, Lee (2002) opted for a more theoretical angle and commented on cultural differences in using e-mails within virtual teams from a *critical social theory* perspective. Kim and Bonk (2002) compared the collaborative behavior among Finnish, Korean, and U.S. students using a collaborative learning environment. Choi and Danowski (2002) explored the structure of intercultural communication in Usenet groups. Finally, Yum and Hara (2005) looked at cross-cultural differences in relationship development and self-disclosure from Internet users

in Korea, Japan, and the U.S. These studies give a taste for the wide variety of aspects that can be researched when looking at the new forms of CoMIC.

Online Environments Designed for Intercultural Training

Some scholars have examined the possibilities that online tools and environments offer to foster intercultural competence. Korhonen (1999) illustrated an intercultural training tool based on critical incidents, while Raybourn (1998) described a multi-user simulation designed for intercultural training. Cebron, Jablonskaï, and Rados (2005) presented the result of an ICT project used to facilitate intercultural communicative competence and Jawary, Birchak, and Strack Vargo (1997) described a communication project based on e-mails, to foster intercultural communication skills. While these authors saw new possibilities using cyberspace, they did not take into consideration the cultural factors that determine the use of a certain technology.

Culture Does Not Matter

Interestingly, Jarvenpaa and Leidner (1999), who studied trust in global virtual teams, raised the question of whether culture matters at all. They asked, how “technology might obliterate, reduce, or delay the effects of culture and cultural diversity on communication behaviors when the setting is totally virtual” (p. 159). This question illustrates a position that promotes the idea of technology as an equalizer with emancipatory potential. Yates (1997) called this view the “democratic theory” and explained:

most of these assumptions derive from the belief that the lack of a face-to-face aspect to text-based CMC removes the basis for discrimination and exclusion. Such a position incorporates a naïve assumption that the texts of such communication are free of all social markers. This is of course not the case. (p. 283)

Assuming that the “invisibility” of people when communicating online makes them equal is dangerous. It promotes a false sense of equality as Yates pointed out perfectly when analyzing the impact of gender on CMC. Undoubtedly CMC can have positive effects, e.g., to solve intercultural conflict (Shachaf, 2005), but nevertheless cultural differences exist. Hofstede (2001) stated that the belief that cultural differences will cease to exist when using technology, is itself “culturally determined; it is strong in high-MAS [masculinity index], high-PDI [power distance index] societies” (p. 453).

In sum, these studies illustrate the numerous ways scholars have addressed culture in cyberspace. The themes of these studies are most frequently language use, identity, community formation, education, and gender. While some authors analyze the nature of cyberspace itself, others debate over the cultural values of technology. An even larger number of authors have observed interactions across cultures using CMC. Before deepening the aspects regarding online intercultural communication, the following section will look at the numerous ways to understand CMC.

Computer-Mediated Communication

In the early 1980s, Cathcart and Gumpert (1983) reviewed the current research in the communication field and pleaded for the development of a new typology, which they called: *mediated interpersonal communication* (p. 270), arguing that *mass media communication* did not suffice to encompass media as such (p. 268). They felt that the current definition of communication emphasized the transmission of a message and deemphasized the role of the media or the communication channel (p. 267). They suggested a subcategory called *interpersonal mediated communication*, defined as “any

person-to-person interaction where a medium has been interposed to transcend the limitations of time and space" (p. 271). This definition and categorization has shaped the way we think about CMC today.

Other authors, intrigued by CMC, have used theories developed for other media types and applied them to CMC to understand these new communication processes. The *Social Presence Theory* (Short, Williams, & Christie, 1976), the *Media Richness Theory* (Daft & Lengel, 1984), and the *Cuelessness Model* (Hiltz & Turoff, 1978; Kiesler & Sproull, 1986, 1992) were developed early on and had a major impact on authors working on CMC. These early theories addressed many aspects relevant to nonverbal communication but have not explicitly paid attention to cultural factors in the communication process. Walther, Anderson, and Park (1992) explained that these three theoretical approaches are best understood by their common denominator: the understanding that there is an absence of nonverbal codes "generally rich in relational information" (p. 53). These early theories viewed relational communication in CMC as reduced and CMC as "less friendly, emotional or personal and more businesslike, and task oriented" (Rice & Love, 1987, p. 88) than face-to-face communication. Short, Williams, and Christie (1976) developed the *Social Presence Theory*, which posited that the less cues a system has, the less the users of the system will feel that their communication counterpart is present (compared to face-to-face). Short et al. estimated that a system varied in its capacity to transmit nonverbal cues, and thus molded the interaction (p. 65). The less nonverbal cues a system had to offer, the more impersonal and low in social presence the interaction. This theory was originally developed for teleconferencing systems and was thought to focus on the attributes of media, and not

on the perception that users had of the respective media (Walther *et al.*, 1992). In turn, the *Media Richness Theory* (Daft & Lengel, 1984) focused on the richness of a communication medium that can be understood in terms of the possibility to transmit cues, to give feedback, and to support a conversation. The premise was that people prefer to communicate with a rich medium, considered as the most efficient. The *Cuelessness Model* or *reduced cues* approach (Hiltz & Turoff, 1978; Kiesler & Sproull, 1986, 1992) was based on the assumption that due to the absence of cues, the psychological distance between the communicators increase and therefore the communication becomes more distant, impersonal, and task oriented. Soukup (2000) pointed out that this approach is solely focused on the absence of nonverbal cues and criticized it sharply. He noted that online relationships often can become very intimate and intense, and that "multi-media applications allow users to send complex nonverbal cues and considerable relational information through audio, video, and three-dimensional graphics" (p. 412). However, these early theories studied CMC from a communication standpoint without taking into account cultural and intercultural aspects.

Walther, Anderson, and Park (1994) equally criticized the above-mentioned approaches and developed what they called an alternative to the cuelessness approach: *Social Information Processing Theory* (SIP). The authors argued:

The critical difference between FtF and CMC from this perspective is a question of *rate*, not capability. This perspective acknowledges that, due to the limitations of CMC, the medium cannot convey all task-related as well as social information in as little time as multichannel FtF communication. However, users adapt into the stream of language and textual behaviors messages that might otherwise be nonverbal. The exchange of social information in CMC may be slower than in FtF but it is potentially as potent over time. (p. 465)

Walther et al. proposed that communicators inherently wanted to develop social relationships. Therefore, communicators would develop information-gathering and impression formation strategies. Later, Walther (1996) developed the theory of *hyperpersonal communication* in CMC. This theory referred to instances, in which "CMC has surpassed the level of affection and emotion of parallel FtF interaction" (p. 17). He identified four components that contributed to this phenomenon: the receivers and sender of the message, the characteristics of the channel, and the feedback process (p. 17). Walther argued that his theory was applicable to synchronous and asynchronous CMC but his arguments were almost uniquely based on examples of asynchronous communication. This makes its use for this study questionable.

However, when looking closely to the elements regarding the sender and the receiver, it seems that they are in part applicable to synchronous communication. Therefore I will elaborate on them next. When Walther referred to the receiver and his perceptions, he referred to the *social identification/deindividuation model* (SIDE) developed by Lea and Spears (1995). These authors posited that because of the absence of context cues, the communication partner will "build stereotypical impressions of their partners without qualifying the strength of such impressions in light of the meager information—misspellings, typographical errors, or excessive punctuation—on which they are built" (Walther, 1996, p. 18). These impressions carried stronger weight when the people who were communicating had no bonds. This is unlike the case in this study in which the group communicating is well defined and not anonymous. In turn, the sender of the message was perceived by Walther (1996) as a performer, who would only present selected aspects of his being (p. 19). He explained:

Although information and expression in CMC may matter more than looks, gender, and race, and the like, this is not to say that these and other traits are never apparent. However, such traits are often revealed through performance rather than appearance. (p. 20)

Walther assumed that communicators had complete control over what information they conveyed. This approach seemed to have more validity in an anonymous or asynchronous environment. One point illustrated this further: he stated that while communicating virtually,

there is no need to physically backchannel, hold one's waist, nod, smile, remember to 'look interested', and so on. We may shift attention from our need to maintain simultaneous expressive and sensory systems and devote it instead to language selection. (p. 22)

Maybe different observations could be made when analyzing synchronous communication. It is important to mention, that Walther criticized the researchers who rejected the *Deficit Approaches*. He noted that the many of the newly developed models could not explain the findings of these early theories. I would suggest that this is partly due to the fact that CMC is viewed as one all encompassing communication genre. However, the exciting aspect of CMC is that it encompasses a multitude of constellations depending on the technology used and the social and cultural context of the interaction. Herring (2007) proposed a model to classify these variances. The next section looks at her model and its implications for this study.

Faceted Classification

Herring (2007) created a classification scheme for research purposes of *computer-mediated discourse* (CMD). She started from the assumption that CMD could not be understood as one single form of communication and that it varied depending on the context and the technology used. Her model drew from the *facet*

classification system used in information and library science and from Hymes' (1974) SPEAKING model. Her approach encompassed two different sets: the *medium factors* and the *situation factors* influencing the CMD, which are both equally weighed. The following presents relevant aspects of her model and applies them, where necessary, to this specific research context.

The first set of factors analyzes the *medium factors*, such as synchronicity, units of transmission, and anonymous messaging. Herring (2007) identified synchronicity—whether a system supports synchronous or asynchronous communication—as “a useful dimension for comparing different types of CMC with spoken and written discourse” (p. 4). The units of transmission are also important. The sender and the receiver are “able to see the message as it is produced, making it possible for the receiver to give simultaneous feedback” if the “character-by-character transmission is ‘two-ways’” (p. 4). Furthermore, according to Herring, “anonymity has been found to have important effects in online discourse, including increased self-disclosure, antisocial behavior, and play with identity” (p. 5).

These are relevant factors for this study in the following ways. The participants in this study worked with a synchronous communication tool and could not see when their colleagues were typing a message, which according to Herring should increase cross typing and misunderstandings. Additionally, the members of the GVT were not anonymous and had time for relationship building, which should influence the level of politeness, which according to Herring, is considered higher when the participants know each other (p. 6).

Herring described the second set of factors as encompassing *situational and social factors* such as the participants' characteristics, purpose, and the tone. The participants' characteristics describe demographics, proficiency with computers and language, skills, and experiences (p. 6). Herring stated that the purpose of a group is also important because "each activity has associated conventional linguistic practices that signal when that activity is taking place (cf. 'contextual cues', Gumperz, 1982). Many studies have noted the existence of computer-mediated contextual cues, ranging from emoticons to user IDs" (p. 6). The tone indicates the degree of seriousness and formality of the communication. Finally, Herring remarked that this faceted scheme "captures cultural information" that is lost in many other approaches (p. 8).

The next section will address how other authors have addressed nonverbal communication in CMC.

Nonverbal Communication

How can nonverbal online communication be understood? Do we attribute to DNVs the meanings we want them to have? Does this meaning vary across cultures? Are they the mere projection of our desires? Are we "just" compensating for the absence of full sensory input? Are we disembodied and in the flux? Are we present without being? And are emoticons our only form of digital nonverbals (DNVs) in written CoMIC?

The question of whether or not nonverbal communication takes place in CMC is controversial in the research literature. Before focusing specifically on nonverbal communication within CoMIC and the DNVs as such, it is important to think about the

definitions of nonverbal communication established in the interpersonal communication field and if and how they apply or do not apply to CMC.

Birdwhistell (1970), a pioneer in the field of nonverbal communication, estimated that "no more than 30 to 35 percent of the social meaning of a conversation or interact is carried by words" (p. 158). Andersen (1999) pointed out that the estimations varied but that nonverbal communication is at least "as important as verbal communication" (p. 1). In simple terms he explained that nonverbal communication "exists *beside language*, yet it is not language. It is present whenever we talk, but it is not talk" (p. 2). He based his understanding on Gudykunst, Ting-Toomey, and Chua's (1988) definition of nonverbal communication. They stated, "While verbal communication is a digital communication process, nonverbal communication is a multilayered, multimodal, multidimensional, analogic process" (p. 118). In agreement, Andersen (1999) subsequently pointed out that the three main characteristics of nonverbal communication were: it was "analogic, nonlinguistic, and typically governed by the right brain hemisphere" (p. 3).

Analog communication is "everything that is nonverbal," messages that "look or sound like what they refer to or represent" (p. 3), and can take an "infinite number of values or degrees" (p. 4). In contrast, digital messages have, only two characteristics "present or absent, on or off, talking or silent" (p. 4). However, Andersen (1999) also acknowledged that scholars have had difficulties defining nonverbal communication, for two major reasons: because "many behaviors are hybrids of nonverbal and verbal cues," and "because the degree to which a particular message is nonverbal is not always black and white" (pp. 2-3).

In order to understand, how nonverbal communication is nonlinguistic, it is necessary to define language first. Andersen (1999) defined language as "a uniquely human form of communication that uses arbitrary symbols to convey meaning. These symbols consist of spoken or written words, arbitrary signs, computer symbols, mathematical symbols, or any other sign arbitrarily and definitionally related to its referent" (p. 2). While symbols have no direct relationship to what they represent, "nonverbal signs represent the things they stand for" (p. 6). When analyzing the functioning of the right and left brain hemisphere, Andersen also acknowledged that certain types of behaviors, which were often considered as verbal, need to be considered as nonverbal, such as: "greetings and curses, most phatic (emotionalized or ritualized) communication, singing, and of course vocalizations and paralinguistics" (p. 12).

Soukup (2000) criticized polarized on/off perceptions of many scholars—for example regarding analog communication—that there was no nonverbal communication in CMC (p. 418). Soukup argued that:

The visual elements of two-way video and animation, the vocalic and aural elements of two-way audio and music, and the complex communicative elements of the three-dimensional graphics and social contexts (just to name a few) all provide significant nonverbal communication. (p. 414)

Not only do I agree with Soukup but also find it noticeable that the common characteristic of all the forms of communication and interaction Soukup mentioned were synchronous communication channels.

Authors like Reid (1991), Ferrara, Brunner, and Whittemore (1991), Murray (1995), Yates (1996), Davis and Brewer (1997) pointed towards another relevant characteristic when analyzing CMC and its nonverbal aspects. They argued that it was a hybrid form of communication. Later, Mann and Stewart (2000) clarified that the

“‘electronic word’ should be considered a stand-alone conceptual category distinct from, but sharing qualities with, the spoken *and* written word” (p. 183). This new form of communication had two important dimensions: it was written because symbols were used to convey/communicate the message but it also had characteristics of the spoken word because of the speed, the strong interaction, and the synchronicity of the message exchange. This perspective is also reflected in English in the vocabulary used to describe the communication. When people “talk” online, in chat rooms, or any synchronous form it is described as “chatting,” not typing—people say to each other “let’s talk later,” “let’s catch up.” When referring to e-mail, which is asynchronous people say “drop me a line” clearly referring to the written word instead of the spoken word. Spitzer (1986) called this phenomenon “talking in writing” (p. 19). I would like to recall the connection made earlier by Andresen (1999) between nonverbal communication and the right brain hemisphere. I have observed that people do communicate nonverbally when they chat. It is similar to observing people talking on their cell phones (especially with headsets). They often display a full range of nonverbal communication as if their communication partner stood in front of them. Hence, the question is, which experienced emotions will be transformed into digital nonverbals? Is it a conscious process or does it happen automatically without thinking about it? How does this process vary when we are communicating in real time? And how do the cultural factors affect this process? It is intriguing if there is a state of flux, a state in which the “communication flows” in which not every typed word is premeditated, but just “happens.” Is there is a Zen like state of mind of no mind? Hancock (2004) tried to answer some of these questions and compared the use of irony

between participants meeting face-to-face and the participants meeting via chat. He concluded that the amount of irony used in CMC surpasses the amount of irony used face-to-face.

Another important aspect in this discussion regarding DNVs is the historical or generational dimension. Birdwhistell (1970) noted that only a small part of the meaning we convey when communicating was actually conveyed by the words themselves. The field of nonverbal communication was built on this approach. Therefore, it is not surprising that the early theories of CMC (the deficit approaches) built their understanding by comparing it to face-to-face communication. These early theories described what CMC is not, rather than trying to describe what it is. It is also important to be aware of the technological developments that have happened since the early 1980s. The 1980s was the time of the first desktop computers and the first windows operating systems. The first Web browser was not developed until the early 1990s. The computer technology encountered today cannot be compared with the state of the art at the time the early CMC theories were developed. Furthermore, a new generation of researchers has grown up using CMC and some do not know a world without computers. Assuming that culture is learned, the integration of technology in one's life and the "feeling" of being capable of expressing oneself fully (verbally and nonverbally) could also depend upon whether digital communication has always been an integral part of one's life and therefore second nature. Or to quote Birdwhistell (1970):

If we recognize that our communication system is not something we invent but rather something which we internalized in the process of becoming human, we

must study the socialization process if we are to isolate those factors which contribute to mislearning or misusing this system. (p. 19)

Hence, it is possible that there is a generational and technological gap that is also reflected in the communication theory. To conclude, I would like to present an approach by Stewart (1999), in which he referred to the written word and its nonverbal characteristics. He explained:

What you might consider to be "purely verbal" written words appear in a typeface, on a certain weight and color of paper, and surrounded with more or less white space. All of these nonverbal elements affect how people interpret the written words of any language. Similarly, even purely nonverbal behaviors, such as gestures or eye behavior, occur in the context of some spoken or written word. (p. 69)

Having seen these two positions—Andersen (1999) denying the existence of nonverbal communication in the written word and Stewart (1999) acknowledging its existence—I think it is helpful to introduce an additional notion: *nonverbal behavior*. Richmond and McCroskey (2004) defined it as "any of a wide variety of human behaviors that also have the potential for forming communicative messages. Such nonverbal behavior becomes nonverbal communication if another person interprets meaning to it" (p. 6). For this thesis, I will base my operational definition of the term *digital nonverbals* (DNVs) on this approach. A DNV is nonverbal behavior, displayed while communicating in a synchronous electronic environment, to which the recipient of the verbal message attributes meaning.

CoMIC

As shown earlier, there is a great awareness in the research community about the decisive role of culture in CMC. However, there is no established understanding or definition of computer-mediated intercultural communication (CoMIC). Hart (1998), a

communication scholar, was among the first to use the term *intercultural computer-mediated communication* (ICCMC). He defined the term by describing the difference between intercultural communication and ICCMC. He stated that instead of traveling, we could “with a few key strokes on our computer terminals, near instantaneously come in contact with the culturally different” (§ 4), which resonates with the idea of the global village. A few years later, Yetim and Raybourn (2003) used the same term—abbreviated as I-CMC—in the computer science field because they wanted to “emphasize the dialogical relationship of at least two participants from different cultures” in CMC (§ 1). Authors like Macfadyen (2006) offered a simple explanation for the lack of unified/solidified terminology “in addition to embracing different definitions of ‘culture’, investigators lack common literature or vocabulary” (p. 3). In order to clarify the frame of reference for this thesis, I will examine the relevant aspects of intercultural communication to CMC, and explain my rationale for my operational definition of what I call *computer-mediated intercultural communication* (CoMIC).

Samovar and Porter (1991) understood intercultural communication instances as those in which the “cultural perceptions and symbol systems are distinct enough to alter the communication event” (p. 70). Ting-Toomey (1999) did not see culture solely as a variable in the communication process. She defined intercultural communication itself as the “symbolic exchange process whereby individuals from two (or more) different cultural communities negotiate shared meaning in an interactive situation” (pp. 16-17). Drawing from these previous definitions, I suggest that for the purpose of this research project, CoMIC should be defined as: a symbolic exchange process whereby

individuals from different cultural communities interactively negotiate shared meaning via the instrumentality of computers or other digital communication devices.

After having defined DNVs and CoMIC, it is helpful to identify how some communication styles vary greatly across culture. Some relevant aspects for this study are low-context and high-context communication styles, direct and indirect communication styles, as well as expressive and instrumental communication styles.

Hall (1976) first developed the concept of high and low-context communication.

He explained:

a high-context (HC) communication or message is one in which most of the information is already in the person, while very little is in the coded, explicit, transmitted part of the message. A low-context (LC) communication is just the opposite, that is, the mass of communication is vested in the explicit code. (Hall, 1998, p. 61)

Ting-Toomey (1999) noted further that the difference between these two forms was that when using a low-context communication style "the sender assumes the responsibility to communicate" (p. 100). Characteristics that go often hand in hand with this style are individualistic values, linear logic, direct style, and verbal-based understanding. It can often be found, for example, in Germany, the United States, and the United Kingdom. In contrast, when using a high-context communication style "the listener is expected to 'read between the lines'" (p. 101). Group-oriented values, indirect style, and context-based understanding are distinctive for this style found often, for example, in Mexico, Japan, and China. Andersen (1999) pointed out that members of low-context cultures value nonverbal communication more than members of high-context cultures, but the latter are more likely to use it more often (p. 102). This is especially relevant for DNVs

in CoMIC, because of the fact that high-context communicators rely heavily on nonverbal communication to convey the intended message.

Martin and Nakayama (2001) explained that low- and high-context communication were closely related to but not identical with direct and indirect communication styles (p. 104). They defined direct communication as an instance in which "the verbal messages reveal the speaker's true intentions, needs, and wants" (p. 105). In comparison, when using an indirect communication style, these needs and wants were hidden, and the verbal messages "may obscure or minimize" them (p. 105). Another dimension linked these communication styles are expressive and instrumental communication styles, called in this study relational and task-oriented communication styles. Martin and Nakayama described that expressive communication style is used when people "see information as complex indicators of fluid human relationships" (p. 107). They explain further that in an organization in which this communication style prevails a subordinate "might be expected to anticipate the wishes of the boss and the desire of colleagues" (p. 107). In contrast, when using an instrumental communication style the boss clearly tells the subordinate what to do and why. However, Ting-Toomey (1999) argued that humans use both communication styles, regardless of their cultural background, "depending on role identities, interaction goals, and situations" (p. 103).

This chapter presented the current literature for CMC and the understanding of nonverbal communication within this form of interaction. Furthermore this chapter introduced an operational definition of DNVs and CoMIC.

CHAPTER III

RESEARCH METHODOLOGY

This thesis is a qualitative study of the nonverbal communication of culturally diverse members of a global virtual team (GVT). A virtual team is "a group of people who work interdependently with a shared purpose across space, time, and organization boundaries using technology" (Lipnack & Stamps, 1997, p. 18). This study draws attention towards those aspects of computer-mediated communication (CMC) that transcend the written word. The study shows how apparently inconspicuous elements have a crucial regulating and/or deregulating function within the communication flow. The *grounded theory method* has been used as an effective means to explore this field. The method allows for theory to emerge from the data, as opposed to applying existing quantitative communication models and frameworks to computer-mediated intercultural communication (CoMIC). In this chapter the research design is discussed and the data collection is outlined. The research design section presents the method used. The section addressing the data collection focuses on the participants, the questionnaire, the electronic transcripts, the data analysis, as well as the validity and reliability of the study.

Research Design

The interactions of a GVT differ essentially from the online behavior that takes place between people who randomly encounter each other in a chat room (Herring, 2007). The existing work relationship entails elements of identity negotiation, trust, conflict negotiation, intergroup relationships, and cross-cultural communication issues (Gibson & Cohen, 2003; Hoefling, 2001). It is almost unthinkable, for example, for a member of a GVT to simply leave a (chat) room, when he or she was offended or in a disagreement. Someone is more likely to do this when communicating online with random encounters. This special form of relationship in a GVT also influences how members of a GVT communicate with each other in order to accomplish their respective tasks. Furthermore, various criteria differentiate virtual teams from traditional teams. These criteria include being geographically dispersed, being in different time zones, and even being from different organizations. Gibson and Cohen (2003) added another dimension: the virtuality continuum. According to these authors, a GVT is placed on this continuum depending on their "amount of dependence on electronically mediated communication and the degree of geographical dispersion" (p. 5). The GVT, whose interaction I analyzed for this thesis, was constituted of so-called moderators. This group was working for the same organization and was placed very high on the virtuality continuum; their work was solely effectuated through CMC and the team members were physically dispersed in Asia, Europe, North and South America.

Qualitative Research and Grounded Theory

Martin, Nakayama, and Flores (1998) described qualitative researchers working within the interpretive paradigm in the following way: they “usually see the relationship between culture and communication as a reciprocal one” (p. 11). Assuming that communication was not simply a matter of cause and effect (as proposed within the logic of the social science paradigm) it appeared to be a fluid process. Furthermore, it was important to consider that if reality was constructed, it followed that not only the participants were constructing their reality but the researcher equally. Charmaz (2006) explained that grounded theory, as developed by Glaser and Strauss (1967), was based on “pragmatism informed symbolic interactionism, a theoretical perspective that assumed society, reality, and self are constructed through interaction and thus rely on language and communication” (Charmaz, 2006, p. 7). Due to the paucity of researched materials explicitly examining the use of DNVs in an intercultural context, grounded theory was ideal as it allowed the creation of “new and theoretically expressed understandings” and provided theory building tools (Strauss & Corbin, 1998, p. 8). The theory emerged from the data and it represented interplay between the researcher and the materials. A questionnaire was sent to the participants to complement the information the data provided.

Data Collection

The Participants

The participants of this study were professional online communicators. As moderators, their task was to host online communities, moderate chat rooms, and

review user-generated content online. The moderators' yearlong experience with CMC made them an ideal group to study CoMIC. Therefore these moderators corresponded to what Bailey (1994) called *purposive sampling*. He explained, "the researcher uses his or her own judgment about which respondents to choose, and picks only those who best meet the purposes of the study" (p. 96). I identified this group as ideal for my study of CoMIC based on their international makeup, and on their sole reliance on CMC for communication.

The GVT studied in this thesis consisted of 21 members, who worked on a project called the *picture project* (PP). The team's task was to approve, reject, or edit photos and stories uploaded by users in several languages around a specific theme related to the clients' industry. The team consisted of the CEO of the company, 5 team leaders, and 15 moderators. The team leaders trained, instructed, and guided the moderators, as well as gave feedback in critical instances. In case of differences in opinion, the team leaders' opinion would prevail over the moderators' opinions. The moderators often double-checked their decisions regarding a photo and story before taking action.

Of the 21 team members, 11 gave their consent to this study. Two moderators left the team during the duration of the project, but they were included in the total of 21. Several moderators were at least fluent in one language other than English, including Chinese, French, German, Japanese, Portuguese, and Spanish. However, the common language of the team was English and the team's transcripts were in English. Many moderators were new to the company as they were employed specifically for their

language skills but all participants were new to the PP project. For the purpose of this study, I have given pseudonyms to all the participants.

The Team Leaders

Two team leaders and the CEO gave their consent to be included this study. I incorporated the data from the CEO in the group of the team leaders. As shown in Table 1 all the participants of this group were females, and citizens of the United Kingdom and Austria. They were between 34 and 39 years old. Other cultural groups they associated themselves with were: British, ethnically Chinese, expatriate, European, student, moderator, academic, pharmacist, agnostic, and lesbian. English was the first language for 2 out of 3, namely Anna and Jin. It is worth mentioning that Sandra, a moderator first, became a team leader during the course of the project.

Table 1. Team Leaders.

Name	Gender, Age	Nationality	Other cultural groups
Sandra	Female, 34	Austria	Expatriate, European, Academic
Jin	Female, 39	UK	British, Ethnically Chinese, Student, Moderator, Pharmacist, Agnostic, Lesbian
Anna	Female, 36	UK	--

The Moderators

The moderators were a group of 15, consisting of 8 females (including myself) and 7 males. Eight moderators gave their consent to be included in this research. One

participant, Charlie, had given his consent and had responded to the questionnaire, but due to the selection of the three weeks used for this study, none of his data were coded. Consequently, I excluded his data in the following description of their group. In addition, I omitted information about myself.

The females were between 20 and 59 years old. The male participant was 44 years old. The team members were citizens of Canada, Cuba, Germany, Mexico, United Kingdom, and the United States (see Table 2). Three members were citizens of more than one country. Other cultural groups the moderators identified with were: Latino/a, Jewish, and being a member of a group called DigitalEve. Three moderators did not respond to the question asking if there were any other cultural groups with which they identified themselves. Juliette, Ashley, Vicky, and Lea spoke English as their first language, and Alicia, Kathrin, Pedro as their second language.

Table 2. Moderators.

Name	Gender, Age	Nationality	Other cultural groups
Alicia	Female, 39	USA, Mexico	Latina
Kathrin	Female, 24	Germany	--
Juliette	Female, 20	UK	--
Ashley	Female, 35	UK	--
Vicky	Female, 59	UK, Canada	Jewish, DigitalEve
Lea	Female, 25	UK	Chinese
Pedro	Male, 44	Cuba, USA	Latino

The Virtual Introduction

The team gathered for their respective shifts in the common work area called Campfire (n.d.). Additionally, the team used a collaboration tool called

Basecamp (n.d.). On Basecamp, files could be uploaded and messages could be posted to all the members of the team, e.g., they were notified via e-mail when a new file had been uploaded or a new message had been posted. At the beginning of the picture project the new team members sent a message through Basecamp to introduce themselves. Furthermore, team members were required to upload a little picture of themselves in their contact profiles. Before PP started, this virtual introduction (the message and the little picture) was the only personal information the team members, who had not worked together previously, had of each other. Lea, Pedro, Alicia, Kathrin, Juliette, and Sandra (team leader) were new to the company. As shown in Table 3, six moderators worked for the first time in a global virtual team (GVT). Two team leaders had previously worked in GVTs and one team leader had experience with nationally based virtual teams only. The participants had worked with computers for a minimum of 10 months and maximum of 20+ years. Furthermore Table 3 shows which participants spoke English as their first language.

Juliette, Vicky, and Jin had a close interpersonal relationship with one other team member. These relationships ranged from mother, partner, to good friend. These team members had established a face-to-face relationship before working together. However, these pairs never worked with each other during the shifts coded for this study.

Table 3. Participants' Backgrounds.

Name	New to the team	Experience GVT	Computer experience	English 1 st language
Alicia	Yes	None	9 years	No
Kathrin	Yes	None	14 years	No
Juliette	Yes	None	10 months	Yes
Ashley	No	None	18 months	Yes
Vicky	No	12 years	20+ years	Yes
Lea	Yes	None	For office work	Yes
Pedro	Yes	None	10+ years	No
Jin	No	Previously national team	20+ years	Yes
Sandra	Yes	3 years	10 years	No
Anna	No	5 years	20 years	Yes

Electronic Transcripts

While on duty, the participants were logged in on a text-based communication platform called Campfire (n.d.). Campfire is comparable to a private chat room with a few additional functions. This software logged all the communication and allowed the data to be retrieved later in the form of an electronic transcript. As Mann and Stewart (2000) pointed out, the advantage of electronic transcripts is that they eliminated the bias of the transcriber and left nothing out. Seidman (1991) viewed this as a further advantage for the "accountability of the data" (p. 87). Finally, Mann and Stewart noted: "All available contextual material is located, and remains located within the text" (p. 23). The transcripts for the entire duration of PP (3 months) were available for analysis. A list of the transcripts quoted in chapter four is available in Appendix A.

The analysis of the transcripts themselves represented a document study, defined by Bailey (1994) as "any written materials that contain information about the phenomena we wish to study" (p. 294). However, when taking into consideration

Bailey's definition, it raised the question of whether this study could be defined as such—the documents themselves did not only contain information about the phenomenon but were the phenomenon. Bailey recognized that "some organizations have special kinds of document sources" (p. 294). The electronic transcripts could be viewed as such.

The moderators worked around the clock, 24-hours-a-day, 7 days a week. I had, therefore, a large amount of data. In order to best answer the research question about the participants' use of DNVs over time, I selected the following sampling scheme. I coded the transcripts of the first week, the week in the middle, and the last week of the project.

Because of the intense nature of the work, team members worked mostly one-to-one with a team leader. Most of the communication for this project was held between two communication partners and only on rare occasions the CEO, a team leader, or another moderator additionally logged in. I excluded the data of all participants who did not give their consent to this study, as well as my own data.

Questionnaire

The participants received a questionnaire after the PP was over. A copy of the questionnaire, along with the cover letter, is included in Appendix B and the informed consent form is included in Appendix C. The questionnaire was roughly divided in three sections. In the first section, the participants were asked to share information about themselves: age, gender, nationality, first language, cultural groups they identified themselves with, and work experience. In the second section, the respondents were asked if they had met any team members face-to-face, about their relationship to

them, and how it influenced their virtual communication. The final section was devoted to CoMIC. This questionnaire fulfilled two purposes: to collect additional data about the participants as necessary for building the context of the interaction and to give the participants a voice to articulate their perceptions about their interactions.

Three different parties tested the questionnaire: an interculturalist, a computer scientist, and a fellow moderator. Their suggestions were incorporated in the final version of the questionnaire.

Method of Data Analysis

In order to help me with the analysis of the data, I used the qualitative software NVIVO 7 (n.d.), which was used to code the transcripts and simplify the handling of this large amount of data (Mann & Stewart, 2000). The software allowed for coding or labeling of selected passages as the themes emerged while reviewing the electronic transcripts.

Glaser and Strauss (1967) first developed the grounded theory method. It is an interactive process of data analysis in which data are coded, new data are added, and categories emerge. This process is repeated until the categories are saturated and new aspects have been added to the analysis. This process is called the *constant comparative method*. According to Glaser and Strauss, this method takes place in four stages: 1) comparing incidents applicable to each category, 2) integrating categories and their properties, 3) delimiting the theory, and 4) writing the theory (p. 105).

Charmaz (2006) developed her own approach to *grounded theory* and moved away from the Glaser and Strauss' (1967) assumption, that researchers were neutral. Charmaz stressed that investigators needed to verify their bias throughout the research

process. I felt that it was important to stay mindful of my own assumptions, especially when working in the field of intercultural communication. Charmaz's approach resonated the most within me and I followed her suggestions to formulate my theory.

Based on Glaser and Strauss' (1967) constant comparative method, Charmaz (2006) suggested, that the researcher proceed to a two-step coding process after the initial data collection: the initial coding and focused coding. She described these phases as follows: "1) an initial phase involving naming each word, line, or segment of data followed by 2) a focused selective phase that uses the most significant or frequent initial codes to sort, synthesize, integrate, and organize large amounts of data" (p. 46). Furthermore, the researcher had to keep a research journal and write memos to "increase the level of abstraction" (p. 72) of emerging ideas and to form categories until "no new properties emerge" (p. 96). After the two-step coding process, Charmaz suggested *theoretical sampling*. One of the methods for theoretical sampling is called *member checking*, which refers "to taking back ideas to research participants for their confirmation" (p. 111). The researcher followed the steps indicated by Charmaz and formulated the emerging theory, which will be presented in chapter four.

Validity and Reliability

Bailey (1994) explained that in a document study the validity was increased through "first-person accounts" (p. 317). The transcripts used for this research consisted solely of first person accounts, as they were unmodified records of the participants' conversations. Bailey also pointed out that documents could lose their validity due to the "time lag between the occurrence of the event and the writing of the document" (p. 317). This criterion did not hamper the validity of the findings, as these

transcripts had been generated in real-time, while the participants were typing. To ensure the validity further during analysis, I excluded my own data. However, because I had been a participant first and I became an observer through my role as researcher, I collected insights from different perspectives. This has allowed me to look at the results from a variety of angles.

Reliability was enhanced in the research process by minimizing the errors and biases due to the systematic organization of the data and by following Charmaz's (2006) suggestion to identify one's own initial biases and keep record of them through the research journal. Furthermore, in order to increase reliability even further, I returned to four participants: Alicia, Lea, Pedro, and Vicky to clarify questions about their responses in the questionnaire, to verify, and to correct the major findings.

CHAPTER IV

RESULTS

This chapter presents the findings of the study. After having presented the participants (actors) in chapter three, the first part of this chapter sets the stage. Part one provides insights about the participants' perceptions of the intercultural relations in the team and builds the context for the interactions that will be discussed in part two (the plot). Part two focuses on the use of digital nonverbals (DNVs) in computer-mediated intercultural communication (CoMIC). It is divided in three sections (or acts). The first section is dedicated to DNVs, how and when did they occur, and what their role was in the intercultural communication process. The second section examined how DNVs affected CoMIC. And finally, section three investigated how the participant's use of DNVs evolved over time.

Intercultural Relations

The following section explains how respondents ranked cultural differences and similarities. Next this section elaborates how the participants perceived an important cultural difference in the team: English as a second language.

Cultural Similarities and Differences

In their questionnaires, Alicia, Pedro, and Lea disagreed that *cultural similarities* were noticeable. Alicia explained that due to the lack of opportunity to

work with someone from her own cultural group, she could not make any statements about cultural similarities. Pedro underlined this position with his observation: "I mostly felt like an outsider which is fine but it's different from working with people from my own country/culture—or my adopted culture (US)" (Pedro, questionnaire). These two statements were an indicator that, in fact, cultural differences were relevant during the online interaction. First, this was due to the fact that a large number of the team leaders and moderators had a U.K. background, and therefore it could be considered as the predominant culture in the overall team. Second, the fact that English was not everyone's first language became relevant, as it could influence the level of comfort when communicating in a real time online environment.

Ashley and Jin somewhat disagreed that cultural similarities were noticeable. Despite her disagreement, Jin nevertheless acknowledged that language was a factor, as did Pedro and Alicia earlier:

For those who had English as their native, or predominant, language, it was obviously easier to convey and find culturally similar experiences; for those who joined the company for this client and had English as their second or more language, it was probably more difficult. (Jin, questionnaire)

Finally, five participants (3 moderators and 2 team leaders) agreed that cultural similarities were noticeable. Some noticed differences, which in turn made them realize similarities. The moments that made team members realize cultural differences and similarities were when participants exchanged information about food, music, locations and other cultural artifacts (Jin, questionnaire).

When asked if *cultural differences* were noticeable, the rankings varied widely. Alicia strongly agreed and explained her rating as follows:

The choices of words, the sense of humor, even the use of emoticons. I kept asking: "What do you mean by that?" I am accustomed to be a minority and that I will be left out, thus I learned to always ask for clarification. I just don't assume that we are not in the same frame of mind. (Alicia, questionnaire)

Humor was repeatedly mentioned as one of the main differences along with communication styles, the language itself, and "some differences in opinions based on our culture" (Juliette, questionnaire). The lack of contact with non U.K.-based moderators was the reason why some participants disagreed with the statement that cultural differences were noticeable.

Interestingly all the team leaders, who had the widest array of interactions with team members with different cultural backgrounds, stated that they somewhat disagreed and somewhat agreed with the statement that cultural differences were noticeable. Jin explained:

I would say language would be the main cultural difference that was noticeable in the day-to-day working environment. Obviously a degree of ethnocentrism must have existed but it was not overtly displayed and I do not believe it was a barrier to communication. If stereotypes were presumed, it was probably used with humo(u)r rather than used in a negative sense. (Jin, questionnaire)

Sandra stated that personal differences were more predominant than cultural differences and Anna reinforced the point that humor was a major cross-cultural difference even if not crucial to the overall functioning of the team.

English as a Second Language

The four non-native English speakers stated that language use influenced their virtual communication. Kathrin had negated this at first, but later in the questionnaire, she indicated only feeling comfortable communicating virtually because "sometimes it took me a long time to answer, because I had to search for a translation of the words I

want to use" (Kathrin, questionnaire). And later, she elaborated: "often I had to simplify my sentence because there were words missing in my vocabulary. Because of this I can't describe every time how I feel or what I'm thinking about things" (Kathrin, questionnaire). The lack of words and the act of translating seemed to contribute to a loss of spontaneity and speed, so relevant in synchronous communication. Pedro also expressed having to "think more" about communication than others. Alicia focused on the differences between British and U.S.-American English. She said: "There were many times, when my English did not match the British slang or expressions. I caught these instances fast and asked often the team leaders to clarify" (Alicia, questionnaire). But even Sandra, who was based in the U.K., observed, "sometimes I am aware that there are certain phrases I'm not familiar with or where I may miss out on subtleties." These observations showed clearly that there was always a degree of uncertainty when communicating in a second language.

The important points noted by the participants could be summarized as follows. The participants of this study felt comfortable overall when communicating online. This ranking was clearly influenced by the participants' numerous years of experience working with computers. Although most participants had never met each other, they had a mental image of each other. It also became apparent that these images did not necessarily overlap with their impression once meeting participants face-to-face. Most participants, who spoke English as a second language, said that it was influencing their virtual communication and reduced their level of comfort. The different levels of English skills influenced the group's awareness of cultural differences, especially

regarding the use of humor. At the same time, humor was perceived as an important mean to overcome stereotypes.

Conclusion

The participants' statements clearly left no doubt that in many instances they were aware of the challenges of CMC and CoMIC. Whether they could explicitly pinpoint how or why their cultural differences exactly affected their communication (humor, communication style, level of ethnocentrism, etc.) or simply knew "something was up," they were aware of the challenges. The next section examines how CoMIC and DNVs affected each other. The participants who felt only comfortable with communicating online explained that it was due to the language barrier (English as a second language), to personal discomfort with a team leader, or because of moments of confusion. Misunderstandings seemed to be a common theme. Jin said that she ranked herself as being only comfortable "mainly because non-verbal communication is always lost without face-to-face communication" (Jin, questionnaire) and therefore communication was not very comfortable.

DNVs in CoMIC

This section presents the participants' answers to the question if they felt/thought that they communicated nonverbally while interacting with their fellow team members. The second section introduces which DNVs have been used and answers the research questions regarding the role of DNVs in CoMIC. The third section analyzes how DNVs affect CoMIC. The last section looks at the use DNVs and their evolution during this project.

The Participants' Perceptions

The participants were asked if they felt/thought they were communicating nonverbally with their team members. Five out of seven moderators and all team leaders confirmed that they were communicating nonverbally. In the following, I will look at their explanations.

Expressing DNVs

All seven participants answered that they used emoticons to communicate nonverbally to express feelings. Furthermore, two participants mentioned silence as a form of nonverbal communication. Alicia explained, "With one team leader for example—there was a lot of silence—she sometimes wrote '....' to imply 'awareness of silence'" (Alicia, questionnaire). In turn, Pedro reported that he used silence (through not responding) when he "didn't feel like it" (Pedro, questionnaire). Vicky also noted that silence could be a form of nonverbal communication but for a different reason. In her opinion, if someone did not communicate or was silent frequently, it meant that one did not wish to be part of the team (Vicky, questionnaire). Jin, who was an avid communicator on all levels, described her form of nonverbal communication as follows:

Via the use of emots, style of grammar and I, especially, write/type very much as I talk with many colloquialisms, accent/stresses, dots to indicate pauses, other utterances, e.g. <eeerrrrm><sigh><shakes head>etc. Oh, maybe silences/silent moments (but that is also due to the speed of responses which was hard to gauge as that is dependent on the person's speed of typing). (Jin, questionnaire)

Jin correctly noted that the speed of typing was a relevant factor. Kathrin, who spoke English as a second language noted that speed was a hindrance, as she had to search for the words (Kathrin, questionnaire). In contrast, Lea, who spoke English as a first language explained: "because our typing speed is quite quick, therefore our text

conversion is quick as well" (Lea, questionnaire). Campfire (n.d.) did not show a message to indicate that someone was typing, which led to many instances of cross typing² and led ultimately to many misunderstandings. The next section summarizes the role the participants attributed to DNVs when using them.

Function of DNVs

The participants used DNVs for many different reasons. DNVs were used to emphasize a statement, reduce the chances for misunderstandings, and to show emotions. Sandra expressed the necessity of emoticons when being humorous, "so people knew when I made a funny remark, even if culturally they may not realize, or get the joke etc" (Sandra, questionnaire). Several participants declared explicitly the need for emoticons when using humor. Anna explained that emoticons could be used "To show pleasure, dissatisfaction, pressure, encouragement, humor. Also sometimes even a pause can say a lot (e.g., dissatisfaction)" (Anna, questionnaire). Other participants expressed the bridging function of DNVs between written and oral communication. Kathrin said she wanted to make the conversation "more real" (Kathrin, questionnaire), and Jin said: "To emphasize a point and/or indicate intended 'oral' communication." Pedro perceived DNVs as an aid to express what he could not express with words, especially while communicating in his second language.

No Nonverbal Communication

Juliette and Lea participants felt that they were not communicating nonverbally.

Juliette explained her position as follows: "After gaining enough experience in the

² Cross typing refers in this context to instances in which both participants are typing but neither of them knows that the other one is typing as well. Because of the time delay communication can therefore be out of sync.

project I felt it was not always necessary to discuss the task in hand" (Juliette, questionnaire). However, these two respondents did, in fact, use emoticons and other DNVs during their interaction with their fellow team members. The following section will discuss the DNVs found in the transcripts.

Role of DNVs

The first research question seeks to determine the role of DNVs during the intercultural communication process. In order to formulate answers to this question the transcripts were especially important, as they underlined, contradicted, or amended the participants' perspective.

The transcripts reflected the communication, which took place during a period of 3 weeks. These were the first and the last week of the picture project, as well as the week that represented the middle of the PP period. The data coded belonged only to the participants who agreed to this study. The remaining communication was not included. The next section will analyze the DNVs used by the participants.

DNVs Encountered

The participants used a wide variety of DNVs. However, it was impossible to link the use a particular set of DNVs to the cultural background of a participant or a group of participants. Moreover, when comparing the interactions between U.K. members with each other with the interactions, which took place between U.K. team members and non-U.K. members, no apparent differences could be identified. Yet it was noticeable that most team members had their own style of DNV use, which made them clearly identifiable. This could be, for example, through the use of a particular emoticon, the use of two periods instead of three to indicate an ellipsis, or the use of

capital letters. During the initial coding process, I developed several sub-categories that are presented in the following sections.

Emoticons. The emoticons encountered represent seven sub-categories: the smiley [:)], the blinking-smiley [:)], the sad face [:()], the surprise-shock face [:o], the wide grin [:D], the clown face [:o)], and finally a section for various emoticons. The clown face was the most frequently used emoticon. This was especially due to its extensive use by Jin, who introduced it to the team. In a later section, this phenomenon will be analyzed in detail. The clown face indicated that something was meant in a very funny way.

Table 4. Emoticons.

	Jin	Sandra	Anna	Ashley	Vicky	Alicia	Pedro	Lea	Kathrin	Juliette	Total
Sad :(33	20	1	7	4	2	23	0	5	5	95
Smiley :)	4	6	17	14	11	30	91	21	33	47	328
Wide grin :D	90	0	0	2	6	0	11	0	6	0	120
Surprise-shock :o	38	0	0	1	3	0	2	0	0	0	47
Blinking smiley ;)	254	26	8	1	10	0	52	0	16	0	378
Clown face :o)	350	85	0	0	0	0	3	0	0	0	440
Various emoticons	43	3	0	6	1	1	3	6	32	4	101
Total	812	140	26	31	40	33	185	27	92	56	

As Table 4 shows, emoticons were used frequently. These results illustrated the previous statements made by the participants in the questionnaire, that emoticons were used consciously and served to express a wide variety of emotions. It was noticeable

that emoticons associated with positive feelings were especially used. A total of 328 smiley faces have been used. Ashley explained at the end of her questionnaire: "We rely a lot on body language and the use of emoticons can't be underestimated—it is very easy to take things the wrong way over MSN³ and a little smiley face makes all the difference" (Ashley, questionnaire). This is clearly visible when looking at the results of participants like Anna, Ashley, Vicky, and Alicia, who used a relatively few emoticons overall. However, within the emoticons they use, positive emoticons, such as a smiley face are used the most frequently. However, the smiley face was mainly used in situations of greeting, leave taking, and joking (see Table 5). The idea that the sad face could be seen as an opposite to the smiley is misleading, as it was used mostly in humorous situations.

It is remarkable to see the use of the so-called clown face in 440 cases and the blinking-smiley in 378 cases. The clown face was also used when instructions were given and it made them sound less severe or harsh. Additionally, emoticons were used when expressing humor. This underlined the participants' observations regarding the use of humor, as they stressed the importance to flag humor as such. Explicitly marking humor was important because humor often revealed cultural differences and led to misunderstandings (Jin and Sandra, questionnaire). No clear correlation could be established between the ethnic identity of the participants and their use of emoticons. While Jin, Anna, Juliette, Ashley, Vicky, and Lea were all British citizens their use of emoticons varied greatly ranging from frequent to infrequent use. Within this group Jin and Lea identified as U.K. citizens but also as ethnically Chinese. Furthermore both

³ MSN Web Messenger is Microsoft's instant messaging software.

participants were female. However, these cultural factors did not lead to similar but to opposite results, when looking at the use of emoticons. When looking at the results of the non-U.K. participants, it is equally diverse. While Sandra and Pedro used many emoticons, Alicia and Kathrin used very little in comparison. When comparing the use of emoticons either in a U.K./U.K. or in a non-U.K./U.K. communication dyad no explicit pattern could be established.

As the results in Table 5 show situations categorized as intercultural were the second most frequent instance in which these two emoticons had been used. The category intercultural (in general) encompassed situations in which the cultural backgrounds of the participants became apparent in the interaction and were followed by negotiation process. These intercultural moments were the most frequent in situations, which were also labeled as being instructional moments (22 cases), when misunderstandings occurred (26 cases), or when humor (27 cases) or irony (18 cases) was used. This explains the large occurrence of smileys, blinking smileys, and clown faces within the context of situations explicitly marked as intercultural as seen in Table 5.

Table 5. Emoticons in Context.

	Being ironic	Joke	Dif. in opinion, not task- related	Dif. in opinion, task- related	Instruc- ting	Prai- Sing	Intercul- -tural	Gree- ting	Saying good- bye
Sad :(6	15	0	0	0	0	8	6	6
Smiley:)	3	61	0	5	11	4	34	64	56
Wide grin :D	6	57	0	1	5	1	16	18	15
Surprise- shock;-o	7	20	0	0	1	1	10	3	3
Blinking smiley ;)	36	152	0	2	22	0	74	25	28
Clown face :o)	21	126	0	3	21	7	72	29	58

In the following verbatim example, Vicky joined Jin and Alicia for a few minutes. Vicky had had technical problems the day before, and Jin inquired if they had been solved. Both Vicky and Jin used self-irony and humor. To express the intention to be humorous Jin used clown-faced emoticons, punctuation and what I called comments or subtitles (e.g., hmmm). Vicky in turn, equally used subtitles to indicate her playful anger "argh" and later to indicate that she was laughing "haha," "lol," as well as exclamation marks. Alicia did not have the context of Vicky's and Jin's previous shift together and enquired about the type of cookies. Alicia did not use any emoticons until the very end to respond to a joke made. Alicia's contribution to the discussion stayed in what must have appeared to be a very serious and professional tone, while Jin and Vicky continued making jokes, which must have appeared to be quite silly or unprofessional:

April 18

12:50 AM

Jin: How's your technology faring now Jan?

Jin: Did XXX work his wonders??

Vicky: it's the darn cookies

Vicky: i couldnt remember my pass

Vicky: argh

Jin: Ah, I see! Yes, passwords...I seem to pick the daftest passwords in the world...

Jin: Daftest - most daft?! Hhhmmmm...

Jin: my English is obviously going to be a shocker tonight ;o)

Vicky: haha

Vicky: first the cookies were sticking too much and we were logging in as each other so now we cleared them all and i had forgotten to keep a note of what they were! lol⁴

1:00 AM

Jin: Right Alicia....

Alicia: what cookies

Jin: have you looked at all the images now?!

Alicia: yes I have

Jin: Cookies in browsers...

Jin: Cookies on the computer...

Alicia: ok

Jin: not nice edible cookies!

Vicky: not at all :(lol

Alicia: i see - nevertheless i was thinking about chocolate cookies

Vicky: yum

Jin: Did you know we call cookies biscuits in the UK?

Jin: Well, mainly.

Jin: We do use cookies too.

Vicky: you're getting more americna by the year...:)

⁴ lol = laugh out loud

1:05 AM

Alicia: how come 6985⁵ on smoking is with the pending instead of rejected ones

Alicia: where do you live Vicky

Alicia: :-))

Vicky: mostly toronto, sometimes london

Jin: Wonder what/how the history of cookies as a tracking device came about?!
Ok, I'm thinking out loud again! Must stop that! ;oD

Alicia: i see

Vicky: hmm i used to know the answer to that

Alicia: actually even people who speak mainly Spanish prefer 'cookies' than "galletas" i guess it is a sweeter sound

Jin: Cookie = something sweet nice can be wrapped as a pressie;

Alicia: have things change regarding pending pictures lately

Jin: Cookie = nasty things (sometimes!) that tracks your data! :o\

Jin: To answer your question re:6985 Alicia...

Vicky: it only tracks them when you dont want them to!

Jin: someone didn't like the story so put it in pending.

Alicia: and 'tracking cookies' to be cleaned once on a while from your AdAware⁶

Jin: In what way do you think that things have changed regarding pending images?

Jin: AFAIK⁷, nothing has changed re: procedure for pending images.

(transcript, April 18A)

This example showed how emoticons were used to convey self-irony, teasing, humorous, and ironic statements. Notable in this interaction sequence is that Vicky and Jin, both having a British background and English being their first language, mainly play with words and the language to express their humor. Emoticons are secondary and are used solely to emphasize the statements made. The communication between these

⁵ Number of the image being moderated

⁶ Software

⁷ AFAIK = as far as I know

participants is high-context and becomes low-context once Alicia joins the conversation about the cookies. Participants often talked about their use of emoticons, for example:

Juliette: I agree this is great teamwork :D#

Juliette: oops smiley acquired a beard lol

(transcript, April 21C)

Jin: We're just holding off for a while with the modding until all clear...

Juliette: Ok

Jin: Sorry, *given* the all clear! :">

Jin: Sorry, that's a "blush" in Y!IM!!!! <sigh>⁸

Jin: I have Tuesday morning fingers now :o(

Juliette: Lol ah cool I'll remember that one for when I see it again

(transcript, March 7B)

The data showed that the participants did not only use emoticons but the shared online language was also a reoccurring theme in the conversations. The emoticons had a regulative function in CoMIC, because they indicated when humor was used, and they also stood for positive feelings being conveyed. To underline when something was meant in a humorous way was especially important due to the multicultural makeup of the team. DNVs in this context had a deescalating function, as they were used to prevent future misunderstandings and intercultural conflicts. They reduced ambiguity as of the intent of the message conveyed. However, in order to interpret the meaning of an emoticon properly it required the context of the entire conversation.

Punctuation and nonstandard spelling. The next sub-categories used to code the DNVs in the data were punctuation and nonstandard spelling of words. The ellipsis points (. . .) and the exclamation marks (!) were the punctuation symbols appearing to

⁸ Y! IM = Yahoo! Messenger

have the strongest regulatory function. Exclamation marks were used for several different purposes. They could follow an expletive, be used to shout out loud, or to emphasize a statement or emotion (disbelief, laughing, etc.). The ellipsis points were used in several ways: to indicate silence, signal that one was thinking or waiting, communicate a feeling of insecurity, to inquire about someone's presence, or to indicate that one was still "here" and was not disconnected. Nonstandard spelling in this context means words that are consciously spelled in a manner that distinguishes them from other words—by using capital letters, for example. Jin spelled most of her abbreviated words in capital letters. An interaction sequence between Jin and Pedro illustrates well how participants got used to their respective styles and the misunderstandings that could arise when they diverged:

Jin: You just should have checked.

Pedro: Ok :) I usually look at the person's name and nationality.. (not this time)

Pedro: you want me to be thorough.. Thanks :)

Jin: You need to do it *EVERY* time.

Pedro: OKIDOKI

Jin: Don't shout at me!

Jin: ;o)

Pedro: out of curiosity... ? or for some other reasons?

Pedro: sorry: okidoki.

Jin: What do you mean "out of curiosity or for other reason..."?

Jin: What are you referring to?

Pedro: to look at who submitted the picture

Jin: Ok –

(transcript, March 8A)

Jin interpreted Pedro's usage of capitals as shouting although he obviously did not intend to convey that sense. Jin signaled that she was maybe joking, but either way, did not intend this statement to be fully taken seriously by using the clown face emoticon.

Table 6. Punctuation and Nonstandard Spelling.

	Jin	Sandra	Anna	Ashley	Vicky	Alicia	Pedro	Lea	Kathrin	Juliette
Ellipsis points	506	20	12	2	28	6	160	55	32	0
Exclamation marks	984	39	18	182	71	20	74	74	47	10
CAPS used	205	10	1	27	21	4	18	2	13	2

The fact that the participants used certain forms of expressions more than others (see Table 6) was also an indicator of the moderators' individual styles. Jin, for example, used many emoticons, while Lea used a great number of exclamation marks. This was due to the fact that when she was finished moderating an image, she often exclaimed: "done!" Ashley also used many exclamation marks, as well as many expletives, both often going hand in hand. Juliette, in contrast, rarely used capitals or exclamation marks but said very often: "lol ok" instead of nodding or using a great variety of emoticons. In the next section, I will look in detail at the emphasis and subtitles used by the participants.

Emphasis and subtitles. The DNVs sub-category of emphasis and subtitles encompassed a variety of stylistic elements. Words were usually emphasized in two ways, as the following examples will demonstrate: "I am sooooo sorry" (Anna, transcript, April 21C). "there is a *lot* of reading to do here" (Jin, transcript, May

13A). In the first case, writing the word the same way they would sound produced the emphasis. In the second case the emphasis was produced through clear demarcation in the sentence.

Subtitles were more complex. I call subtitles those typical abbreviations used in an online context. Examples for the abbreviations are: "LOL" for laugh out loud, "nods" to indicate that the person nods, "ROFL" for roll on the floor laughing. But subtitles can also be messages, which are put in brackets in order to, for example, separate specific comments from the main text or story. These subtitles often regulated the conversation when more than one person was speaking at a time in order to transmit a message or answer a particular person's question. Furthermore, subtitles were also used when more than one subject was being talked about and so helped avoid confusion:

Jin: One tick Juliette

Juliette: ok

Jin: Anna—do you have an opinion here/there? (Good morning BTW)⁹

Jin: [This is what the ticking's for Juliette]

Jin: [If no response, in about 10, 9, ... secs, are you happy to reject?]

Juliette: Yep lol

(transcript, March 4B)

But the subtitles were also used to describe body motions, such as arm and hand gestures, and physical states, or to be humorous or emphasize a point:

Pedro: (rising my hand) I promise it :(

(transcript, April 16A)

Jin: Keywords!!! <silent screams>

(transcript, April 15C)

⁹ BTW = by the way

Ashley: have a good shift! The last ones (sob!)
(transcript, May 18B)

Table 7 shows stylistic preferences that some moderators or team leaders had for subtitles. While Juliette enjoyed using "LOL" to express approval, Kathrin and Jin used frequently "hmmm" to indicate that they were thinking out loud. The subtitles "LOL," "hmmm" were often used and therefore coded in separate categories. The category *subtitles* in Table 7 reflects all the remaining instances encountered.

Table 7. Emphasis and Subtitles.

	Jin	Sandra	Anna	Ashley	Vicky	Alicia	Pedro	Lea	Kathrin	Juliette
Emphasizing	152	2	1	0	0	1	7	1	8	3
Subtitles	142	6	3	18	7	2	16	15	0	1
Lol	148	1	5	72	17	3	44	5	9	272
Hmmm	38	15	1	4	10	0	0	4	18	28

Absence of emoticons and silence. Due to their frequent use, the absence of emoticons and the use of silence were also important markers. In two specific transcripts, there was almost a total absence of emoticons for the entire duration of the shift. In the first case, Jin worked with Lea (transcript, March 4C). Jin's style was in most cases to use a wide variety of emoticons. However, Lea used only one emoticon, as she said goodbye to Jin. This was their first shift together. The following day (transcript, March 5B) Jin worked again with Lea and she used 9 emoticons. After that day Lea used emoticons regularly. The absence of emoticons in this particular situation

can be explained by insecurity of the first shift. Additionally, power-distance most likely was a factor in this dyad. Both Jin and Lea were females, U.K. citizens, and ethnically Chinese. It is likely that because of their common ethnicity they had to negotiate the power distance between them and emoticons in this specific context might have appeared as unprofessional, lack of respect, and eventually as too direct.

In the second case, the absence of emoticons was clearly related to tensions that had built up between Jin and Alicia (transcript, April 19C). Both participants used a very small number of DNVs and had long periods of silence between their statements. The tension started building up at the very beginning of the shift on April 19th and carried on throughout the entire four hours until their very last interaction that day. The following is an excerpt of their shift, which indicates the serious nature of their conversation:

Alicia: sorry i'm not chatty today

Jin: I gathered that from your opening statements.

Alicia: i apologize

Jin: Well you are so tired after yesterday, I can understand.

Alicia: i usually manage to have dinner in between the shift

Jin: Are you not fit to work this shift really Alicia?

Jin: If not, it is ok to say so.

Alicia: i'm ok

Jin: I don't want my colleagues fainting on me through fatigue and starvation!

Alicia: that's not the case

Jin: Ok, well that's good to hear. What is the problem?

Alicia: this time I will ask you for 15-min break if that is ok with you

[...]

10:10 PM

Alicia: is there anything you want me to do in the meantime?

Jin: I am sure you have done this long enough now to know what to do. I don't want to unnecessarily stress you. I know you have to go out of town now.

Alicia: Jin, this is frustrating you are the leader here

10:15 PM

Jin: right

(transcript, April 19C)

This example shows how powerful the absence of emoticons and the use of silence can be to express tensions. This interaction sequence was very unusual compared their usual communication style and use of DNVs. At the beginning of the shift Alicia was very indirect and at first she did not express her dissatisfaction openly. However, Jin being very relational or affective did pick up on the fact there was some tension. Jin asked in a very direct manner to clarify the matter and even attempted to make a joke. Confronted with this direct communication style, Alicia was almost forced to reply in very direct fashion. This increased Alicia's frustration as she felt "cornered." Towards the end of the interaction sequence Alicia asked Jin what she should do next. This short passage illustrated well the difference between affective and instrumental communication styles. During the next shift, the tensions between these two participants escalated even further. Shortly thereafter, Alicia left the team. She explained in her questionnaire, how she perceived her interaction with Jin's:

I feel very comfortable but because of my interaction with one of the team leaders, who took things very literally and used her supervisory status to her advantage during our conversations. I would describe my interactions with her as condescending. She dared saying things like: 'If you were smart enough you would know what to do next' when I asked directions from her. . . . I'd guess that it would have been different if our interactions were face-to-face. Emoticons get more accentuated through virtual communication. (Alicia, questionnaire)

I do not believe that Jin had any intention to offend Alicia or the other way around. However, the high-speed in which the interaction was taking place, left little room for reflection while the events were taking place. The sequence showed, how the absence of DNVs can increase the seriousness of the tone, and how important cues for to interpretation of the intended meaning of the message are missing. The different communication styles of these two participants with very different cultural backgrounds led to intercultural misunderstandings, which escalated further than necessary and ultimately led to the loss of a team member.

Conclusion

In sum, it is not possible to say that a person with a specific background, nationality or gender used a specific type of DNV more or less frequently. It is not possible either to say that females, or members of a specific age group, use specific DNVs. However, it is possible to say that the individual styles varied greatly. Participants also explored with ways to play with words, according to the means the written synchronous online environment offered. A further observation was that DNVs were used more often when conversations were relational, and especially when humor was needing to be conveyed. Humor was used in the form of irony, jokes about the situation, jokes about self, sarcasm, and sometimes as a stylistic means when performing a task. To use humor in this way was part of the U.K. business culture, and was the dominant aspect in the transcripts. The creation of an atmosphere where humor is the driving force is illustrated by David Brent from the BBC series *The Office* (Attala, 2001), describing his role as an (office) manager, with the words: "I suppose I've created an atmosphere where I'm a friend first and a boss second. Probably an

entertainer third.” This statement shows the deep cultural belief that the right (humorous) tone is an indicator for a good functioning team. The next section will look at the interplay between CoMIC and the DNVs.

How DNVs Affect CoMIC

The intercultural issues became apparent in the data when the participants talked about cultural differences and similarities, and when participants with different communication styles interacted. This section will concentrate on the latter part. The first part examines how, depending on the overall context in the virtual environment, the communication styles varied, and therefore the use of DNVs changed accordingly. The second part shows how DNVs influenced the communication when, for example, greeting fellow team members.

Varying Communication Styles

The data indicated that in the some instances the communication styles (direct/indirect, high-/low-context, affective/instrumental) varied greatly for one and the same person. The data also suggested several reasons for this phenomenon. The first factor influencing the communication styles was the overall situation the team encountered online: busy or slow shift, moderator had shifts in a row, special tasks assigned, etc. When it was really busy the communication was more task-oriented and less relational. When the shift was slow, the communication was almost uniquely relational. The second factor influencing the communication style depended on the individual or team task. Certain situations called for a very directive and direct style, while other situations were “softer.” The team leaders, for example, used a low-context and very direct communication style for giving instructions independently of their

cultural background (see Example 1). This was especially so at the beginning of the PP project. As familiarity within the task increased, communication remained direct but becomes higher-context (see Example 2). At the end of the project, the instructions became more polite, less directive, higher-context, and were usually introduced more indirectly (see Example 3). To illustrate these changes, I have chosen examples with the team leader Jin.

Example 1. The following example was Jin and Lea's first shift together. After greeting each other Jin started explaining what Lea was supposed to do. She communicated in a very low-context and direct fashion as the following excerpt demonstrates:

Jin: Yes, lots of images - nice and busy :oD

Jin: Unfortunately, no languages other than English for now.

Jin: The interface is a little different to training but just as simple.

Jin: There are also the teething bugs that accompany all releases so we just have to grin and bear it for now.

Jin: You will see to the right bottom hand corner of an image, that there is a little magnifying glass.

Jin: This only magnifies that image

Jin: To see the Caption and Story, and to perform full moderation, you need to click on the image. Does that make sense?

Lea: tes

Lea: yes

Jin: You may not see this page full of images in the future; the interface is still "evolving". ;o)

Jin: Ok, so the procedure is going to be like this for at least this and your next shift:

Jin: You will tell me the ID number of the image you will click on;

Jin: You will give me a brief description of the image, well more like what you are thinking about it;

Jin: Then we will discuss how you will action it together before you action.

Jin: Does that all make sense?

Lea: yes

Jin: Ok, give me an ID then.

Jin: Oh NO!

Jin: !

Jin: Sopt!

Lea: is there any rules on which ID number I click on or just by the ID number?

Jin: Stop!

Jin: Sorry...

Jin: Is there/are there any particular times you would like your breaks today?

Lea: how long/times I can have for my break?

Jin: 15 minutes.

(transcript, March 4B)

Jin explained to Lea what had to be done. This style of conversation was very typical for all the first two or three shifts between the moderators and their team leaders. Often the team leaders interrupted a situation through exclamations like "stop," "snap," "fire away," or "hold fire" (transcript, March 5B). The team leaders talked much more than the moderators, emoticons were used sparingly, and ellipsis points were frequently used to imply that the conversation partner should wait, or that one was doing something else online. Spelling errors were also quite common, which indicated the high speed in which the interaction took place. The task-orientation or instrumental communication style was so apparent that, at the beginning of Jin's second shift with Lea, Lea made a joke (which was not a joke, really) about it. Both have just entered the chat room:

Jin: Are you well today?

Lea: yes! very well :)

Jin: Good to hear.

Jin: Next:

Lea: energetic :P¹⁰

Jin: is there a particular time you would like your break(s) today?

(transcript, March 5B)

Jin went on talking about the tasks of the day without acknowledging or responding to Lea's comment. Lea did not intend to directly criticize Jin and she therefore used the smiley ":P", which stands for *poking tongue out*. The emoticon was used to relativize the underlying seriousness of the message, despite the initial criticism of the direct communication style. This interaction sequence happened after Lea and Jin had negotiated the power distance between them as described earlier. Lea's playful criticism/joke underlines that both had established a smaller power distance relation than initially established at the very beginning of their first shift.

Example 2. Once the moderators had become used to the moderating interface, the emphasis was mostly on the moderation itself. For hours the conversation was held in a style similar to the following excerpt between Ashley and Jin: task-oriented, direct, and low-context, which often led to small misunderstandings:

Ashley: 4368

Ashley: sorry 4367

Ashley: slightly worried about the "pee" rference

Jin: Yes, me too!!!!

Ashley: edit?

Jin: Remove all of last sentence please.

Ashley: accept under jump

Jin: Yes please.

Ashley: now its edited I mean

Jin: No!!

¹⁰ :p or :P means poking tongue out

Jin: STOP!

Ashley: ok

Ashley: why?

Jin: Would you say that's a teen?

Ashley: hard to day

Jin: On first look, I thought it was an adult...but then...

Ashley: say i wouldn't have before you menioned it but now i'm not so sure

Ashley: i would say she is the jumper's daughter

Jin: Exactly.

Jin: Finding a way to Accept.

Jin: Finding a reason to Reject.

Jin: Accept wins for the very reason we both thought of.

Ashley: ok

Ashley: accept then?

Jin: Yes, post editing, and keyword jump please.

(transcript, March 6A)

Emoticons or subtitles were not used in this context. This was partially due to the fact that the communication was purely task-related and both actors were working in a concentrated fashion. The DNVs were used in this context to indicate the tone of voice: "STOP!" for screaming, "me too!!!!" to indicate agreement, and "I thought it was an adult..." to indicate doubts and explain one's reasoning. This type of interaction and communication style could be seen in the different constellations of different team leaders working with different moderators, absolutely independently of their cultural background. As the weeks go by, there were days during which the workload was less intense and different communication patterns became apparent, as Example 3 will show.

Example 3. The following excerpt was from a shift of Jin and Pedro, almost at the end of the project. Jin wanted Pedro to fulfill a task for her. She communicated in a low-context style, while being very indirect at first, as the long introduction showed. Pedro on his part was very indirect as well. He tried to tell Jin *no* in many ways before he was actually cornered and needed to explicitly and directly say no. The time markers showed how long these two participants debated about this topic:

May 13

2: 50 AM

[. . .]

Jin: One of XXX's clients is YYY.

Jin: Have you visited their site before?

Pedro: yes

Jin: Ok, so...

Pedro: long time ago

Jin: there has been a recent change in dicussion topic.

Jin: I would like you to go to XXX.com now and familiarise yourself with the *current* discussion topic.

2:55 AM

Jin: There is a *lot* of reading to do here.

Jin: I would like you to give it your full attention please.

Jin: You need to read the background articles on this topic.

Jin: There are not too many comments there yet, so you will probably be able to read a lot of those too.

Jin: Have you registered with the site yet?

Pedro: nope...

Jin: Ok, you will need to register before you post a comment.

Jin: I would like you to post a comment today.

Pedro: lol me?

Jin: It *must* be on current topic and let me know when you have submitted it please.

Jin: Yes, you!

Pedro: lol

Jin: And to be done before the end of this shift please too.

3:00 AM

Pedro: ok .. under current topic there are a lot of different topics

Jin: No, there are not.

Jin: There is one current topic.

Pedro: this is what I read: ...

[...]

3:20 AM

Pedro: I'm not an expert on this topic neither do I have enough elements of judgement to opinate on this matter. I know about this intentional community in XXX that are trying to minimize the use of resources such as water, electricity and gas. I think it is a great idea and I am amazed how they use natural resources such as solar power and firewood to provide electricity and heat....

Pedro: I have family there and it's quite interesting to see how this people in the middle of nowhere are able to provide for themselves. But what they are trying to do is to stay away from these traditional energy providers such as Gas, Electricity and so on....

3:25 AM

Pedro: I don't whether that is going to work or not in the future. This is just an experiment and I'm curious to see whether other cities in US can follow that model...

Pedro: Of course, they are still dependent on gas for their cars..

Pedro: and they haven't made the move to hybrid cars I don't know why..

3:30 AM

Pedro: so I dont know.. Like I said I am not clear on this topic and all the variant

Jin: Is that going to be your full post?

Pedro: No.

Pedro: I'm telling you the reasons why I'm not posting. Sorry.

Jin: No, I think you should post.

(transcript, May 13A)

This conversation went on for another 25 minutes and the subject reoccurred during Jin and Pedro's subsequent shift. Pedro was skillfully indirect at first. After Jin suggested, that he should post a messages he just laughed. He used "lol" to signal incredulity and to indirectly say no. His next strategy was to tell a story, maybe secretly hoping to divert the subject. Jin on the other hand did not let the diversion happen and she insisted again and again. No emoticons were used. Jin emphasized her initial instructions by marking the key words with stars. The ellipsis points were used to indicate pauses. This was a very serious moment between these two participants, which explained the lack of emoticons. There was no lightness in this argument, and this was clearly about who had the authority and power. Finally, three days later Jin made a new attempt, which would only increase Pedro's resistance. This time he would not say no directly as in the example above, but he simply said "I need to grab some finger food, thinking makes me hungry" (Pedro, transcript, May 16A). Jin told him to take a 30-minute break. Pedro returned much later than told and by the time he got back, it was almost time for him to end his shift. Needless to say, the comment never got posted.

Greetings

In one instance the use of emoticons indicated—with almost certainty—whether the conversation was going to be more relationship oriented and affective or a simple exchange of formalities and more instrumental. I call this instance the *greeting ritual*, which occurred when a team member entered the chat room. No matter, how intense the work load was or who was communicating, if there was a smiley and another *positive sign*, e.g., a joke or an ironic statement, it was usually followed by an inquiry about the person's well-being, the family, the weather, etc. If not, the exchange

remained formal and thereafter the communication was task-oriented. This is valid for all the participants in the team independently of their cultural backgrounds. The following two examples illustrate this:

Alicia

has entered the room

Alicia: Hi Jin

Jin: Hello Alicia!

Alicia: lot's of approve baby pictures since my last shift

(transcript, April 18A)

After this brief greeting interaction, Alicia and Jin both simply started their shift, talking about what they saw and what needed to be done. In contrast, in the next example, Juliette joined the room shortly after Jin. Sandra was still there waiting to hand over the shift. This time the atmosphere was quite different:

Juliette

has entered the room

Jin: Hello stranger!

Jin: And Juliette!

Sandra: did you miss me? ;o)

Jin: Again.

Sandra: hi Juliette

Juliette: Hey again Jin

Juliette: Hey Sandra :)

Sandra: is Juliette a yoyo?

Jin: Are you in England again or still up there?

Jin: Yes, Juliette can't stay away today! ;o)

Juliette: lol I just love this place so much I don't want to leave

Sandra: scotland still - actually Juliette and I are probably quite close, geographically!

Sandra: i'm in XXX

Juliette: Ooh are you up in XXX?

Juliette: You aren't too far then!

Sandra: well if all IT fails we have the megaphone option then :o)

(transcript, April 21C)

Emoticons in conjunction with a joke were a very frequent form of greeting, which was usually followed by a relational episode. This was even true more so for the team leaders and moderators from the U.K. Starting with the day or shift with a joke seemed culturally determined and the emoticons were an essential regulator for expressing these jokes and different intonations accordingly. The next section discusses, how the use of DNVs varies over time.

The Use of DNVs Over Time

The clown face was an emoticon, which was represented in the following way: :o). Jin, who used this particular emoticon frequently, introduced it to the team. In the first week, Jin was the only participant using this emoticon. During the 3-week period of the study, she used it 350 times (in 64 hours). This number does not include the variations Jin used, e.g. :oD, :o(, :o\, >:o(, or :o|.

Another participant, Sandra, adopted the use of the clown face emoticon rapidly. During Sandra's first shift in March (transcripts, March 5C) she only used a regular smiley to communicate. However, during her second encounter with Jin (transcript, March 7C), she started using the clown face emoticon. This was only two days later, and after that time she became an avid user of this symbol. This was a good example of how the online language and the use of the DNVs developed. There were special terms that the team appropriated such as "being a ghost" (person forgetting to click the leave button when leaving the chat room), or saying that someone "is a headshot" (an image

where someone is posing). These terms, certain working conventions, and specific ways of using DNVs, were means for the team to create a common ground, a common language, a team culture, and a shared virtual reality. Alicia stated in her interview what that experience felt like:

I learned a lot about online language, I realized towards the end that a 'special' culture has been created. For example, it became standard to say bfn= bye for now. If I would have worked on the team longer, I would have acculturated better and would have been more efficient at decoding the cultural differences. I felt responsible to teach them about my culture too. (Alicia, questionnaire)

I think Alicia's observation was essential. A group culture developed over time and new terms were created and passed on, almost like oral history, from one shift to the next.

Conclusion

This chapter addressed the three research questions guiding this study. The section addressing intercultural relations in the team, showed that CoMIC had taken place, and that the participants were aware of cultural differences and of some of challenges of communicating across cultures. Furthermore the virtual communication was hampered for the participants who were not English native speakers, by the lack of speed and felt ability to express oneself accurately. Participants were also aware of cultural differences and similarities in different ways and on different levels of intensity (especially regarding humor).

DNVs were frequently used. Generally, they served: (1) to express the personal style of a participant, (2) to convey additional messages about the situation, and (3) to express positive feelings, humor, or deemphasize direct statements. In an intercultural context, they served to: (1) build a buffer for statements that could be perceived too

direct/offensive, (2) avoid intercultural misunderstandings, (3) indicate the intention to have relational or task-oriented communication. In addition, it was not the frequency of DNVs that was worrisome, but their absence. The absence of DNVs indicated a state of crisis. The different communication styles, hand in hand with the DNVs used, varied depending on the team's overall situation. This influenced their tasks, which in turn influenced which communication styles were chosen.

This chapter was guided by the research questions and presented the relevant findings. Chapter five will discuss these findings.

CHAPTER V

DISCUSSION AND CONCLUSIONS

Discussion

This chapter discusses the learning that emerged from this study and presents suggestions for future research. Before entering the discussion, I would like to reiterate my research questions: What role do DNVs have in the intercultural communication process? How do DNVs affect CoMIC? How does the participants' use of DNVs evolve over time?

These research questions were embedded in the literature review in chapter two. Within the larger research context no study was found addressing these exact questions. It is also noteworthy that the sample used for this study had no equivalent: the participants, the situation, or the collaborative tools used were dissimilar. The most significant differences occurred with the populations studied. Often researchers worked with students or anonymous participants who gathered for a brief period of time or to fulfill a task related to the respective study area. In other studies the tools for CMC used by global virtual teams examined were not comparable with the tools of the participants of this study. Furthermore, most studies, analyzing synchronous interactions with the same participants, did so for a very relatively short period of time in comparison. Some publications did examine cross-cultural issues, but either in

relation to synchronous communication or without examining the role of DNVs in CoMIC. However, although there are large differences between the populations studied earlier, a few findings overlap with the findings of this study.

The finding that emoticons are mostly used to convey positive feelings corresponds to Allwood and Schroeder's (2000) and Sveningsson's (2003) findings in synchronous communication environments. All these authors also note the importance of greeting and leave taking rituals. Neither of these authors analyzes the connection between the DNVs and the communication styles across cultures used when greeting took place. This study also shows that the emoticons and other DNVs are used to indicate whether relational or task-oriented communication is intended. However, Allwood and Schroeder (2000) and Sveningsson (2003) study environments in which the participants are anonymous to each other and are not bound to each other the same way as this global virtual team is.

This study also highlights that numerous DNVs are used in a humorous context. The participants perceive the different use of humor as a clear cultural difference and as sometimes problematic. The DNVs are used along with humor to avoid cross-cultural misunderstandings. Hancock (2004) studies irony in a synchronous online environment and states that DNVs are important cues to mark irony. He compares a CMC and face-to-face group. He finds that "CMC participants perceived their [CMC] partners to be more humorous" (p. 457) than did their face-to-face counterparts. It is not possible to say that the participants of this study would feel the same. Hancock describes his participants simply as English-speaking students. It is unclear, if we would have found

the same results with non-native speakers or participants from different cultural backgrounds.

Ting-Toomey (1999) argues that cross-cultural communication styles vary depending on the context and the situation. The same communicator can, for example, be indirect and direct. The findings of this study underline this observation. Although the personal style of each participant is relevant, the situation within the team (busy/slow) and the type of task that needs to be accomplished, are equally important. These factors influence the direct/indirect, high-/low-context, and affective or instrumental communication styles. This observation, in turn, highlights the differentiation made by Herring (2007) that the activity performed online is one of the situational factors influencing the online discourse. This finding rebuts my initial assumption and personal bias—as an online communicator and having been myself part of the team—that all the differences I have observed in the team are due solely to the cultural background of each member. However, the findings also indicate that English as a second language has played an important part. While many authors (e.g., Ishii, 1990; Kim & Bonk, 2002; Olaniran, 2004; Shachaf, 2005) posit that non-native speakers feel more confident with CMC, it is important to highlight that these studies referred to asynchronous communication (especially to e-mail). I think that the level of proficiency in the second language becomes relevant in synchronous communication because of the high-speed at which the communication is taking place.

Although, I am aware that the DNVs are only a small factor in overall virtual communication, they are important indicators help in cross-cultural communication. Their use can help buffer and bridge different communication styles, help in avoiding

intercultural misunderstandings, and help to decipher tension. The absence of emoticons over a long period of time can be especially worrisome as the findings in chapter four show. This insight can help us to stay alert and detect crisis, misunderstandings, and unease in a world, which is prone to confusions or misattributions. However, it is also important to keep in mind, that in a professional setting, the absence of DNVs can also be related to different cultural understandings, especially regarding gender, of what it means to appear or be professional. None of the above-mentioned studies present findings about DNVs. They note their presence but fail to examine the reasons for their absence.

Last but not least, it is interesting to reconsider the position of Jarvenpaa and Leidner (1999) regarding the role of culture in CoMIC. These authors posit that culture does not matter, as cultural differences disappear when communication online. This study shows that the participants do have different communication styles, which in part can be linked to their cultural backgrounds. The variation of these styles can be linked to the factors influencing the communication like work routines or the situation in the team. The participants are aware of cultural differences and different therefore use DNVs to enhance the communication flow and reduce the possibility for misunderstandings. Finally, the team developed its own team culture. The development of this new team culture could be observed over this period of 3 months and makes it difficult to always pinpoint the exact impact of an individual's culture on the communication process. My own experience as a member of this team underlines this observation. I still see today the remains of learned and jointly constructed communication behaviors formed in the early phases of team development.

Limitations of the Study

A limitation of this study is the small number of participants. The sample size does not allow for generalizations displayed by these participants to other cultural groups. However, qualitative research does not seek to make such generalizations. Many of the participants on the team had several cultural groups they identified with and it would not be appropriate to take these findings and apply them to online communicators of an entire country for example. However, these findings provide a glimpse into the world of moderators, who spend their lives communicating online and have chosen this as a lifestyle. It is also necessary to note that there is a small unbalance in the amount of hours of transcripts coded for each participant due to the form of sampling of the data.

A possible limitation of this study could be that the gender makeup of the team was predominantly female. Women are often considered as being underrepresented in comparison to men in studies relating to computing culture (Yates, 1997). However, in this study the opposite is the case, as the study encompasses the data of 9 females and 1 male. When taking into consideration Herring's (2007) observation that gender is a situational factor that influences CMC, it is possible that these findings are not transferable to groups in which the global virtual team consists only of males or is a mixed balanced male and female group.

When looking at other cultural factors besides gender, it is noteworthy that the multicultural makeup of the team can be considered as a limitation. It seems that because the team interacted widely and frequently over this period of 3 months, a process of adaptation took place. Therefore, it is harder to pinpoint exactly which

aspects of the interactions are explicitly due to the participants' cultural backgrounds. It also does not come through clearly, yet it appears that the U.K. is the dominant culture within the team, which in turn might affect the overall context of the interactions and the team culture.

Suggestion for Future Research

For future research, I suggest the following aspects to be more fully examined. Due to the focus on intercultural aspects within CMC, it would be interesting to use intercultural tools such as the *Intercultural Development Inventory*, the *Intercultural Conflict Style Inventory*, or the *Spony Profiling Model* to gather more in depth information about the participants' intercultural backgrounds. The information provided could be helpful to interpret similar virtual team data from different perspectives.

Interesting questions for future study can be:

1. Do the stages of the developmental model of intercultural sensitivity affect CoMIC and the use of DNVs?

I suspect that a person who is in an ethnorelative stage will recognize differences in communication styles more easily and therefore will also recognize the need of using DNVs to flag intercultural elements, which have the potential for misunderstandings (e.g., humor). However, it might be that this suspicion is too biased by my Western approach and understanding of communication.

2. If so, are there circumstances in which DNVs are counterproductive?

DNVs have become common in CMC. Regarding the variety of online communicators across the globe and the vast opportunities for CoMIC, it would be important to examine the circumstances their use would do more harm than good.

3. Is there is a relationship between a person's conflict style and the presence or absence of DNVs?

It would be interesting to find out if a person with a cooperative problem-solving approach uses DNVs in a different fashion than a person with a conflict avoidance style. My hypothesis is that people with an avoidance or competing conflict style will use fewer DNVs than people with compromising and accommodating styles, as DNVs are often used to convey positive feelings and establish/restore harmony.

The Spony Profiling Model could be helpful in order to establish a cultural profile for participants of a future study. These profiles could help link the participants' cultural values with the participants' role and behavior within an organizational context. In this study it was difficult to always pinpoint which communication patterns were due solely to the participant's cultural background. However, the Spony tool could help establish a clear idea of each individual's impact on CoMIC within a global virtual team.

Further aspects that need to be taken into consideration are the extent to which gender, one's profession, and language proficiency affects the use of DNVs. A female dominated environment and the use of the English language characterized this study. It

would be important to study groups with a different makeup in order to understand the exact impact of these factors. To examine the role of culture more closely, the study of a bi-cultural team might also lead to more clarity.

The research data indicated that communication online is developing its own culture, with its own language, rules, and conventions. Therefore engaging in CMC and CoMIC could be considered as an act of code switching. Hence, it would be interesting to discover the relationship between code switching and being a good online communicator. Good, in this context, means an increased level of sensitivity to recognizing emerging conflicts, and use of a variety of strategies to resolve online conflicts. Usually, there is a great amount of uncertainty in the virtual environment. Thus, it would be interesting to research how DNVs affect the level of uncertainty felt by the participants when engaging in CoMIC.

Lastly, it can be said that an adaptation process took place within the team over the 3-month period. This process made the team functional through the emergence of a new team culture. In the initial period of the team's formation would have been studied, the results would have been quite different. Therefore we can expect different uses of DNVs at different stages of the team development.

Researching CoMIC is critical for the intercultural communication field, as it allows for interaction patterns and communication forms, which are highly variable depending on who communicates, why, and through which medium. Each of these factors can lead to a wide variety of results. Frequently, the emotional impact of messages conveyed through computer-mediated communication on people's lives is disregarded. Some people might get informed about occurrences, which will affect

their lives in tragic and drastic ways, while communication online. Therefore mindfulness needs to be observed when engaging in computer-mediated communication, especially due to the almost immediate opportunity for interaction. Therefore, research like the one presented in this study is important, as it examines one more subtle aspect of synchronous CoMIC. Also this research has given me the opportunity to explore the degree to which co-cultures are created within a team and how these in turn are affected by the culture of the participants. Finally, when one considers how widespread CoMIC is, it becomes crucial as an interculturalist—especially when delivering training within organizations—to understand and be aware of CoMIC and its ramification in our global society.

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APPENDIX A. CITED TRANSCRIPTS

Anonymous team members are team members who have not given their consent to the study.

March 4A: March 4, from 12:00 AM – 08:00 AM. Vicky, Alicia, Pedro, and two anonymous team members

March 4B: March 4, from 08:00 AM – 12:00 PM. Jin, Juliette, Anna, Pedro, and one anonymous team member.

March 4C: March 4, from 12:00 PM – 12:00 AM. Jin, Lea, Ashley, and two anonymous team members.

March 5B: March 5, from 08:00 AM – 04:00 PM. Jin, Lea and Juliette.

March 5C: March 5, from 04:00 PM – 12:00 AM. Sandra and three anonymous team members.

March 6A: March 6, from 08:00 AM – 12:00 PM. Jin and Ashley.

March 7B: March 7, from 04:00 AM – 12:00 PM. Kathrin, Jin, Juliette, and two anonymous team members.

March 7C: March 7, from 12:00 PM – 12:00 AM. Kathrin, Sandra, Jin, Lea, and one anonymous team member.

March 8A: March 8, from 12:00 AM – 04:00 AM. Jin, Pedro, and two anonymous team members.

April 15C: April 15, from 03:55 PM – 12:00 AM. Jin, Ashley, and three anonymous team members.

April 16A: April 16, from 12:00 AM – 08:00 AM. Pedro, Ashley, Jin, and one anonymous team member.

April 18A: April 18, from 12:00 AM – 08:00 AM. Jin, Vicky, Alicia, and one anonymous team member.

APPENDIX A. (Continued)

April 19C: April 19, from 04:00 PM – 12:00 AM. Jin, Alicia, and three anonymous team members.

April 21C: April 21, from 03:55 PM – 12:00 AM. Juliette, Anna, Sandra, Jin, Lea, and one anonymous team member.

May 13A: May 13, from 12:00 AM – 07:55 AM. Jin, Pedro, and one anonymous team member.

May 16A: May 16, from 12:00 AM – 10:15 AM. Sandra, Jin, Pedro, and three anonymous team members.

May 18B: May 18, from 08:00 AM – 04:00 PM. Sandra, Kathrin, Anna, Vicky, Ashley, and one anonymous team member.

APPENDIX B. COVER LETTER AND QUESTIONNAIRE

Simone Alder
11644 SW Boones Bend Dr.
Beaverton, OR 97008
USA

To whom it may concern:

I kindly ask for your consent to use the transcripts of your communication generated while working on the "PP" project. Enclosed you will find a consent form, a short questionnaire, as well as a return envelope. Please read the consent document carefully and contact me if you have any questions concerning the project.

Best regards,

Simone Alder

APPENDIX B. (Continued)

Questionnaire

1. Your Name: _____
2. Your Gender: ☐ Female ☐ Male ☐ Other: _____
3. Your Age: _____
4. Which country/countries are you a citizen of? _____
5. Are there other cultural group(s) (e.g., ethnicity, subculture/co-culture, professional group, religion, sexual orientation) you identify yourself with?
 - a. _____
 - b. _____
 - c. _____
6. Is English your first language?
☐ Yes ☐ No
If yes, please continue to question 8
If no, please continue to question 7
7. Did English as your second language play a role in your virtual communication?
☐ Yes ☐ No
Please, explain your answer: _____
8. Was PP your first project working for the company?
☐ Yes ☐ No
If yes, please continue to question 10
If no, please continue to question 9
9. If no:
 - a. Which team members have you worked with before PP?
 - b. Have you met these team members face-to-face before PP?
 - c. How would you describe your relationship with these team members at the time PP started? (e.g., How many years did you know each other? Are you friends? Are you work acquaintances?)

APPENDIX B. (Continued)

10. Did you meet any members of the team face-to-face while working on the PP project?

☐ Yes ☐ No

If yes, please continue to question 11

If no, please continue to question 12

11. If yes:

a. How did it affect your virtual work, your relationship to the project, or your relationship to the team members? Please, explain your answer.

b. Did anything change in your virtual communication? Please, explain your answer.

12. How many years have you been working with computers when the PP started?

13. How many years/months have you been working as a moderator when the PP project started?

14. Was it the first time you worked in a global virtual team?

☐ Yes

☐ No → How many years of experience: _____

15. How many team members had you met once the PP project was over?

16. How would you describe your level of comfort when communicating virtually?
Please, indicate your answer:

1	2	3	4	5
very uncomfortable	uncomfortable	somewhat uncomfortable/ somewhat comfortable	comfortable	very comfortable

Anything you would like to add:

APPENDIX B. (Continued)

17. Was communicating with your team members virtually a rewarding/satisfying experience? Please, indicate your answer.

1	2	3	4	5
very unsatisfying	unsatisfying	somewhat unsatisfying / somewhat satisfying	satisfying	very satisfying

Anything you would like to add:

18. Cultural similarities were noticeable while communicating virtually. Please, indicate your answer:

1	2	3	4	5
strongly disagree	disagree	somewhat disagree/ somewhat agree	agree	Strongly agree

Please, explain your answer:

19. Cultural differences were noticeable while communicating virtually. Please, indicate your answer:

1	2	3	4	5
strongly disagree	disagree	somewhat disagree/ somewhat agree	Agree	Strongly agree

Please, explain your answer:

APPENDIX B. (Continued)

20. Did you think/feel that you were communicating nonverbally with your team members?

☐ Yes ☐ No

If yes, please continue to question 21

If no, please continue to question 22

21. If yes:

a. In which ways did you communicate nonverbally?

b. What was the function of the nonverbal communication?

22. If no: why did you think/feel that no nonverbal communication was taking place?

23. For the team members you have never met face-to-face, did you have a mental image what your team members looked liked, sounded like, and how they lived their lives?

☐ Yes ☐ No

Anything you would like to add:

24. Is there any other information relevant to you, which you would like to share?

APPENDIX C. INFORMED CONSENT FORM

INFORMED CONSENT

CoMIC: An exploration

You are invited to participate in a research study for a Master of Arts thesis in the field of intercultural relations. My name is Simone Alder and I am a student at the University of the Pacific, School of International Studies (Stockton, CA). You were selected as a possible participant in this study because of your participation in a global virtual team.

The purpose of this research is to explore the role of nonverbal communication in a global virtual team. If you decide to participate, you will be asked to fill out a brief questionnaire and give your consent to use transcripts of your conversation while working with the global virtual team. Your participation in this study will last a few minutes.

You may not receive any direct benefit from taking part in the study, but the study may help to increase knowledge that may help others in the future.

If you have any questions about the research at any time, please call me at +1-503.442.3178, or my academic advisor Kent Warren, +1-503-297-4622. If you have any questions about your rights as a participant in a research project, please call the Research & Graduate Studies Office, University of the Pacific +1-209-946-7356.

Any information, which is obtained in connection with this study and that can be identified with you, will remain confidential and will be disclosed only with your permission. Measures to insure your confidentiality are that all the names of all members of the participants will be made anonymous, as well as the name of the company you work for, and the client on whose project you worked. The data is solely available to the researcher. The data obtained will be maintained in a safe, locked location and will be destroyed within one year after the study is completed.

Your participation is entirely voluntary and your decision whether or not to participate will involve no penalty. If you decide to participate, you are free to discontinue participation at any time.

APPENDIX C. (Continued)

Your signature below indicates that you have read and understood the information provided above, that you willingly agree to participate, that you may withdraw your consent at any time and discontinue participation at any time, that you have reviewed a copy of this form, and that you are not waiving any legal claims.

You will be offered a copy of this signed form to keep.

Name

Signature

Date
