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LEARNERS' PERSPECTIVES ON NETWORKED COLLABORATIVE INTERACTION WITH NATIVE SPEAKERS OF SPANISH IN THE US

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ABSTRACT

In this paper, I discuss a network-based collaborative project that focused on the learning conditions non-native speakers (NNSs) of Spanish perceived to be necessary to satisfactoraly communicate with native speakers (NSs). Data from online discussions, end-of-semester surveys, and final oral interviews are presented and discussed. The results of this study demonstrated that the NNS and NS online collaboration promoted the scaffolding by which the NSs assisted the NNSs in composing meaning (ideas) and form (grammar). In addition, the NNSs praised the unique learning condition of being exposed to a wide range of functional language discourse produced by the NSs. Students perceived that open-ended questions for two-way exchange were meaningful for them because they were encouraged to use specific vocabulary and structures during the discussions. In spite of the positive conditions and benefits created by networked collaborative interaction (NCI), it was found that there were some major issues that are crucial for NCI. This study demonstrates that learners' language proficiency, computer skills, and age differences are important factors to be considered when incorporating institutional NCI as these may linguistically and socially affect the quality of online negotiation and students' motivation toward NCI. Practical ideas for further research are suggested.

INTRODUCTION

Networked collaborative interaction (NCI) promotes lively exchanges by learners within a social context, a setting that facilitates the development of their communicative competence. The online tools most commonly used are e-mail, bulletin boards, and chat rooms. These tools create a socially and linguistically enriched environment for NCI. Previous classroom-based research on networked collaboration has focused primarily on the examination of linguistic discourse based on psycholinguistic approaches to language learning (e.g., Blake, 2000; Chun, 1994; Kern, 1996; Lee, 2001; Pellettieri, 2000; Sotillo, 2000; Toyoda & Harrison, 2002). Studies have noted that during their negotiation, learners produce a wide range of discourse structures. To ensure mutual comprehension, learners use a variety of modification devices, such as clarification checks, confirmation checks, requests for help, and self-corrections. These devices indeed facilitate learners' negotiation for meaning and form (e.g., Chun, 1994; Lee, 2002b). Furthermore, through negotiated input, corrective feedback, and modified output, learners develop their grammatical competence and expand their L2 lexicons (e.g., Blake, 2000; Pellettieri, 2000). While these findings on linguistic features have offered valuable insights into the understanding of the role of online conversational interaction, studies on NCI between students at different U.S. institutions have not yet explored the use of the socio-cognitive approach suggested by Kern and Warschauer (2000, pp. 11-13). Specifically, no research has yet focused on the perceptions of non-native speakers (NNSs) with respect to their online exchange with native speakers (NSs) of Spanish.

From a sociocultural point of view, language learning cannot be viewed as an immediate product of the individual; rather, it is the process by which learners engage in co-constructing their L2 knowledge. Through social engagement, learners collaboratively work with each other to achieve a high level of performance (Donato, 2000; Kern & Warschauer, 2000; Ohta, 1995; Swain, 1995). Furthermore, learners' experiences and motives for language learning and their linguistic, cognitive, and affective conditions shape and influence the social interaction. In other words, other individual factors such as

language experience and linguistic skills influence the way they interact with each other. The theoretical framework for this paper, therefore, is an examination of the social processes and contexts that underlie learners' co-constructive efforts. The paper focuses on the learning conditions that NNSs of Spanish perceive to be crucial to a satisfactory communicative engagement with NSs.

SOCIOCULTURAL PERSPECTIVE AND NETWORKED COLLABORATIVE INTERACTION

For years, L2 researchers have investigated the role of conversational interaction and negotiation in second language acquisition (SLA). Researchers have examined comprehensible input (Krashen, 1985), focus on form (e.g., Doughty & Varela, 1999), negotiated output (Swain, 1995) as well as task type and negotiation strategies (e.g., Long, 1985; Pica, 1993). Not until recently, however, have researchers shifted their attention from psycholinguistic approaches to the social-cognitive perspective that emphasizes language development through meaningful social interaction (e.g., Donato, 2000; Ohta, 2000; Pavlenko & Lantolf, 2000; Swain & Lapkin, 1998; van Lier, 1996; Warschauer, 2000). These researchers argue that interactive negotiation through individual input and output modifications does not provide sufficient conditions for acquisition and mastery of a second language. Rather, language learning goes beyond "what" the individual produces (e.g., input and output) and focuses on "how" the individual interacts with others through a joint activity (e.g., collaborative online exchange). The process of negotiation encompasses the inter-relationship between two parties whose actions are influenced by their intentions, goals and learning conditions.

From a sociocultural perspective, language is seen as a tool that the individual uses to socialize with others. Through socialization, learners assist each other in performing a shared task. According to Vygotsky (1978), social interaction fosters the individual's performance through the zone of proximal development (ZPD) -- the distance between what they can achieve by themselves and what they can achieve with assistance from others. Individuals who have knowledge and skills at a higher level assist those who are less capable or know less. Vygotsky (1989) further claims, "social interaction actually produces new, elaborate, advanced psychological processes that are unavailable to the organism working in isolation" (p. 61). Through collaborative scaffolding, learners expand their linguistic and cognitive skills to engage in problem-solving situations (e.g., negotiation of meaning and form). Previous research in language learning has concluded that peer interaction either in groups or pairs results in the emergence of a ZPD (e.g., Brooks, 1992; Ohta, 1995; Swain & Lapkin, 1998). These studies of social interaction demonstrated L2 development in the ZPD. As a result of collaboration, learners gain language competence with the assistance of others. Furthermore, in her recent study Ohta (2000) argues that the expertise of the peer or expert, the nature of the task, and the goals of the learners affect their ZPD.

Lantolf (2000) claims that language learning is about the understanding of learners themselves as agents whose conditions of learning affect the learning outcome. The degree of interaction and involvement in the shared activity depends on learners' motives, beliefs, and attitudes and their investment in the learning situation. The quality of social interaction depends on the participants, all of whom equally contribute their time, turns, roles, and knowledge of subject matter in a shared agenda which van Lier (1996) called "contingent interaction" (pp. 175-180). The "contingent interaction" stems from multidimensional levels: between the instructor and the learner(s) and among the learners. In sum, the sociocultural approach suggests that language learning is a developmental process whereby individuals use the language as a cognitive tool for socialization and also use social interaction as a tool for cognitive growth. Social interaction is more than the action of one person delivering information to another; rather, it shapes and constructs learning through collaborative effort and scaffolding in expert and novice interaction (Kinginger, 2001). Importantly, learners' linguistic, cognitive, and affective domains play a significant role in the sociocultural perspective of language learning because they affect the degree and the quality of social interaction.

NCI allows language learners to interact with others through networking and as such can be studied from a sociocultural perspective. One of the most commonly used modes of communication is synchronous exchange in real time. Tools like online chats allow users to communicate simultaneously using a keyboard to type messages. However, unlike a face-to-face exchange, NCI is a text-based communication which cannot take advantage of certain social aspects of human interaction, such as nonverbal cues (e.g., gestures and facial expressions) and situational clues (e.g., time pressure). NCI relies heavily on writing and readings skills; thus, learners may need more time to process input and output (Abrams, 2003), and they may pay attention to certain aspects of discourse on the screen (Warschauer, 1996). In addition, the mere fact that the participants interact with others whom they know they will not meet in person may also affect how they interact with each other.

Several researchers (Belz, 2001, 2002; Kinginger, Gourves-Hayward, & Simpson, 1999; Warschauer, 2000) have investigated network-based language teaching from a sociocultural perspective. These studies, using the online exchange with institutions from different countries (e.g., Germany, France, and the US), reveal that learners' social and economic values, language proficiency, and electronic literacy contribute to the application of networked settings and the development of language. However, one must take into account the fact that these studies focused on cross-cultural issues. By focusing on a setting in two U.S. institutions, this study attempts to explore learners' perceptions and concerns regarding online exchanges with the NSs of Spanish who live in the US in order to expand the scope of understanding regarding the role of NCI in foreign language learning.

METHODOLOGY

Participants

The networked collaboration by two U.S. institutions was designed, first, to provide the NNS from the University of New Hampshire (UNH) with opportunities to use the target language outside the classroom, and second, to grant the NSs from George Mason University (GMU) in Virginia, experience using online technologies as part of the requirements for their course. A total of 13 NNSs from UNH and 13 NS of Spanish from GMU participated in this project in Fall 2001. At the beginning of the semester, all participants were given a questionnaire that touched upon their general personal, educational, and linguistic backgrounds as well as their computer skills. Table 1 summarizes the profile of participants.

Table 1. Profile of Participants

	Students from UNH (*N* = 13)	Students from GMU (*N* = 13)
Gender	Female = 12; Male = 1	Female = 13
Age	19 - 20	28 - 50
Nationality	Americans	Hispanics living in US
Education	Undergraduates	Graduates
Language Proficiency	Intermediate level	Native proficiency
Computer skills	Very good and familiar with the Blackboard program	Good at using e-mail but not familiar with other Internet technologies

The students from UNH were enrolled in a third-year advanced Spanish course. They were required to use the Blackboard program (visit http://www.blackboard.com for more information) to support their language acquisition. Most of these students had three years of Spanish in high school and two semesters of Spanish in college prior to the study. Students enrolled in this course were either majors or minors in Spanish. Many of them did not have opportunities to use Spanish outside the classroom. More than 50% of the students had reached the intermediate level of language proficiency based on the results of the Spanish Oral Proficiency Test (SOPT) designed by the researcher. The SOPT adheres to the ACTFL Proficiency Guidelines (for details of the test, see Lee, 2000). Students were informed that they would be

chatting with the NSs from GMU using "Virtual Classroom," one of the communication tools of Blackboard.

The GMU participants were native speakers of Spanish now living in the US who were from different Spanish-speaking countries. All of them were Spanish teachers at secondary schools and graduate students at GMU. They were enrolled in the course "Integrating Technology into Language Teaching" and were required to design a homepage, design a WebCT site, and chat online with UNH students outside the class using Blackboard. The native speakers did not chat with UNH students for the purpose of gaining linguistic benefits; rather, the goal of their participation was to help them understand the process of networked collaborative interaction that may assist them in designing online-based instruction for their classes.

In terms of computer literacy, most of the NNSs from UNH had used the Blackboard program for other classes on campus; they were familiar and comfortable with the program. In contrast, most of the NSs had little experience with Internet technologies. Many of them had used only e-mail and had never used a networked program. Insufficient computer literacy on the part of the participants, therefore, may have had some impact on the effectiveness of the collaboration (Belz, 2001; Sotillo, 2000).

Research Design

For the purposes of this study, a researcher-developed survey was created to elicit learners' experiences and opinions of the online collaboration with the NSs (see Table 2 for the items). A 5-point Likert scale ranging from *Strongly Disagree* to *Strongly Agree* was used to gauge student perspectives and attitudes. They indicated their level of satisfaction by ranking the question from 1-5 (5 is the highest score) along with a brief explanation of each rating. In addition to the end-of-semester survey, a set of seven final interview questions was given to the NNSs to gather additional comments and suggestions that they had on NCI (see Appendix). A 20-minute final oral interview with each student from UNH was conducted by the researcher and all interviews were tape-recorded for data analysis.

Tasks

Open-ended questions are viewed as two-way information exchange tasks. This type of question requires more turn-taking during negotiation and leads to the use of comprehension checks, confirmation checks and clarification requests (Duff, 1999). The open-ended questions were designed to be broad and relevant to real life so that the students could relate the issues to their own experiences. Topics drawn from the readings, such as the role of men and women in modern society, served as a point of departure for online discussions:

Charla #1: Una juventud ideal	(Chat #1: An ideal youth)
Charla #2: El papel de la mujer y del hombre en la sociedad actual	(Chat #2: The role of women and men in today´s society)
Charla #3: Las nuevas tecnologías	(Chat #3: New technologies)
Charla #4: Los inmigrantes en los Estados Unidos	(Chat #4: Immigrants in the United Status)
Charla #5: El ser humano y la naturaleza	(Chat #5: Human being and nature)
Charla #6: "Yo" y "los otros"	(Chat #6: "I" and "others")
Charla #7: ¿Una lengua y una nación?	(Chat #7: One language and one nation?)

The open-ended tasks are intended to involve learners in sharing, exchanging, and debating information relevant to life experiences through self-expression and self-discovery. Sample questions are as follows:

Charla #2: El papel de la mujer y del hombre en la socidad actual

(Chat #2: The role of women and men in today´s society)

¿Qué papeles hacen la mujer y el hombre en la sociedad actual? ¿Tienen los mismos derechos las mujeres que los hombres? Explique sus razones.

(What are the roles of men and women in today's society? Do women have the same rights as men? Explain your reasons.)

Charla #3: Las Nuevas Tecnologías

(Chat #3: New Technologies)

(1) ¿Están contribuyendo las nuevas tecnologías de la información a la creación de la famosa "aldea global"?

(Do the new information technologies contribute to the creation of the famous "global village"?

(2) ¿De qué forma influyen las nuevas tecnologías en su vida profesional o en la de sus compañeros, familiares, etc.? ¿Y en su vida personal?

(In what ways do the new technologies influence your professional life or the life of your classmates and families? And your personal life?

(3) ¿Permiten las nuevas tecnologías de la información el intercambio de ideas de una forma más democrática? Ejemplos a favor y/o en contra.

(Do the new information technologies allow the exchange of ideas in a more democratic way? Give examples for or against.)

Procedures

Online exchange was carried out using Blackboard, a program that allows users to produce, store and retrieve data when needed. The researcher from UNH and the instructor from GMU worked closely via e-mail exchanges to design online-based activities. Before the activities took place, they provided students with instructions on how to login, logout, and access information from Blackboard. All activities were carried out in Spanish outside the classroom. Students from GMU were aided by their instructor, an experienced Internet technologist. They were shown how to login and logout from the "Virtual Classroom" located in Blackboard. The GMU instructor assigned each student to one UNH student. The instructor provided students with a list of topics that were incorporated into the UNH chat schedule, as well as the dates by which they had to chat online with their partner from UNH.

No particular instructions were given to the two institutional groups. They were, however, encouraged to focus on the topic, to share ideas with each other, and to allow their partners to contribute as much as possible. The researcher and the instructor did not participate in any of the discussions. The NSs, however, served as experts to assist the NNSs in online discussions. All online exchanges were automatically saved into the archives of Blackboard and were retrieved later for data analysis.

RESULTS AND DISCUSSION

Data from online exchanges, the end-semester surveys, and final oral interviews were employed to report and justify the findings. At the end of the semester, both NSs and NNSs were asked to fill out the survey concerning their perspectives about using online chats with their institutional partners. The data presented in Table 2 records the results of both the NNSs' and the NSs' reactions to the networked collaborative interaction with their institutional partner. For the purposes of this study, discussions of Table 2 center on the perceptions of the NNSs regarding the online exchanges with the NSs and only where relevant on the NSs' point of view.

Table 2. Learner Perspectives Concerning Networked Collaborative Interaction

Statements of the Survey	Native Speakers from GMU	Non-Native Speakers from UNH
1. Chats were useful for myself.	$M = 3.11$	$M = 4.12$
2. Chats were useful for my UNH/GMU partner.	$M = 3.83$	$M = 2.25$
3. I believed my partner from UNH/GMU enjoyed online chats.	$M = 2.99$	$M = 3.33$
4. I had the feeling that I was leading the discussion most of the time.	$M = 4.28$	$M = 3.21$
5. We focused on the topic.	$M = 4.03$	$M = 4.59$
6. Topics were interesting to me.	$M = 3.55$	$M = 4.56$
7. It was difficult to find common time to chat.	$M = 4.45$	$M = 4.32$
8. Chatting online was intimidating for me.	$M = 2.50$	$M = 3.94$
9. Chatting online enhanced my writing skills.	$M = 2.22$	$M = 4.76$
10. Overall, it was a positive experience for me.	$M = 3.17$	$M = 3.78$

General Reactions of Non-Native Speakers Regarding Online Exchange: Survey Results

The results of the end-of-semester surveys reveal that overall the students from UNH had a positive experience with networked collaborative interaction. However, they experienced some difficulty and disaffection with the exchange with their NS partners. Students commented on the surveys -- in their brief explanation of each rating -- that the online exchanges offered a socially and linguistically meaningful context for them to use the target language (see statements #1 and #10). The NNSs strongly believed that text-based communication helped them improve their writing skills (see statement #9). They particularly praised the topics of interest and perceived them as an effective way to exchange ideas and to express and defend their points of view (see statement #6). Although both institutional groups encountered difficulty in arranging common times to meet online (see statement #7), the NNSs in particular indicated repeatedly on the survey that it was extremely difficult to meet online with their partners from GMU. Despite that they contacted each other in advance via e-mail to schedule a time for the online chat, students found it impossible to contact each other when unforeseen circumstances occurred. Several students felt frustrated by having to wait for their NS partners in an empty chat room. In cases of unexpected contingencies, their partners might not show up in which case they were not able to execute the assignment. Such students had to go through the trouble of re-scheduling another time to meet.

From a linguistic point of view, the NNSs did not believe that their partners from GMU benefited from chatting with them (see statements #2 and #3). Students believed that their NS partners might have felt frustrated or even bored working with them because of their inferior language skills. They wrote in the surveys that they were slow in composing ideas and sometimes they did not know what to say about something on which they had limited knowledge. Although the students knew they would be chatting with NS partners, some students experienced anxiety about communicating with NSs at the beginning of the semester (see statement #9). Another discomfort that the NNSs experienced was that their limited Spanish did not allow them to fully express their ideas. Comments made on the survey revealed that many NNSs did not feel confident in their Spanish and were afraid to make mistakes. One very shy student emphasized that she did not feel comfortable chatting with her NS partner by stating that she had no desire to interact with other NSs in the future. Both the linguistic and the affective domains, such as learner language ability and language learning anxiety, are crucial for online exchanges with NSs as these language conditions affect learners' motivation and attitude toward the L2 learning. Such perceptions of inequality were also reported in the study of Belz (2001). Future research could address how such problems can be improved in future NCI designs.

Essential Online Exchange Conditions Perceived by Non-Native Speakers

A close-up data analysis using extracts from NNS-NS exchanges as well as information gathered from final oral interviews revealed several major issues that the NNSs perceived important and necessary for integrating NCI into FL instruction. The following is a discussion of online exchange conditions the students thought necessary for effective NCI with the NS group. The findings of this study demonstrate and support theoretically motivated sociocultural learning practices and research. For the purposes of this study, the discussion focuses on learning conditions: authentic language, task type, collaborative scaffolding, and learners' linguistic and cognitive skills and computer literacy.

Language Authenticity Through Socialization. The utterances of NSs are original, authentic, and accurate, in direct contrast to the non-target-like discourse produced by NNSs. NNS students perceived advantages of working with the NSs from GMU. In spite of the difficulty in understanding some of the messages from the NSs, students in this study praised the unique learning condition of being exposed to a wide range of functional language discourse produced by the NSs. The UNH students live in an area where the target language is rarely spoken; many of the students had never had the experience of dealing with NSs before this study. Students acknowledged the importance of the fact that they were offered opportunities to work with the NSs who served as experts in Spanish. They realized that the authenticity of the target language becomes an essential learning condition for NCI, especially when the instructor is absent (final interviews). Oral interviews revealed the following comments:

> Online exchange allowed me to observe and imitate my NS partner's discourse as she used a vocabulary and style very different from mine. To me, it was very helpful to observe how she put ideas and thoughts together. I learned from her techniques of how to shape my writing better. At the end, I managed to incorporate some new words and some advanced grammar that I learned from my NS partner into my writing. I feel better about writing in Spanish.

> Chatting with the NS was definitely a new experience for me. When I experienced difficulty finding appropriate words for expressing specific ideas, my partner's speech often served as a model for me to make adjustments to my imperfect Spanish. I observed how she wrote and I liked the way she used vocabulary, grammar and a range of registers. I noticed that there was a gap between her Spanish and mine. Mine was like "foreign talk" and not very coherent and appropriate but hers was just perfect and sounded so natural. I found it very helpful to work with someone who knows much more than I do. I am eager to improve my Spanish.

The following unedited example illustrates how negotiation skill allowed the NNS to receive authentic language use from the NS, a use that was quite different from hers:

1.	NNS:	Me parece que la sistema educativa en esta pais no es muy buena.	(I think the education system in this country is not very good.)
2.	NS:	Hm, ¿por qué no es bueno el sistema?	(Hm, why is it not very good?)
3.	NNS:	el sistema o la sistema?	(the system [masculine] o the system [feminine]?)
4.	NS:	El sistema como el problema, el tema, etc.	(the system [masculine] like the problem, the topic, etc.)
5.	NNS:	Oh, si. Gracias. Muchas personas no van a la universidad. Ellos no tienen dinero. Es mucho dinero ir a la escuela si tu no tienes financial aid para ayudar pagar.	(Oh, yes. Thanks. Many people don't go to the university. They don't have money. It is a lot of money to go to school if you don't have financial aid to help to pay.)
6.	NS:	Entonces, ¿no debemos pagar por la educación en este país? En otras palabras,	(So, we should not pay for the education in this country? In other words, you think it

educación en este país? En otras palabras, ¿piensas que debe ser gratis para todos? No opino lo mismo. Pienso que cada uno es responsable de sus propias decisiones. Si uno valora la educación y desea asistir a la universidad, entonces buscará la manera para lograrlo.

this country? In other words, you think it should be free for everyone? I don't share the same view. I think everyone is responsible for his own decisions. If one values the education and wants to go to the university, then one will find the way to achieve it.)

At first, the student noticed the different article for the word "system" (masculine vs. feminine) and immediately, made the negotiation move (line 3) for clarification. In response, the NS provided the examples to show the correct article (line 4). In addition, line 6 shows the amount of authentic language used by the NS including useful vocabulary in comparison to the language produced by the NNS (line 5). Learners need to be provided with opportunities to be exposed to correct and authentic language in meaningful contexts in order to achieve a high level of language proficiency.

NNS students also experienced the natural give and take of conversation as they communicated with NSs. One of the students, reflecting on her actual language use with her NS partner, said during the final interview,

> Chatting with my NS partner was very stimulating. My NS partner was very patient and was willing to help me out when I got stuck. I believe that chatting with NSs is a powerful way to learn Spanish. I was exposed to authentic language use and a full range of conversation functions. When I wrote to my NS partner, I had to think carefully how to express myself appropriately so she understood me. Sometimes it was not easy for me but it was the best way I have ever learned to communicate with others in the target language.

The positive online exchange experience indeed motivated this student to continue to write to her NS partner via e-mail after the study. The extended exchange between the NNS and NS suggests that NCI fosters language learning in a developmental and continuing process as it occurs and changes over time. In the long run, this student may actually improve her writing skills in Spanish through informal social contacts with her NS partner. Studies on whether electronic exchange over time in a socially collaborative context improves learners' language skills will make a needed contribution to the sociocultural field of inquiry.

Task Appropriateness. Crucial to SLA is the type of task that promotes the meaningful use of the target language. Several studies have investigated the task effects (e.g., a "one-way" versus a "two-way" task) on learners' performance (Pica, Kanagy, & Falodun, 1993; Shortreed, 1999). A two-way task involves an exchange in which two interlocutors negotiate meaning. The key is to structure tasks that involve learners' active participation in sharing, exchanging and debating information relevant to life experiences through self-expression and self-discovery.

When asked if the topics were interesting to them, students from UNH in particular praised the fact that the subjects were stimulating and meaningful, especially since the topics were related to real life situations. The open-ended questions were broad enough for everyone to join in, encouraging the students to express fully their ideas through negotiation. During the final interview, one of the NNSs enthusiastically said,

> Discussion on specific topics forced me to use certain vocabulary and phrases to get my ideas across to my partner. I enjoyed very much the discussions with my partner from GMU. I learned many new words and expressions from her because she is fluent in Spanish. In my opinion, it is authentic and a true way to learn a foreign language.

Many open-ended questions targeted the use of specific vocabulary and structures so that these functional skills could be reinforced and developed from skill-getting to skill-using (Lee, 2002a). Two-way information exchange also promotes the development of ZPD in an electronic environment. Students indicated on the survey that task-based assignments not only allowed them to use Spanish to express ideas in a meaningful context but also to listen to others' opinions. Through turn-taking, they debated issues that allowed them to reflect on their own life experiences. With the assistance of the NSs, they were able to articulate their thoughts in depth rather than in a superficial way. This study proves that open-ended questions were powerful and interesting enough to motivate students as they participated in online discussions.

In spite of the positive feedback received from many of the students, some of the NNSs experienced difficulty writing for 50 minutes on the same topic. One of the NNS students wrote this comment on the survey: "It was hard to explore the same topic in depth and for a long time. We should be given choices for the topics that interested us most." Another student admitted that sometimes she did not know much about the topic, therefore, she could not offer much information and would prefer to have options on the topics. Two students agreed that the discussions were not dynamic and informative enough to be carried on for 50 minutes. Suggestions were made to prepare students in advance so they were familiar with the topic. To improve the quality of the discussion, one pedagogical technique would be to provide students with a list of questions related to the topic so they can work on these questions beforehand to facilitate the online collaboration. Another possibility is to have students work in small groups to discuss topics and generalize ideas before chatting with their NS partners.

Negotiation Through Collaborative Scaffolding. From a sociocultural point of view, the learning condition is crucial if learners are to feel impelled to engage in a shared activity. This study shows that the students perceived the NCI with the NSs as beneficial to them; they were enthusiastic about and deeply interested in chatting online with the students from GMU. A number of students pointed out that the NCI with their NSs was a great idea because they were guided by experts of Spanish who assisted them linguistically and cognitively in the process of online negotiation. Through scaffolding on the part of the NSs, the learners were challenged to produce coherent discourse that goes beyond grammatical accuracy. The following unedited excerpt illustrates how both the NS and the NNS collaborated in negotiation for meaning:

1. NNS: piensas que la tecnologia es demasiada?   (do you think there is too much technology?)

2. NS: De que manera piensas que es mas   (In what way do you think it is more
        democratica o no. Puedes ofrecer mas   democratic or not? Can you offer more
        ejemplos?   examples?)

3. NNS: creo que es mas democratica porque todos   (I believe it is more democratic because each
        los grupos tienen la misma poder.   group has the same power.)

4. NS: Si, a veces es demasiado y me da miedo que   (Yes, sometimes it is too much and it
        no se busque un balance entre la   worries me that there is no balance between
        computadora y la escritura.   the computer and writing.)

5. NNS: si, con todo que ocurre en el mundo ahora,   (yes, with all that's happening in the world
        tengo mucho miedo.   now, I'm very afraid.

6. NS: que ejemplos tienes tu?   (what examples do you have?)

7. NNS: en muchos paises la gente no tiene   (in many countries people don't have
        computadoras. Ellos son pobres.   computers. They are poor.)

8.	NS:	que problemas hay con las personas que no tienen ordenadores?	(what problems are there with people who don't have computers?)
9.	NNS:	pues, hay muchas amenazas de guerras de quemica y necesita la computadora para eso.	(well, there are many threats of chemical warfare and computers are needed for that.)
10.	NS:	Como ayuda la computadora? Informar al publico, comunicarse con los soldados -- como?	(How does the computer help? Inform the public, communicate with the soldiers -- how?)
11.	NNS:	ellos no tendran una educacion ... es muy triste. La computatdora es una forma de educacion muy importante.	(they will not have an education … it is very sad. The computer is a very important way to educate.)
12.	NS:	Las personas que no tienen un ordenador no tendran una educacion?	(People who don't have a computer will not have an education?)
13.	NNS:	si, solamente los ricos pueden acesar la informacion.	(yes, only the rich people can have access to the information.)
14.	NS:	Yo estoy en clase con una persona educada y no tiene un ordenador.	(I'm in class with a well-educated person and she doesn't have a computer.)
15.	NNS:	muchos veces si, porque mucho de la educacion ahora es por la computadora.	(very often yes because a lot of education now is via the computer.)
16.	NS:	No entiendo tu respuesta. Me puedes explicar mas?	(I don't understand your response. Can you explain it more to me?)
17.	NNS:	lo siento ... muchos veces las personas que no tienen aceso a un ordenador nunca, son personas de paises del tercer mundo, pero no todos.	(I'm sorry … many times people who never have access to a computer are people from the third world, but not everyone.)
18.	NS:	Entonces no solo son las personas ricas -- verdad?	(so not only rich people -- right?)
19.	NNS:	hablo de las personas ricas del tercer mundo.	(I'm talking about the rich people from the third world.)
20.	NS:	Bien, ahora esta claro -- gracias.	(Good, now it is clear -- thanks.)

This collaborative dialogue demonstrates that both the NS and the NNS became involved in a problem-solving activity through social and cognitive engagement. The NS used multiple negotiation devices, such as request for more information (lines 2, 6 and 16), clarification check (lines 10 and 12), and confirmation check (line 18) to challenge her partner's opinions of computer technology. These questions enabled the NNS to articulate her thoughts and she was able to clarify her point of view by offering additional information (lines 15 and 17). For instance, the question (line 16) that the NS asked -- "Can you explain more?" -- indeed pushed the NNS to find another way to clarify her point of view. Although the NS scaffolding did not result in producing correct linguistic forms, it assisted the NNS in better expressing herself using both cognitive and linguistic skills. At the end, both parties understood each other through several turns of negotiation and collaborative effort.

During the final interview, this NNS expressed her satisfaction with collaborating with her NS partner, especially the opportunity to learn how to express ideas clearly through debating different topics with the NS. This student further explained,

> For the first time, I realized how hard it is to communicate online with a native speaker. Unlike face-to-face interaction, you cannot use body language to express your ideas and feelings. NCI is a challenge but with the help from my Spanish partner, I managed to use my limited Spanish knowledge to discuss different types of tasks with her. I liked the way I was challenged. It pushed me to go forward in my ability to find different ways to express myself.

The analysis of the above script and self-report from the NNS student provides the evidence of how NCI facilitates the negotiation process through the NS scaffolding.

While students at the intermediate level of proficiency still struggle to produce correct language structures and appropriate lexical items, the NCI affords learners great opportunities to exercise and further improve their linguistic skills. This study shows that the NNS-NS online collaboration was beneficial to the NNSs through linguistic scaffolding, as in the expert-novice relationship between the NNS student and the NS. During the negotiation, students were able to notice their interlanguage system: the gap between their L1 and L2 and the correct Spanish produced by their NS partners. Although focusing on the form was not the goal of the task, in many instances, the NSs assisted the NNSs in their linguistic problems. Linguistic scaffolding from the NSs assisted the students in recognizing the incorrect usage of temporal and aspectual morphosyntax, such as the use of *trabajo* (I work) versus *trabajé* (I worked) and *fui* (I went) versus *fue* (he went). For instance, the learner realized that he had made an error in the conjugation of the verb form (*aprendió*) after the NS used the recast to confirm the meaning in her response. The NNS immediately self-corrected it to the correct form (*aprendí*).

1. NNS: Aprendió muchas cosas de mi padre.   (He/She learned a lot of things from my father.)

2. NS: Hm, quién aprendió?   (Hm, who learned?)

3. NNS: Yo aprendí. Lo siento.   (I learned. I'm sorry.)

Linguistic scaffolding is a powerful forum in which the collaboration is played out between the NNS and the NS. This type of linguistic exchange is crucial because the students are guided to write correctly. Linguistic scaffolding may help maintain the balance between function, content and accuracy.

Data from this study also reveal that the NNS-NS online collaboration induced lexical scaffolding as students encountered difficulty understanding the words that the NSs used. The unedited example below illustrates how the NS directly provided the assistance to the NNS in acquiring a new lexical item.

1. NS: Hoy día muchas mujeres trabajan fuera de   (Nowadays many women work outside of
          casa. ¿No crees?   house. Don't you think so?)

2. NNS: Sí. ¿Qué piensas de "sexual harassment" en   (Yes. What do you think about "sexual
          los trabajos? No sé las palabras. Lo siento.   harassment" on the job? I don't know the
          ¿Cómo se dice "sexual harassment"?   words. I'm sorry. How do you say "sexual
                                                            harassment"?)

3. NS: Acoso sexual.   (Acoso sexual).

4. NNS: Gracias. ¿Piensas que es más difícil para   (Thanks. Do you think that it is more difficult
          las mujeres tener sus trabajos por el acoso   for the women to keep their jobs because of
          sexual?   sexual harassment?)

With a superior knowledge of Spanish, the NS could offer an immediate solution to the problem that the NNS encountered shown in the inquiry of the unknown vocabulary "sexual harassment." The student then used the new lexical item immediately in her follow-up question. Additional studies should be conducted to determine whether in the long run, the lexical scaffolding from the NS leads to improvement in the learner's L2 vocabulary acquisition. In summary, the results of this study show that the NNS and NS

online collaboration promoted the scaffolding by which the NSs assisted the NNSs in composing meaning (ideas) and form (grammar) thus enhancing the performance through the ZPD.

Different Language Proficiency Levels and Age Difference. Learner's language proficiency plays an important role in NCI, especially during NNS-NS communication (Belz, 2001). The results of online collaboration between the NNSs and the NSs revealed that students acknowledged that their self-confidence while participating in NCI with their NS partners was affected by their inferior language proficiency. One linguistically weak student made these comments during the final interview:

> My partner wrote very fast and used a different vocabulary than I did. I had a hard time understanding some of the messages. I did not feel very confident about my Spanish and I was more careful than usual to compose my messages before I sent them. She was too advanced for me. It was not a very good experience.

The fact is that the NSs in this study are high school teachers. The NNS's feeling about her performance might have been affected by the weight given to an authoritative figure. A student commented during the final interview,

> My partner asked me a lot of questions and it took me a long time to compose my ideas. Sometimes she would interrupt my thoughts by asking me more questions. Not only did I feel uncomfortable chatting with her but also I felt stupid when my partner tried to correct my mistakes. Maybe because she is a Spanish teacher and she couldn't help doing this.

The quotation above demonstrates just how much the NNS felt intimidated by a partner whom she viewed as a figure of authority and a language expert. In the final interviews, some students expressed their preference for working with their own peers, NNSs, because they felt that they were at the same level as their partners in their mutual ability to express their voice even though their language skills were not perfect.

The quality of social interaction lies within the participants, all of whom must equally contribute their time, turns, roles, and knowledge of the subject matter in a shared activity (van Lier, 1996). It appears that the learners' collaborative effort was affected by participant language proficiency levels. Students expressed the opinion that NCI was dominated by the NSs due to their superior language proficiency. One student addressed the problems found in working with the NS on remarking, "I don't believe chatting with the NS is a good idea because a person of higher proficiency tends to lead the conversation and is likely to control the task while the partner with lower proficiency takes a passive role." The following unedited example illustrates how the NS led the conversation by asking questions of the NNS:

1.	NS:	Como usas la tecnologia en tu vida actual?	(How do you use technology in your daily living?)
2.	NNS:	En mi vida la uso mucho. Tengo que escribir a maquina a todos de mis papeles y escribo mucho.	(In daily living I use it a lot. I have to type all my papers and I write a lot.)
3.	NS:	¿Usas la computadora o la máquina de escribir?	(Do you use the computer or the typewriter?)
4.	NNS:	Uso la computadora. Tengo un laptop.	(I use the computer. I have a laptop.)
5.	NS:	Parece que nos gusta tanto que no podemos "vivir" sin ella.	(It would seem that we like it so much that we cannot "live" without it.)
6.	NNS:	Tambien hago investigaciones en el internet cada dia a mi trabajo.	(Also I do my research at work using the Internet everyday.)

7.	NS:	Investigaciones? Que haces exactamente?	(Research? What do you actually do?)
8.	NNS:	Trabajo en una oficina adonde nosotros investigamos aspectos diferentes del crimen	(I work in an office where we do research on different aspects of crime.)
9.	NNS:	Seguro que el uso de la tecnologia en este dominio es primordial	(Without a doubt, the use of technology in this field is primordial.)
10.	NS:	De que otra manera usas la tecnologia?	(What other way do you use technology?)
11.	NNS:	Pues, uso el telefono con mas frecuencia.	(Well, I use the telephone more often.)
12.	NS:	Que piensas de la tecnologia y la creacion de la "aldea global"?	(What do you think about technology and the creation of the "global village"?)
13.	NNS:	"aldea global"? Que es esto?	("global village"? What is this?)

In this conversation, the NNS took a passive role by only answering questions from the NS and obviously did not know how to initiate the conversation. The example shows that the NS asked a total of five questions (lines 1, 3, 7, 10, and 12) whereas the NNS asked only one question to check the unknown lexical item (line 13).

Most of the students had never had the experience of dealing with NSs and none of them had lived abroad. Therefore, they might not know how to converse with people from different cultures. Students suggested that the instructor should be aware of matching participants' proficiency levels when using NCI. The results corroborate those found in the study of American and German telecollaboration by Belz (2001). It would seem impossible to match native and non-native proficiency levels. In order to gain a positive learning experience, participants need to be advised to be aware of individual differences in language abilities as well as to be sympathetic and tolerant towards each other.

This study further reveals that students' motivation and comfort level with respect to NCI was affected by the age difference between the two institutional groups. As mentioned in Table 1, the majority of the NSs from GMU (age = 28-50) were much older than the students from UNH (age = 19-20). The following unedited chat reveals the age difference between two parties:

1.	NNS:	Cuantos anos tienes?	(How old are you?)
2.	NS:	Cuando yo era joven no usabamos computadoras. Yo tengo cincuenta anos (medio siglo). Tengo dos hijos y dos hijas. Tambien tengo una nietecita de dos anos. Y tu?	(When I was young we did not use computers. I'm 50 years old (half century). I have two sons and two daughters. I also have a two-year-old little granddaughter. And you?)
3.	NNS:	Tengo diez y nueve. Tengo un hermano. Tiene 16 anos.	(I'm 19 years old. I have a brother. He is 16 years old.)

This NNS commented in the survey, "My partner from GMU and I really did not have much in common to talk about. She did not seem to be interested in what I said. She did not respect my opinions." Another student admitted during the final interview that she was somewhat disappointed in the NCI because of the lack of common interests between her NS partner and herself. This student further stated,

> I must say that I was quite surprised to know that she was 42 years old. Obviously, she knows much more about the world than I do. Sometimes I did not know how to answer her questions. Not only linguistically was I not able to fully express myself, but also I had a hard time to come up with ideas. It did not seem that we had much in common to carry out a long conversation.

This seems to indicate that the age difference is a problem. These students suggested during the final interview that it is important to find similar age groups and someone whom one knows rather than a stranger. This commentary corroborates previous research findings that argue that age is an important factor in the quality and outcome of NCI (Belz, 2002; Mülller-Hartmann, 2000). In the study of student perceptions about a videoconferencing project conducted by Coverdale-Jones (2000), the students confirmed the benefit of communicating with a real person from their own age group. A compensatory strategy would be to encourage students to use e-mail beforehand so that they get acquainted with their partner. They may then feel more comfortable with each other before executing class assignments.

Accessibility to Networking and Availability of Users. NCI requires highly reliable access to the network system as well as a strong sense of responsibility on the part of the users. In her recent study, Belz (2001) explored the differences in technological access and use between the German and the U.S. students in a societal context. Her study reveals that the cost and lack of access to a network in Germany contributes to a limited level of online communication. The results of this present study, however, identify different technological aspects of NCI at the institutional level.

UNH hosted the network system of the Blackboard program for this study while WebCT was the network-based program for online courses on the GMU campus. Some of the GMU students encountered difficulty in accessing Blackboard. Occasionally, UNH students had to show the NSs how to access the "Virtual Classroom" for online discussion. In a few cases, students also had a problem with their password to login to the course. In general, NNSs who were experienced with a computer found their partners' difficulties with the computer cut into the amount of time available. One student made the following negative comments in her final interview:

> Many times, I had to wait for my partner to get online and she did no know how to get access to the chatroom. I had to give her instructions. We wasted a lot of time in trying to figure out her computer problems. It was very frustrating.

Students also commented that detailed instruction for accessing the network systems should be provided to all students and, if necessary, the training should be scheduled beforehand. Accessibility to institutional networking including reliable access and clear instructions becomes essential for NCI.

In order to maintain a high level of quality within the NCI, students are held accountable for making themselves available for activities outside of class. In this study, both native-nonnative speakers experienced difficulty in finding a common time to chat online. Students negotiated online for scheduling time to chat. To illustrate, one of the NNSs wrote to her partner (translation), "I'm sorry. I don't have time on Friday. Also I have to work this weekend. Can you talk tonight at 10:00?" Her partner then responded to her, "I cannot tonight. I have to join a study group for Chemistry review. Can we chat Sunday night?" As a result of this conversation, this group finally managed to be online for less than 30 minutes and both the quality and quantity of their work was unsatisfactory. In addition, NNSs complained about the lack of technological skills on the part of their partners from GMU. The fact that the NSs were enrolled in the course "Integrating Technology into Language Teaching" shows that it was likely that they did not have sufficient computer skills to access and work in the networking environment. In sum, the lack of strong commitment due to the time conflict and insufficient computer skills may have affected the quality of online collaboration and students' motivation towards the project.

SUMMARY AND CONCLUSION

Overall, the evidence presented in this study shows that NCI offered a powerful forum for learners to use the target language to socially interact with the NSs. From the learners' point of view, the NCI is valuable to them because it contributes to an important part of their language learning experience in a real-world setting instead of in a traditional classroom environment. Online exchanges with the NSs also offered authentic language discourse for the NNSs to acquire new lexical items and correct grammatical

structures through collaborative scaffolding. More importantly, the NSs played the role of expert who assisted their NNS partners in using both linguistic and cognitive skills to defend and articulate their thoughts on the current topics. Topics related to real-life situations motivated the NNSs to engage in lively discussions through self-expression and self-discovery.

In spite of the above positive conditions and benefits created by NCI, the NNSs experienced difficulty in finding a common time to be online and getting access to the network at the host institution. In addition, learners' language and computer skills as well as age differences are important factors to be considered when incorporating institutional network-based instruction as these may affect the quality of online interaction linguistically and socially. This study reveals important issues in need of investigation. Further, study of native and non-native online exchanges will advance the knowledge of how learners' language proficiency is developed over time in a socially collaborative context. Continued investigation of the types of negotiation devices and feedback used by both NSs and NNSs to enhance online communication will contribute to a clearer understanding of language learning.

In closing, this study demonstrates that the perspectives offered by the NNSs provide an insight into the processes of network-based collaboration with the NSs. The unique network-based learning conditions allowed the NNSs to expand and enrich their learning experience within a socially engaging context. Carefully designed tasks which engage the learners and appropriate selection of participants along with sufficient network training maximize the potential benefits of integrating NCI to language learning.

APPENDIX
End of Semester Oral Interview Questions

1) Briefly describe your experience with Blackboard for this course.

2) Share with me the most valuable and interesting part of online exchange and why.

3) Describe the most difficult or least important part of online exchange and why.

4) Tell me about your experience chatting with native speakers. Did you enjoy it and why?

5) What do you think about the topics for online discussions?

6) Do you think online exchange helped you improve your Spanish? How?

7) Overall, tell me how the experience of online exchange changed your perspective on the online collaboration? Do you have any concerns about networked collaboration?

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