

AN ACTIVITY THEORY PERSPECTIVE ON STUDENT-REPORTED CONTRADICTIONS IN INTERNATIONAL TELECOLLABORATION

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ABSTRACT

This process-oriented study focuses on contradictions that emerged in a WebCT bulletin board collaboration among English learners from Japan, Mexico and Russia, and explains them from the perspective of activity theory (Leont'ev, 1978, 1981; Engeström, 1987, 1999). The study identified a) two *intra-cultural* contradictions – to post or not to post, to sound formal or informal; b) three *inter-cultural* contradictions – unequal contribution, genre clash/plagiarism, clash of topic choice; and c) three *technology-related* contradictions – message overload as hindering community formation, bulletin board as too "slow" when compared to chat, and names and gender confusion. These contradictions were catalyzed by the clash of curricula versus interactive learning paradigms (Lemke, 1998): the outcomes of different cultures-of-use of computer technologies (Thorne, 2003), instructors' mediation, and resources available to learners within their broader socio-cultural contexts. The study concludes with a discussion of whether the learning paradigms can be bridged and cultures-of-use of computer technologies aligned.

INTRODUCTION

Earlier studies on international telecollaboration¹ were primarily descriptive, focusing on the design and implementation aspects, or framed within a product-oriented paradigm (Chapelle, 2001; Warschauer & Kern, 2000). Over the last decade, however, there has been a shift toward process-oriented research and a focus on the contexts of computer use and evolving interaction. The most recent studies on telecollaboration (Belz, 2001, 2002, 2003; Belz & Muller-Hartmann, 2003; Belz & Thorne, 2006; Chase, Macfadyen, Reeder & Roche, 2002; Kramsch & Thorne, 2002; O'Dowd, 2003, 2005; Schneider & von der Emde, 2006; Thorne, 2003, 2006; Ware, 2005) explore the kinds of cultural contact afforded by a technological medium. Special attention in recent studies is paid to tensions and misunderstandings that might hinder intercultural learning (Belz, 2001, 2002, 2003; Kramsch & Thorne, 2002; O'Dowd, 2003, 2005; Thorne, 2003; Ware, 2005). These studies relate online tensions to the socio-cultural dimension of telecollaboration and the ways students make sense how their partners make communicative choices.

Building on previous research on online intercultural misunderstandings, I explore contradictions, a term used by activity theorists in reference to problems, ruptures, breakdowns and clashes (Kuutti, 1996), that emerged in the 12-week long interaction on the WebCT² multithreaded bulletin board³ among English learners from Japan, Mexico and Russia. More specifically, the study⁴ builds on previous research by Thorne (2003), an activity theorist, and his concept "cultures-of-use" of an artifact, defined as "the historically sedimented characteristics that accrue to a CMC tool from its everyday use" (p. 40).

Whereas previous studies mainly focused on students from the USA and Western Europe, participants of this study were students from Japan, Mexico and Russia who have received less attention in the research on international telecollaboration (Carney, 2005; Murray, 2000). Participants in this study were significantly culturally distanced from one another in geopolitical and economic terms.⁵ Related to this feature is Belz's (2002) argument that national differences in computer access and technological know-

how raise new "important ethical and methodological questions for telecollaborative foreign language study" (p. 73).

In previous studies the focus was on language exchange task-based assignments, such as discussion of texts among students from the USA learning European languages and their European counterparts learning English (Belz, 2003; Belz & Thorne, 2006; Kramsch & Thorne, 2002; O'Dowd, 2005; Ware, 2005). In comparison, this study involved English language learners who engaged in asynchronous interaction in English on their topics of interest. The choice of such a format for the project stemmed from my personal experience using WebCT in graduate classes I took earlier, which appeared to be effective in two ways: 1) the interaction was contingent, 2) students were granted more agency and a sense of ownership of the bulletin board (Potts, 2001). I was hoping that a similar effect would be achieved through the use of WebCT in the project under investigation.

Furthermore, previous studies were ethnographic and operated with the two levels of analysis – a complex interplay of macro-level (social contexts) and micro-level (agency) phenomena (Belz, 2002, 2003). I use the activity theory framework (Basharina, 2005; Cole & Engeström, 1994; Engeström 1987, 1999; Lantolf, 2000; Lantolf & Genung, 2002; Leont'ev, 1974, 1978, 1981; Mantovani, 1996; Nardi, 1996; Thorpe, 2002; Vygotsky, 1978, 1934/86) with its key notions of mediation, contradictions, community, culture and cognition, which provides an additional avenue to explore intercultural tensions.

In what follows I review the previous research on tensions in telecollaboration. I then describe the telecollaborative project under investigation and methodology used in this study. In the findings section I focus on major contradictions that emerged in the process of telecollaboration (to be consistent with the activity theory vocabulary, tensions will be referred to as contradictions in the rest of the paper). I conclude this paper with a discussion of the practical implications.

THEORETICAL BACKGROUND

Interrelationship between Contexts and Contradictions

The exploration of intercultural misunderstandings in recent research often leads scholars to investigate the complex interrelationship between structure (i.e., *context* and *setting*) and agency (i.e., *situated activity* and *self*), given that in online interaction we deal with at least two contextual layers: off-line, sitting in front of the computer screens in the context of culture; and online, through textual representations of selves (Lam, 2000) in the context of situation (Kramsch, 1993). It has been argued that the chances of misunderstanding in online environments increase due to the nature of an online medium which relies on typing and Internet speed, as well as a lack of paralinguistic and non-verbal cues (Ferrara, Bruner & Whittemore, 1991; Mantovani, 1996; Murray, 1991; Yates & Orlikowski, 1993). In addition, it was recently found that the sources of misunderstanding in online telecollaboration are rooted in the broader socio-cultural contexts, which inform the linguistic choices of students online. The newly identified variables behind online contradictions include differences in students' frames of reference with regards to local discursive norms of language use (Kramsch & Thorne, 2002), language valuation (Belz, 2002; Ware, 2005), the ways students co-construct the context of online communication (Ware, 2005) and their communication partners (Meagher & Castanos, 1996; O'Dowd, 2003, 2005).

Kramsch and Thorne (2002), for example, interrogate the presumption that computer-mediated communication naturally helps learners to understand their partners' local conditions of language use and to build a global common ground for intercultural understanding. In their study of French-American telecollaboration, quite often students run across intercultural misunderstanding based on the limited knowledge of the "different social and cultural conventions under which each party is operating" (p. 90) and "very little awareness that such an understanding is even necessary" (p. 98). Most of the French interlocutors, for example, used factual, impersonal, dispassionate genres of writing. They extensively used argument building logical connectors such as "for example," "however," "moreover," as well as

made nuanced corrections to what they felt were American misjudgments about the situation in France. By contrast, the American students, who initiated this exchange in order to understand "how they live their everyday lives" viewed this instance of Internet-mediated communication as a ritual of mutual trust building and used an informal, highly personal genre. The authors explain the misunderstanding as "a clash of cultural frames caused by the different resonances of the two languages for each group of speakers and their different understanding of appropriate genres" (p. 94-95). In Kramsch and Thorne's interpretation, "each group mapped the communicative genres they were familiar with onto their foreign language communicative practices in cyberspace." Consequently, the educational implication drawn from their study is to prepare students to deal with global communicative practices that require mastering "far more than local communicative competence" (p. 99).

A number of recent studies found that the contradictions may also take place because of the misalignment of academic calendars, institutionalized classroom scripts, methods of learning accreditation, academic socialization and technological access (Belz, 2002; Belz & Muller-Hartmann, 2003; O'Dowd, 2005; Thorne, 2003). These studies emphasize the importance of physical contexts consisting of mediating tools and other people in shaping an online interaction.

Thorne (2003), for example, in his study demonstrates how the learners' relationship with physical contexts and computers may facilitate contradictions. He approached the same set of data used in the earlier study by Kramsch and Thorne (2002) from the perspective of the crucial role of the physical context of local cultures. Thorne (2003) argues that online and other activities emerge on the "intersection of histories of use with the contingencies of emergent practice" and represent the "culture-of-use" of an artifact (p. 40). He found that the activity of online interaction was different for the French than it was for the Americans, in part because the Internet communication was used differently in each case; e.g., French students were communicating through a surrogate (the teacher who was sending their messages). Thorne concludes that radically different cultures-of-use of Internet communication was one of the major reasons for the tension between the French and American students.

Activity Theory and Contradictions

Thorne's concept of "cultures-of-use" of an artifact (2003) draws from the extensive explorations of activity theorists of a tool-mediated, goal-oriented, culturally and historically situated collaborative activity as applied to any human activity including human-computer interaction. Activity theory is based on the premise that cognitive development has a cultural and social origin (Lantolf & Thorne, 2006; Vygotsky, 1978). Nardi (1996) argues that "consciousness is located in everyday practice: *you are what you do*. And what you do is firmly and inextricably embedded in the socio-cultural matrix of which every person is an organic part" (p. 7). Activity theory allows us to break down the interrelationship between the structure and agency into smaller categorical elements, representing what Nardi calls "socio-cultural matrix," and, by zooming in, trace the developmental path of that relationship. In the beginning stages of development, the purposeful acts of the individual are accomplished through the joint activity of a learner, physical/symbolic tool(s), and another person(s) performing together as a working social system to achieve some outcome under cultural constraints such as rules (Figure 1). Only after that are the inter-psychological categories used between people in discursive practices appropriated as tools for thinking within individuals as intra-psychological categories.

Mediation is the mechanism through which external socio-cultural activities are transformed into internal mental functioning. The source of mediation can be either a material tool (for example, a string around one's finger as a reminder); a system of symbols (language), or the behavior of another human being in social interaction. Mediators, in the form of objects, symbols, and persons transform natural, spontaneous impulses into higher mental processes, including strategic orientations to problem solving. In the case of language learning, this mediation can take the form of a textbook, visual material, classroom discourse, opportunities for second language interaction, instruction, or other kinds of teacher assistance.

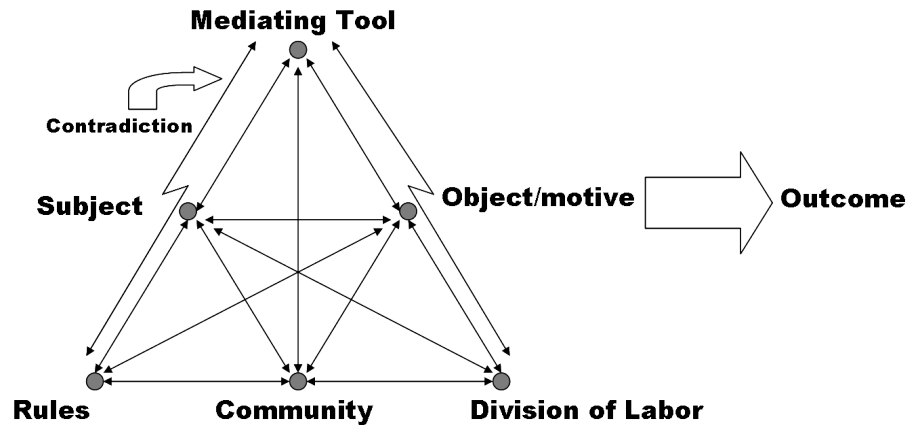


Figure 1. Activity System Model (Engeström, 1987)

People participate in multiple activity systems within their local and global contexts, including online. In real life we engage in "an intertwined and connected web of activities that can be distinguished according to their objects" (Kuutti, 1996, p. 30). International telecollaboration is also an activity system which is embedded within broader institutional, historical and geopolitical contexts. A person engaged in one activity system is simultaneously influenced by other activity systems in which she/he participates. These influences are both horizontal, happening across communities, and also vertical as social actions are also embedded within history, culture and inequitable power relations that both influence the meaning production and shape human activities in important ways.

Contradictions within an Activity System

Within an activity system, all elements constantly interact with one another and are virtually always in the process of working through changes. Changes in the design of a tool may influence a subject's orientation toward an object, which, in turn, may influence the cultural practices of the community. In addition, it is possible that the object and motive themselves will undergo changes during the process of activity (Kuutti, 1996). It is not surprising that Engeström (1987) called an activity system "a virtual disturbance-and-innovation-producing machine" (p.11) and emphasized the importance of *contradictions*, driving these changes.

Activity theorists see contradictions as sources of development. Engeström (1987) characterizes a contradiction as "a social, societally essential dilemma which cannot be resolved through separate individual actions alone – but in which joint cooperative actions can push a historically new form of activity into emergence" (p. 16). The resolution of contradictions, according to Engeström, takes place in the process of "living movement leading away from the old" (p. 16), when transforming an object/goal into a new outcome takes place. An example of contradiction is evident in a situation, when a person is torn by two or more opposite goals, and when the additional immediate circumstances may influence his/her final decision-making. This is very similar to construction of new knowledge in a community of learners as a result of negotiation of different, and often times, opposite meanings (Wenger, 1998).

Contradictions among Activity Systems

Whereas above I focused on contradictions among elements of a single activity system, in this section I will discuss contradictions among two or more interacting activity systems, given that contradiction indicates a misfit not only between different developmental phases of a single activity, but between different activities (Kuutti, 1996).

Thorne (2003) and Wertsch, Minick, and Arns (1984) showed how the same task is implemented differently by means of available tools across different socio-cultural contexts. Thorne (2003) found that

when people from several cultures engage in the same task, the use of tools in their different socio-cultural, socio-historic contexts may illustrate "a heterogenous set of communicative practices with different rules, community norms, and division of labor" and may differ interculturally "in the same way as communicative genres and personal styles do" (p. 40). Internet communication tools are often "different cultural artifacts for different communities, precipitating consequential effects on the processes of communication, relationship building, and language development" (Thorne, 2003, p. 41). That is why, various contradictions in international telecollaboration, such as, for example, genre clash (Kramsch & Thorne, 2002), can take place not only due to the differences in students' frames of reference with regards to their cultural norms of language use, but due to the mismatch of activities (cultures-of-use) in two different contexts.

In my model of Intercultural Context-Embedded Telecollaborative Activity (Figure 2) I use the example of telecollaboration among Japanese, Mexican and Russian students (J, M, R), who had their context-specific tools, rules, objects, communities and division of labor as they engaged in the telecollaboration.

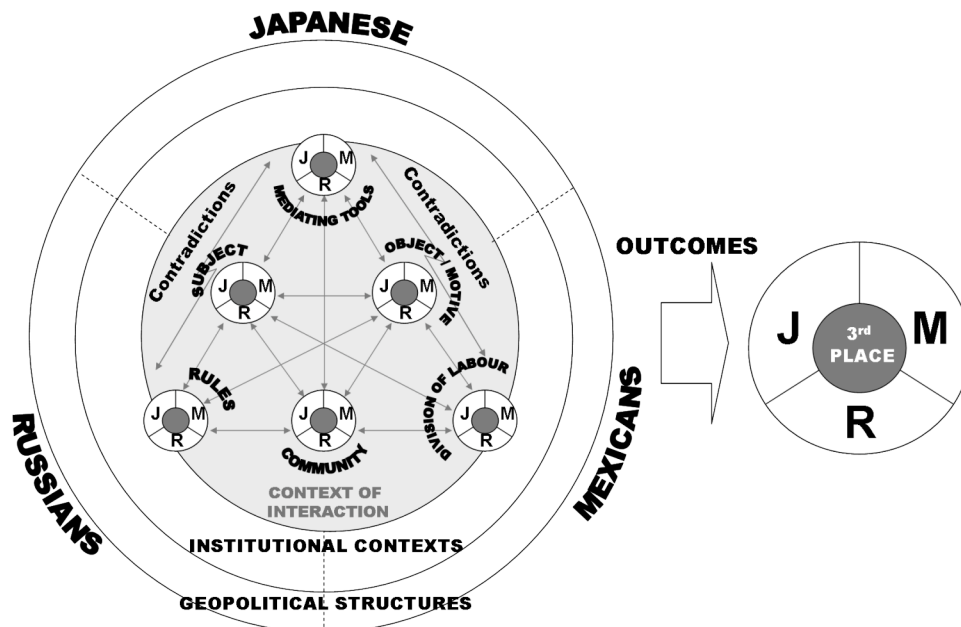


Figure 2. Intercultural Context-Embedded Telecollaborative Activity (ICETA) model (Basharina, 2005; adapted from Engeström, 1987)

When the students engaged with computers in similar ways, and when their objects, rules/norms coincided, they formed one activity system. In Figure 2 the outcomes of activity is a larger circle with the dark circle inside, which represents the emergence of the shared "third place" (Kramsch, 1993). At the same time, students whose tools, norms/rules and objects significantly mismatched oftentimes failed to form the shared community, experienced intercultural contradictions, and also remained outside the "third place," in the three separate white zones of their local contexts.

To sum up this review and to link it to my study, first I argue that contradictions (ruptures and tensions) should be viewed as an integral element of any activity or of a relationship among two or more activities; and, second, that their investigation should look beyond students' frames of reference to include their broader cultures-of-use of computer technologies.

METHODOLOGY

According to Vygotsky (1978), the analysis of rough and conflict-based situations may bring a lot of insights into interpreting the developmental path of a particular phenomenon. Therefore, this study is

guided by two questions: 1) what were the contradictions that emerged in the project under study? and 2) what were the underlying reasons for those contradictions? To answer these questions I turn to methodological principles and tools suggested by activity theory.

Activity theory is more valuable for understanding what went wrong, rather than doing predictive work (Nardi, 1996). It "rejects cause and effect, stimulus response, explanatory science in favor of a science that emphasizes the emergent nature of mind in activity and that acknowledges a central role for interpretation in its explanatory framework" (Cole, 1996, p.104). In order to understand, for example, how a tool is used, one has to study its use over time allowing for the usage to develop (Kaptelinin & Nardi, 1997). In this regards, ethnographic methods that track the history and development of practice as it naturally occurs fit well with the goals of activity theory.

Research Contexts and Participants

The project involved 52 Japanese students who came on a year-long exchange program to South-Western Canada, 37 Mexican students located in Northern Mexico, and 46 Russian students located in North-Eastern Russia. They were all 18-22 years old and in their second or third year of college. Their English proficiency varied from intermediate to advanced.

The 12-week-long telecollaborative project was an adjunct to the English courses taught in the three universities across the globe⁶. The purpose of the project was to promote thought-provoking, engaging and active interaction in English as a second/foreign language with the hope of improving students' English language use and intercultural awareness. The students were divided into four forums with approximately equal number of participants from each of three cultures and across genders.

I was a researcher, a teaching assistant of the Japanese students, and a participant in the project. The Japanese and Mexican instructors were my fellow graduate students and the Russian instructor was my former colleague. This gave me access to the project and helped me establish trusting relationships with participants.

Internet Access

There were differences in students' access to computer technology. Whereas all Japanese and Mexican students had free access at their universities and all of them, except for four Mexican students, had Internet at their dormitories or at home, most of the Russian students had limited access on campus and half of them did not have computers and Internet access at home. They could use dial-up Internet for free only during their lab time. Internet speed was also slower in the Russian context.

Project Integration

Shortly before the project, we posted the schedule, instructions on how to use the bulletin board, suggested topics, and certain requirements, such as writing five messages a week on the project website. These guidelines were used differently in the three instructional contexts.

The Japanese students engaged in a telecollaboration and in two other activities such as web-quests⁷ and journal writing during their lab time. They were encouraged to interact during their out of class time as well. For the Mexican students it was an entirely out-of-class activity conducted instead of essay writing. The Russian students engaged with the project during their lab time, but compared to the Japanese students, they did not do any other additional web-activities. The decision of the Russian instructor to conduct the project during lab time was related to the Russian students' lack of Internet access at home. Taking into account other tasks, the Japanese instructor allocated 20 percent, and the Mexican instructor 25 percent, of the total grade for student participation in the project. Because the Russian university followed a different institutional script (Belz, 2002) with no percent-based break-down of the total grade, the Russian instructor did not allocate any percentage for student participation, but made the project the only task for which students received a course grade.

Data Collection and Analysis

Those students who signed consent forms participated in the data collection procedure described in Table 1.⁸

Table 1. Types of Data Collected for the Study

Timeline of the Project	Type of Data	# of students interviewed/surveyed		
		Japanese	Mexican	Russian
Beginning	Language learning & technology use survey	47	37	39
Middle	E-mail & face-to-face focus interviews	28	31	36
End	Intercultural awareness post-survey	26	37	35
	Individual & group interviews	40	22	18
Additional data	WebCT bulletin board protocols, interviews with instructors			
	Russian students: Written project evaluations			
	Japanese students: Journal entries			

After documenting students' reflections on contradictions and content analysis of interaction protocols, I engaged in an exploration of the underlying reasons for contradictions through interviews with students and instructors. Transcripts of all tape recorded interviews⁹ were coded for recurrence of emergent themes, sorted and grouped. Within each group, response categories were counted by frequency. To determine when it was time to stop processing data, I used the four criteria proposed by Lincoln and Guba (1985): exhaustion of sources, saturation of categories, emergence of regularities, and overextension.

Validity

I take the view that validity in qualitative research is a judgment produced by the readers of a research text. In this light, validity is not a property of my data, research design, or analysis per se; it is a social construction focused on the credibility, trustworthiness, reliability, and believability of my accounts (Altheide & Johnson, 1994; Guba, 1981). This research attempted to verify credibility through the use of several types of data and critical subjectivity. Data was continuously reviewed and reorganized and literature continually consulted.

Limitations

Qualitative studies such as this are intended to provide detailed descriptions of one set of participants in one setting, existing within a fixed period in time. Although such studies may inform other educators and instructors as to the range and types of issues that may be pertinent to their own settings, the results cannot be extended and directly applied to other learning situations.

The next limitation is related to the nature of the qualitative research methods such as the 'truth value' of the study. There are hardly any means of ensuring that what students wrote and said was what they actually believed. With this type of data collection, I relied on the honesty and accuracy of the participant's responses. The concerns I had about inaccurate accounts and false claims were minimized by creating a trusting relationship with students, anonymous surveys, and by ensuring students that they would not be deducted marks for providing 'right' or 'wrong' answers; rather, they would be rewarded for participating and expressing themselves honestly to the best of their ability.

FINDINGS

The study identified a) two *intra-cultural* contradictions – to post or not to post, to sound formal or informal; b) three *inter-cultural* contradictions – unequal contribution, genre clash/plagiarism, clash of topic choice; and c) three *technology-related* contradictions – message overload as hindering community

formation, bulletin board as too "slow" when compared to chat, and names and gender confusion. Intra-cultural contradictions refer to tensions which emerged based on participants' assumptions and beliefs about the project and their communication partners, usually prior their engagement with the international online community. Inter-cultural and technology-related contradictions emerged during the process of interaction.

Intra-Cultural Contradictions

To Post or Not to Post?

Students from all three cultures experienced anxiety at the beginning of the project, related to their unawareness of what to expect from the interaction and communication partners. Sierra, a Mexican student, for example, wrote:

At the beginning of the project *i was a little confuse, i didn't know what to say, what to write, how to response the other msgs* but while i was writing the messages i like the idea to interact with people of other places so *i send a lot of messages more than the teacher told me to send.* (IRC interview, italics added)

At the beginning of the project Sierra felt confused and unsure what to write about, because, for her, participation in such an international project and interaction with students from Japan and Russia was an entirely new experience. Sierra's anxiety began to disappear when she started to interact and when she found out more about the project. This demonstrates how her inner contradiction was resolved during "the living movement" (Engeström, 1987), and how her goal of online activity changed from being an abstract class requirement to a situated interest in interaction. For her and some other students from all three cultures, the activity moved from educational to personal, from extrinsic to intrinsic motivation.

Yasu, a Japanese student, also experienced inner tension at the beginning of the project because she was afraid of seeming "strange" due to irreconcilable cultural differences, which she thought existed among participating students. She wrote in her journal:

At first, I only could read their messages and *could not respond* them. I was too *conscious* and *worried* to be seen strange. The reason is because *my way of thinking* is based on Japanese very much and I thought it might sound *strange* for Mexican or Russian students. I myself have been *surprised* to hear different opinion from different culture and I thought *difference is bad thing* at that moment. (Journal entry, italics added)

After Yasu realized that other students felt more or less comfortable in posting their messages, she also posted her introduction. After she received replies, her anxiety began to disappear as she realized that she had a lot in common with her communication partners:

I posted my introduction on the online discussion board. ...When I found *respond* to my postings, *I was very glad* that someone was interested in my topic and gave me back a message. As I read the message, I realized that other students from Mexico and Russia also have *the same kind of interests* as me. ...Now *my way of thinking is changing.* (Journal entry, italics added)

Yasu's reflection demonstrates the emergence of the motive to interact along with the resolution of her inner contradiction as a result of the "living movement," after she received personal replies full of positivism and support.

In addition to contradictions associated with the novelty of the online experience, some Russian students experienced contradiction related to their lack of technological experience and concern to seem less knowledgeable. As some Russian students said in the interview: "I was afraid, because I had no practice of working on the Internet" (Misha); "I felt less confident because I thought that their English would be

much better than ours" (Zoya). Concern with seeming less knowledgeable made the Russian students prepare for the project beforehand, which somewhat resolved their contradiction. As Kostya, a Russian student said in the interview:

I was concerned about participating in the project. I thought they were all monsters and *so advanced*. If they read my poor messages, I thought, I would disgrace our department of World economics and myself. Therefore, I had to learn grammar again - how the sentences are written. This might have improved my grammar. (Italics added)

Later, when the project began, many Russian students realized that the Japanese and Mexican English language proficiency was similar or even less advanced than their own English proficiency. This significantly reduced their anxiety level. As Shura, a Russian student said in the interview: "I was afraid that I would seem odd compared to them, but it seemed to me that the level of their knowledge is similar to ours." This indicates how the living movement of participation helped her to resolve her tension.

To Sound Formal or Informal?

Because the project was also a part of students' academic courses for which they were evaluated, many of them faced a dilemma fostered by the interplay between their non-academic identities and discursively constructed institutional roles of the classroom. Feeling happy for his Japanese soccer team that won over the Polish team on the soccer championship, Taro wrote a very emotional and informal message:

Subject Re: World Cup

yes!!!!!!!!!!!! i feel pretty fine this morning because.....japan's national team beat poland by score of 2-0!!!!!!!! i really wanted to see this match on tv but i couldn't because i'm in canada right now.... japan is going to win the world cup!!!!!(i'm half kidding, half serious...) hmmm....*sorry for not being academic....i'm just excited...* (italics added)

Toward the end of his message, however, he realized that he was too informal and apologized for "not being academic." The contradiction between students' youth identities and perceptions of the online activity as an academic task was also evident in the following exchange between the two Russian students:

Zina: I think formal is much better than informal. If it is informal - than it is chat.

Shura: But our speech should be informal, because *we are young people*.

Zina: How could you write informally, say, about social problems - I could not understand! It should be more formal, *it's not "Simpsons."* (Interview, italics added)

In this example, Zina, who did not participate actively in the project and who wrote only academic and task-based messages, thought that the bulletin board was designed for academic interaction. Shura, on the other hand, thought that being too serious and highly academic was inappropriate on the bulletin board and that writing should reflect students' personal youth identity.

Students faced a dilemma not only with regards to the choice of the level of formality, but with regards to the choice of academic or personal topics for discussion. For example, Ulyana, a Russian student, saw a dramatic distinction between what *she really wanted* to write about as a young woman and what she thought *she was expected* to write about, as a student of the World economics department and a participant of an academic international project:

Subject Re: New start

Hi, Olga! I want to know, what kind of letters should we write? Letters of our real interest, or letters on political, economy problems. As for me I am interested in problems of health, sports, fashion e.t.c Best wishes

Ulyana

Interestingly, none of the Mexican students openly expressed similar internal concern. This might have been related to the Mexican students' more extensive experience of participation in online youth communities, which value casual relations.

Inter-cultural Contradictions

Unequal Contribution (Russian complaint)

A striking statistic was that almost all new threads were initiated by the Russian students (Table 2).

Table 2. Thread Initiation Statistics

Students	Japanese		Mexican		Russian	
	% of Total Threads	Mean Number per Person	% of Total Threads	Mean Number per Person	% of Total Threads	Mean Number per Person
Forum A	13.2	2.0	10.7	2.1	76.1	13.6
Forum B	17.8	2.0	10.3	1.5	71.9	8.8
Forum C	26.0	2.6	9.2	1.3	64.9	7.7
Forum D	19.9	2.6	8.8	2.1	71.3	11.1

Analysis of messages also identified that the Russian students posted longer messages, compared to the Japanese and Mexican students. Some of their messages were the size of two computer screens. Because of such unequal participation, many Russian students said: "Mexicans and Japanese should send more information and topics."

Several Russian students found it frustrating that the Japanese and Mexican students just sent them website links instead of "writing the information." Tina said: "You write something not according to the plan, but from your heart and soul and wait for reply, but receive either no reply, or just 2 lines. And they only throw their sites – search as you want" (Interview). When Naoko, a Japanese student, provided a website link about Japanese holidays instead of describing them in her message, the response from Yana, a Russian student, to Naoko's short message was:

Subject: re: Japanese holidays

HI!!! My name is Yana. *Why donot you write some information about it?* I think that it is very interesting to know about it!!! We have some similar holidays. Ilike it very much!!! Do you know some Russian national holidays? *If you want to know, please ask.*(Italics added)

The last sentence in Yana's message also serves as an indicator of her attempt to encourage feedback from her communication partner.

Many Japanese students did not write much about their culture and traditions, because they were concerned that they could give misleading information: "I am afraid to give mistaken idea about my culture" (Naoko); "I have to think and choose topics carefully so that I will not tell those people wrong information or anything like that" (Yuka). They needed to refer to sources in order to provide accurate information about their culture, which they were not willing to do unless they were really motivated. Therefore, they either provided very little information ("I tried to explain my culture simply" (Yuka)), or avoided altogether writing about their own culture.

Genre Clash/Plagiarism (Mexican Complaint)

When, Petr, a Russian student, wrote the following message:

Subject Globalization

Globalization One of the important aspects of globalisation is integration. Economic, political and other connections between countries develop. Today it's impossible to grow without foreign affairs, and it's better to trade with your partner on good or at least satisfactory terms – and countries unite and unite with each other. So, according to this theory, the more a country integrates, the better is it for its economy. American magazine "Foreign policy" investigated the level of integration of 62 countries. Russia occupies the 39th place – a bit worse than average, just between Japan and Senegal. The USA – the 12th place. The highest level of globalisation now is in Ireland, Switzerland and Singapore. 13 indicators were considered during the evaluation. They describe level of integration in different spheres – economy, politics, international trade, informational technologies exchange etc. Specialists think that it's small countries that are considerably involved in the integration. And such huge countries as India, China, Brazil, Indonesia are in the bottom of the list. It can be easily explained by the fact that small countries depend on foreign trade quite more than big ones owing to having fewer resources and fewer transport expenses. But the integration can be regarded as dangerous as it reduces countries' independence. So, there are two attitudes to the integration. Which one is correct?

The reply from Karl, a Mexican student, was:

Subject Re: Globalization

Hi everyone...

The only thing that i want to know is...what do *you* think about globalization ??? (Italics added)

In this example of genre clash we see the dissatisfaction of Karl with Petr's message which he found to be dispassionate, distanced, too long and academic. Petr, guided by the assumption that the communication should be academic, was in conflict with Karl, who viewed it as informal conversation. For Petr it was all about transfer of objective information; for Karl it was a relationship-building activity as he wanted to find out Petr's personal accounts of globalization written in an informal register.

Because of the formal, dispassionate and academic genre of the Russian students' messages, the Mexican students accused them of plagiarism. In Sierra's view, the Russian students engaged in the practice of "writing beforehand," which was opposite to the Japanese and Mexican students' practice of "writing at the moment." She characterized the Russian messages in the following way:

The russians are like they write the msgs, but ...it isn't seems like they *write in the moment* with theirs own word their msgs were perferct, they didn't have any mistake and japanese were like they *write at the momento...* what they think in this momento and i prefer to write what you think in this momento than write something that i found in internet or a book.... *is like copy paste...* and is better in your own word because you are practicing your English. (IRC interview, italics added)

Sierra said that "writing beforehand" would be quite acceptable on the asynchronous bulletin board as long as copied information is "put in one's own words," because it is important "*to know how to say the things without the people say that they dont want to read that message* because is very long.... and it not seems like the persons write" (IRC interview, italics added). In this statement Sierra raised the importance of being communicatively competent in an international online environment. Overall, many Mexican students characterized the Russian messages as long, same, "boring," "scattered all over the place," which

made many Mexican students share Elisa's opinion: "first I was interested in both – Japanese and Russian messages, but than was bored by Russian messages."

The Japanese students' impressions were similar to the Mexican students'. Miki, for example, said: "Mexicans write in less academic language, Russians in more academic language, and Japanese mostly reply" (Interview). In comparison, many Russian students shared Zhenya's opinion: "They write in 'free English' and don't use dictionary. Japanese and Mexicans are more free: 'hi!' 'Wow!' We wrote 'faithfully your's' ☺ we were not as free as they were" (Interview). Also:

Japanese and Mexican English is different, not as ours, and their sentence structure is different. For example, we pay more attention to grammar and than, we know that "I" should be written in capital letter and they wrote in small. Almost everybody in our group and our instructor as well thought that their English and grammar was worse than ours. And I don't know what they thought about our English. (Olya, Interview)

Clash of Topic Choice (Mexican Complaint)

In addition, the Mexican and Japanese students expressed their complaint about too-culture-specific messages initiated by the Russian students. Teresa, for example, said in the interview: "Come on, the Russians, for example, start telling about this specific things about their culture that we had no idea they even exist, and they talk about it like it was a global common knowledge. I could understand only 10%."

Indeed, the largest number of messages initiated by the Russian students during the first 6 weeks of the project, were about their native culture (Table 3), such as "National holidays", "Customs and traditions", "Sports", "History," "Education," "Economic situation," "Russian meals."

Table 3. Breakdown of Topic Initiation: Averages of Total Posted in Weeks 1-6 and 6-12.

Topics	1-6 Weeks			6-12 Weeks		
	Japanese	Mexican	Russian	Japanese	Mexican	Russian
Casual	7	4	33	12	6	41
Course-based	3	2	7	4	0	19
Cultural (own culture)	2	6	144	5	2	38
Cultural (other cultures)	2	0	12	6	1	15
Global	6	0	20	4	4	15
Total	20	12	216	31	13	128
Mean*	0.4	0.3	4.8	0.6	0.4	2.8

Note: This table represents all newly initiated topics across 4 forums that were categorized and counted with a purpose to demonstrate a) unequal topic initiation activity by students from three cultures and b) students' topic preferences.

*Averages of total posted messages per person.

The students realized that the lack of background knowledge about a particular culture may discourage interaction, as they may end up not knowing what to talk about. As Machiko, a Japanese student said: "I felt that the topic was sometimes too local so that we couldn't afford to discuss over nationalities. ...Even if we are not from the same country, we should be able to follow the subjects provided the sense in common" (Mako).

3. Technology-Related Contradictions

Message Overload as Hindering Community Formation

Students from all three cultures felt threatened by the overwhelmingly large number of messages that appeared on the bulletin board daily. As Masumi, a Japanese student, said in the interview: "If I go to the

web after an interval and there are a lot of messages which are unread, it discourages me to do that." Miki, another Japanese student, added: "I do not have enough time to read every single message. If I can't read every message it makes me feel that I am not sure what exactly is going on" (Interview). Also, Alla, a Russian student said: "Firstly when there were not many persons I was looking forward to see other postings very much. And now when we have so many students there I want to follow all messages but it's difficult" (Mid-interview).

Message overload also resulted in difficulties to form a community. Stella, a Mexican student, said: "Something that i didn't like was that the messages was so difficult to find.. you know .. you didn't know if somebody answered you.. and you couldn't keep a conversation with one person" (mid-interview). She further continued:

My motivation is that a person that i wrote keep writing me.. so i can mantein a real conversation, but when i wrote someone and then that person don't write me so i have to look for another conversation but i don't feel confortable because i get lost.. you know what i mean. (Mid-interview)

This also led to the following decision making problems, expressed by Akiko:

There are sometimes many messages, and there are sometimes same topics. Therefore, I puzzle which is appropriate topic I should post. Moreover, when messages increased about one topic, I also puzzle which I should follow pre-message or topic, because topic was developed and was sometimes changed. (Mid-interview)

In addition, the overwhelming number of messages caused their devaluation. As Yukako, a Japanese student, said:

Sometimes, I have no idea what to say about some specific topics because, I feel there are too many topics to discuss something deeper and I am not sure how and how much I can do that. Many topics seem very superficial, I sometimes feel.

Bulletin Board as too "Slow" Compared to Chat

Some students found the bulletin board to be a slow means of communication. Jose, a Mexican student, wrote:

Message no. 3527[Branch from no. 2565]

Subject Re: What is your opinion about online discussions?

Hi everyone. I think online discussions are fine but are *too slow*, is good because you can interact with other contries people and talk about other cultures. But if we can chat maybe we talk better because sometimes *you are inspired to talk about a topic and if you wait maybe you forget everything*. Is my point of view. (Italics added)

This tension reveals students' desire to approximate delayed bulletin board interaction to the immediate response (Thorne, 2003). Based on this, several students from all three cultures expressed their preference for chat over the asynchronous bulletin board interaction. These students placed e-mail interaction on the continuum between chatting and word processing. They shared Elisa's, a Mexican student's opinion, "When u r chatting u can short some words and u dont have to worry about any grammar or spelling problem but in BB or in works for schools you have to write everything right and complete" (chat interview).

Names and Gender Confusion

The final technology-related tension had to do with the lack of visual cues. The Japanese students could not distinguish between Mexican and Russian names. As Kaneko, a Japanese student, said: "Sometimes I

confused that this opinion is from which country's people. I wish I could recognize them. I'm trying to mention my nationality every time, but it's troublesome" (Journal entry). In comparison, for the Mexican and Russian students it was, sometimes, problematic to distinguish between Japanese female and male names.

Outcomes of Contradictions

The outcomes of telecollaboration were not only in different ways of student participation, but in attitudes they formed about one another. The attitudes of the 38.1% of Mexican students became less positive toward the Russian students (Table 4).

Table 4. Change of Attitude toward Communication Partners

Attitude	Japanese toward		Mexicans toward		Russians toward	
	Mexicans	Russians	Japanese	Russians	Japanese	Mexicans
	%	%	%	%	%	%
More Positive	59.5	69.2	61.8	41.2	51.4	40.0
Less Positive	2.4	5.1	8.8	38.2	2.9	5.7
Same	38.1	25.6	29.4	20.6	45.7	54.3

In contrast, most of the Japanese students did not change their attitudes toward the Russian students for the worse, as they did not consider the writings of the latter to be plagiarism. The Japanese students also participated the least, and their positive attitude might be explained by their lower degree of personal investment in the project. The attitudes of approximately 50% of the Russian students remained the same, perhaps because they did not receive the amount and kind of information that would have radically changed their attitudes toward Japanese and Mexicans. In addition, the fact that the Russian students acknowledged that their messages might have been "long and boring" seems to suggest a reason why their attitudes toward their Japanese and Mexican peers weren't adversely affected.

DISCUSSION AND IMPLICATIONS

Explanation of contradictions

Nardi (1996) argues that the challenge activity theory has set for itself is to understand "the interpenetration of the individual, other people and artifacts in everyday activity" (p. 7). This study demonstrated the complexity of this interpenetration, shaped by contradictions among elements of a single activity and among interacting activities. The study found three levels of contradictions: 1) intra-cultural, that represented students' assumptions and beliefs *prior* or *outside* of the telecollaborative activity; 2) inter-cultural, that emerged *during* the telecollaboration, and 3) technology-related contradictions. Students were participants of multiple activity systems simultaneously (Figure 2). They were embedded in their local classrooms, an online global community, and broader contexts of their local cultures. The intra-cultural contradictions emerged within their local activity systems before students had a chance to become legitimate participants of the online intercultural community. The intercultural contradictions, on the other hand, emerged after students began to interact with one another. These contradictions were the result of having the same task – online telecollaboration – but engagement in different activities, characterized by differences in their objects/motives and mediating tools.

Different Objects: Assignment vs. Free Interaction

The Russian instructor, informed by her local conditions, engaged her students in an academic essay-writing activity, drastically different from the Japanese and Mexican students' interactive activity. In their interviews, some of the Russian students expressed their awareness of the reason for the contradictions. Dasha, for example, said that compared to the Japanese and Mexican students, for the Russian students the project was an academic activity similar in nature to essay writing: "Our students wrote long and same messages as they viewed the project *as an assignment* and it was boring." Tina, another Russian student, thought that the differences in participation were due to the fact that they followed a fixed plan and were strictly controlled by their instructor, whereas the Japanese and Mexican students interacted freely:

Japanese and Mexicans did not have *control*, right? – they interacted freely, it seems to me, but we did not. They probably looked at our messages with eyes like jars – so many similar topics about republic, everyone writes similar things – give me a break! *If we also had the same conditions as they did, our participation would have been different.*
(Interview, italics added)

Different Educational Paradigms and Socio-Economic Orders

Whereas the Japanese and Mexican instructors advocated the *interactive learning paradigm*, the Russian instructor was a proponent of the *curricular paradigm*. According to Lemke (1998), the curricular paradigm is the educational paradigm of industrial capitalism and factory-based mass production, which resembles them in its authoritarianism, top-down planning, rigidity, and economies of scale. It assumes that someone else decides what one needs to know and arranges for one to learn it, all in a fixed order and timetable. The interactive learning paradigm, on the other hand, assumes that people determine what they need to know based on their participation in activities where such needs arise, and in consultation with knowledgeable specialists. They learn in the order that suits them, at a comfortable pace, and just in time to make use of what they learn. The interactive paradigm is the paradigm of how people with power, access to information and resources choose to learn.

The curriculum and interactive learning paradigms are linked to different socio-economic orders: Fordist and Post-Fordist (Castells, 1998). These paradigms also correspond to three phases in Computer Assisted Language Learning – structural, cognitive, and socio-cognitive – which mark the shift from the content of computer programs to the content of human-to-human interaction (Warschauer & Kern, 2000). The Fordist socio-economic order, with its lack of Internet access, shaped most of the Russian students' participation and justified the objects and rules of activity set by their instructor. Because of the lack of Internet access, Russian students wrote messages off-line and posted them from floppy disks by simply initiating new threads on the bulletin board during their limited time in the lab. Such practice also explains why their messages were scattered all over the place, creating disorder on the bulletin board. As Luda, a Russian student, said:

I don't have the Internet at home, so I have a chance to read and reply messages only during the lessons in the computer class. I live in a dormitory, and I can use my friend's computer to write the messages on the disc. And then I ask my friend who has the Internet at home to send my messages. *That's why my messages appears rarely and one by one.*
(Italics added)

This also explains why many Russian students were upset when they received the website links instead of outlined information, why they read very few messages and wrote much more off-line, as well as why they had a limited sense of interlocutors and online community.

Differences in Russian Students' Participation

The findings of this study echo Thorne's (2003) proposition that intercultural telecollaboration needs to "explicitly take into account cross-class and cross-social material condition differences" (p. 47), not only across different cultures but also within cultures. For example, a few Russian students did not follow the objects and rules set by their instructor. These students had better access to the Internet and were more motivated and computer literate. Because of this, their engagement with computer technology was similar to that of the Japanese and Mexican students. In contrast, the other Russian students who had limited access and low levels of computer literacy engaged in traditional monologic writing practice, characterized by precise information transfer and error-free performance. Those who were introduced to online communication for the first time in the context of an academic course automatically ascribed the essayist style of writing to online interaction. In comparison, the Japanese and Mexican students, and the few Russian students who had unlimited access and high-speed Internet, spent significantly more hours sending e-mails and chatting online in their out-of-class time. For many of them the Internet was associated with the "illusion of proximity" (Thorne, 2003), informality, and interactivity.

Embeddedness in Different Broader-Activity-Systems

Being situated within different broader-activity-systems made students transfer their diverse local learning and communication models to online context. The reason why only the Mexican students noticed the supposed cases of plagiarism was explained by the reinforcement of an anti-plagiarism policy at their university. Their instructor was urged to enforce the plagiarism rules whenever she noticed cutting and pasting. For example, she spent the first two weeks of the course dealing only with plagiarism and explicitly prohibited it in the course outline¹⁰. In comparison, the Japanese and Russian students did not say anything about the enforcement of an anti-plagiarism policy at their universities.

The type of contradictions described by Yasu earlier, when she was afraid to post her message because of the perceived cultural differences, was shaped by her broader imagined communities/activity systems (Anderson, 1991; Pavlenko & Norton, 2005). Yasu, influenced by broader geopolitical situation, imagined herself and her communication partners as extremely culturally distant from one another, which caused her hesitancy at the beginning. As for the Russian students, they perceived the project not as a mere interaction, but as something having broader international significance. Alla, a Russian student said: "it's an international project and we are the face of our Republic" (interview). This fact motivated students and, at the same time, raised their anxiety level. The Russian students' imagined community had its origin in the context of their broader history of isolation from the Western world, which also contributed to their elevated anxiety about communicating at the beginning of the project.

Computer Tools as Constraining Community Formation

The study found that in international telecollaboration we deal with double mediation, as the tasks are mediated not only by instructors but by the tools themselves. For example, the engagement with the project's communication tools became a challenging task for many students, as it was based not on oral or chat communication but on asynchronous written interaction in the English language. Students experienced pressure to read all messages, which overloaded the bulletin board in a short period of time. In addition, their experience of interaction was constrained by the number of technical inconveniences and slow Internet connection in the Russian context.

The study also found that some students tended to transfer their model of engagement with synchronous chat to asynchronous interaction. For example, they found the latter to be less fun than synchronous chat communication. This was reported by mainly male students from all three cultures, who had fast Internet connection and unlimited access and who liked to engage in chat interaction.

Pedagogical Implications

If we return to the discussion of the theoretical background of this study, it becomes clear that contradictions were the result of students' attempts to form the shared intercultural context-embedded

telecollaborative activity (ICETA, [Figure 2](#)). Whereas the intra-cultural contradictions were resolved as soon as the project began, the inter-cultural contradictions remained unresolved and resulted in forming negative attitudes among some students.

Thorne (2003) argues that for successful intercultural and international telecollaboration to take place and in order for Internet-mediated interpersonal or hyperpersonal relationships to develop, there should be certain minimum alignment of cultures-of-use. When conducting international telecollaboration, the reality dictates that there will always be differences in motives, objects, rules of activity, tools, the ways instructors mediate activities to students, as well as differences in learning paradigms, all due to the differences in the socio-economic, cultural, educational, and material conditions in different cultural contexts (Castells, 1998). Warschauer (1999), for example, argues that although teachers in his study tried to implement an interactive paradigm to varying degrees, full implementation of such a paradigm "would necessitate broader changes in how schooling is structured and is, thus, beyond the scope of any individual teacher" (p. 164).

We cannot and should not expect educational institutions in different countries to align their cultures-of-use, but we can make students become aware of how broader material conditions and educational paradigms can impact interaction (Mayor & Swann, 2002). The misalignments in cultures-of-use and educational traditions may serve as good teachable moments about intercultural differences and tolerance (Belz & Muller-Hartmann, 2003). In this light, the current study emphasizes the importance of instructor involvement in "discerning, identifying, explaining, and modeling culturally-contingent patterns of interaction in the absence of paralinguistic meaning signals" (Belz, 2003; p. 92). There should be some time allocated on exploration of communication partners' local contexts and educational systems. The participants might exchange videos with the information about their cities and universities. Instructors need to communicate better with one another and discuss the objects and rules of the use of the bulletin board in their instructional contexts.

In addition, the study suggests the following implications to address each of the contradictions found in this study. Students' attention should be called to how their writing genres carry traces of a wide range of contextually and culturally situated views (Ware, 2005) and conditions. They should depart from the "attitudes of universalism" and from over-emphasis on foreignness (Bennett, 1993), and instead, learn to understand behaviors as originating from particular cultural-historical contexts (Agar, 1994). Students need to learn how to distinguish between the model of computer-mediated communication as transmission of information and computer-mediated communication as negotiation of shared meaning (Carey, 1988).

Special attention should be paid to reducing students' anxiety associated with the novelty of the experience and perceived cultural differences by allocating time to address the issue of possible internal contradictions, similar to the ones described in this study. Instructors should explain to students what to expect from a project and prospective communication partners, as well as possible dilemmas concerning the degree of formality/informality students may face, and help them choose the "golden middle."

Toward Making Online Interaction More User-Friendly.

To eliminate contradictions associated with the use of computer tools, it is desirable that students have a computer literacy workshop prior to their engagement with the project. Another implication is to reduce the number of students in each forum, at least, to 15-18 and to relieve students' stress by instructing them to give up on the idea to track all newly-appeared messages. Students may be instructed to go to the bulletin board two or three times a week, at a particular time and read only the threads that are interesting to them. Instructors may also inform students of the most popular ongoing discussions on the bulletin board in the classroom.

Instructors should explain to students that asynchronous communication is one of the most optimal modes for international telecollaboration (given the differences in time-zones) and for development of academic language, due to the extra time it provides for reflection. To avoid name and gender confusion among students from different cultures, instructors should conduct mini-lessons at the beginning of the project on popular names of the communication partners' countries.

Recommendations for Further Research

Following the present line of discussion, additional research is needed to explore the role of instructor mediation in shaping international telecollaboration. What needs to be investigated in this area is how instructors integrate exchanges into their classes and take on a more pro-active role to guide students through their intercultural interaction. One of the ways to implement such research is to analyze the classroom transcripts of instructors who work with their students on how to interact online and then conduct evaluations of how effective this training was. In addition, there is a need for collaborative studies to be implemented by all instructors who participate in projects from various instructional contexts. Such multiple-perspective studies will shed deeper insights into the moment-to-moment situated challenges instructors may face in implementing and facilitating international telecollaborations.

NOTES

1. Telecollaboration is defined by Belz as "internationally-dispersed learners in parallel language classes using Internet communication tools such as e-mail, synchronous chat, threaded discussion and MOOs ... in order to support social interaction, dialogue, debate and intercultural exchange" (2003, p. 1).
2. WebCT courseware was first developed at the University of British Columbia and is now commercially available to public and private schools and universities throughout the world. The courseware has a variety of components including web-based resources and links, an assessment grid, a calendar, private chat-rooms, and an electronic bulletin board. The different components can be put together by the instructor to provide materials and information that are specific to each course.
3. On a WebCT bulletin board students' entries can be organized chronologically or in threads that follow a particular theme or topic. Students can see who wrote the latest posting, follow the line of an argument among a group of students, and interject at any point. Each posting includes a student's name, a date a message was posted, and a subject of the message. The instructor and students can use a quote function to incorporate the text from a previous posting in order to comment on it in a new posting. Students can post their academic essays and pictures onto the electronic bulletin board by using an attachment, or by copying and pasting their document onto a message.
4. This paper is a part of the broader unpublished dissertation research by Basharina (2005).
5. Among the Russian students there were some who came from a rural area and who represented low socioeconomic status. Many Japanese students reported in the interview that they had to work part-time to save money for the trip to Canada. In comparison, the Mexican university brochure described local students as representing the wealthiest socio-economic class.
6. The university in Mexico was a modern upper economic status institution for privileged students. The university in Russia was the major university in that region and the Russian students were enrolled in one of the most prestigious departments. The 8-month exchange program at the Canadian university hosted 100 Japanese students and was geared toward development of their English proficiency and intercultural awareness. Only those Japanese students who had high TOEFL scores were allowed to take one or two regular courses with Canadian students; otherwise, they were in "Japanese only" classes. The Japanese students participating in this telecollaboration were from such homogenous classes.

7. WebQuest is a research activity, first invented in 1995 at San Diego State University, in which students collect and analyze information using the Internet.
8. Whereas students were evaluated for participation in the project, their participation in the research was volunteer-based and had no bearing on their final grades. Students' and instructors' names were changed and individually identifying information about participants was removed. Within each electronic message all the original formatting, spelling, use of alternate characters, emoticons etc. were left as written by the participants.
9. The interviews lasted 40 minutes on average. I interviewed the Japanese students right after the project ended. Most of the Mexican students preferred chat interviews in the private Web-CT chat-room or using MSN software. The remaining Mexican students were interviewed by their instructor face-to-face after the project ended, based on the questions I sent her. I interviewed the Russian students face-to-face upon my arrival in Russia a month after the project ended. The Russian students chose to be interviewed in the Russian language; therefore, all recordings after being transcribed have been translated into English.
10. Several Mexican students confirmed that the anti-plagiarism policy was enforced by instructors who came from the US and Canada and by their university policy oriented toward Western standards.

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