2005

Corrective Feedback in Online Asynchronous and Synchronous Environments in Spanish as a Foreign (SFL) Classes

Martha E. Castañeda
University of South Florida

Corrective Feedback in Online Asynchronous and Synchronous Environments in Spanish

as a Foreign (SFL) Classes

By

Martha E. Castañeda

Co-Major Professor: Carine Feyten, Ph.D.
Co-Major Professor: Tony Erben, Ph.D.
Wei Zhu, Ph.D.
Robert Dedrick, Ph.D.

Date of Approval:
June 13, 2005

Keywords: bulletin board, chat room, explicit correction, recast, clarification request,
metalinguistic feedback, elicitation, repetition, learner response

Dedication

This dissertation is dedicated to my family. To my mother, Eleanor Louise Castañeda, from whom I got the courage to study, you gave me the values that guide my life, you are a kind human being and an amazing woman. To my father Manuel Antonio Castañeda, although you are far away, your love is felt every day, you are a generous and genuine person. To my brothers, Walter and Jaime, whose love and support are always with me. To my late grandmothers, Eleanor Martha Hadfield and Zoyla Esperanza Urquía, you will always be in my heart.

Acknowledgements

I would like to take this opportunity to express my genuine gratitude to all those individuals who contributed and assisted me in this project; their help was invaluable.

First, I would like to thank my Major Professors Drs. Tony Erben and Carine Feyten. To Dr. Tony Erben, you were there for me every step of the way. It was in one of your classes that I developed an interest in the topic and you graciously supported me as I worked through the various areas and the literature. Once the project was underway, you met with me tirelessly, providing me with numerous insights, guidance, and support. To Dr. Carine Feyten, you have been there every step of this journey. Your wisdom helped me improve the quality of this project. Both Dr. Tony Erben and Dr. Carine Feyten are true mentors from whom I learned and keep learning. My other committee members, Drs. Wei Zhu and Robert Dedrick also contributed significantly to this study. Thank you for taking the time to meet with me and for providing me with your expertise.

I would also like to thank my family for their support and patience. To Darrel, your love, friendship, strength, wisdom and emotional support helped me pursue my dreams. To my friends, Carol, Juan, Sabine, Michelle, Jeannie, Farah, Olga, Melinda, Roxana, Lourdes, Vilma, and Osama, you are so kind to me and I cherish our friendships. To all my friends in the Second Language Acquisition and Instructional Technology program and at the University of South Florida who have touched my life in some way, I appreciate you.

Finally, I would also like to thank the many instructors and students in the World

Language Department of the University of South Florida who participated in this study.

Table of Contents

List of Tables

List of Figures

Corrective Feedback in Online Asynchronous and Synchronous Environments in Spanish

as a Foreign Language (SFL) Classes

Martha E. Castañeda

ABSTRACT

This dissertation reports on an investigation of corrective feedback provided by instructors to learners in sixteen online asynchronous and synchronous interactions. The overarching objective of this study was to examine the provision of corrective feedback in computer-mediated communication (CMC) environments. This study also sought to examine the frequency of corrective feedback types and the relationship between learner error and corrective feedback provision. Finally, this study investigated what types of corrective feedback led to repaired learner responses.

Over the course of one university semester, the instructors and students in four second-semester Spanish courses participated in bulletin board and chat room discussions and a detailed analysis of the transcripts revealed that instructors do provide learners with corrective feedback in online asynchronous and synchronous environments. The results also reveal that corrective feedback is more prevalent in the asynchronous environment than in the synchronous environment. A total of six corrective feedback types–explicit correction, recasts, metalinguistic feedback, clarification request, elicitation, and repetition–were found in these environments. All corrective feedback types were present in the asynchronous environment while repetition was not observed in the synchronous

environment. The results indicate instructors' overall preference for explicit correction in the asynchronous environment and preference for recasts in the synchronous environment. In the synchronous environment, different types of learner errors are followed by different types of corrective feedback. Recasts most often follow grammatical and lexical errors, while an opportunity to negotiate form is most often provided for multiple errors. With regard to learner response to corrective feedback, the results revealed that learner response in the asynchronous environment is minimal. In the synchronous environment, learner response to corrective feedback is more frequent. In addition, the findings indicate that certain types of corrective feedback are more effective in leading to repaired learner responses in the synchronous environment. Corrective feedback types that offer the opportunity to negotiate form, which include metalinguistic feedback, clarification request, elicitation, and repetition, are more effective in eliciting a repaired learner response. Consequently, these corrective feedback types may be viable and effective tools for promoting language development in Spanish as a Foreign Language (SFL) classes.

Chapter 1: Introduction

General Introduction to the Study

Due to the rapid growth of the use of computer-mediated communication (CMC) as a supplement to traditional face-to-face language classes, it is increasingly important for language professionals employing these technologies to know both the nature of the corrective feedback they provide in these environments and the consequences of this corrective feedback on language learning. Language professionals have enthusiastically embraced CMC technologies because they are valuable instructional tools in helping to facilitate and promote interactions between students. Face-to-face language courses currently offered at many universities are often supplemented with electronic bulletin boards and chat rooms readily available to language professionals through courseware packages such as Blackboard and WebCT as well as through programs such as AOL Instant Messenger, Nicenet, and Yahoo Instant Messenger. In the past, computers were used mainly to practice language forms, but more recently, instructors are choosing to use computers as an additional tool to facilitate language interaction among students. Computer-mediated communication tools provide learners a means to practice language in a natural, meaningful, and realistic way with other Non-Native Speakers (NNS) and Native Speakers (NS). Accordingly, as the number of language classes supplemented with CMC technologies increases, it is important for language professionals to examine closely the interaction occurring in these environments, as well as to understand the

1

nature and effects on language learning of the corrective feedback provided to learners therein.

The purpose of this study was four-fold: First, it examined whether or not corrective feedback is provided in online asynchronous and synchronous environments. Second, this study examined the nature of corrective feedback, a response provided by the instructor to a learner error that provides the learner with information about what is acceptable and unacceptable in the target language. Principally, this study identified the types of corrective feedback provided in online asynchronous and synchronous environments. Third, it investigated what type of learner error leads to what type of corrective feedback in asynchronous and synchronous environments. Finally, this study calculated the distribution and nature of learner response following different types of corrective feedback occurring in asynchronous and synchronous environments.

Background to the Study

Theoretical claims that conversational interaction can facilitate language learning were made by various researchers beginning in the early 1970s (Hatch, 1978a, 1978b; Long, 1981, 1983, 1985, 1996; Pica, 1985; Pica and Doughty, 1985; Varonis and Gass, 1985a, 1985b; Wagner-Gough and Hatch, 1975). One of the most notable and seminal claims was made by Long in 1981 when he proposed the interaction hypothesis in which he stated that while comprehensible input is necessary for language acquisition, negotiation of meaning is also an essential component. In 1996, Long expanded on his original postulation of the interaction hypothesis, which, in its most recent iteration,

suggests that interaction connects input, internal learner capacities and output in productive ways, and that as a result of feedback obtained through interaction, learners may attend to form, or "notice the gap" between their own production and/or comprehension and the target language. The details of the interactionists' perspective and the studies conducted in an attempt to demonstrate a relationship between conversational interaction and syntax will be elaborated upon in chapter two of this proposal. Thus, the interactionist perspective in Second Language Acquisition (SLA) postulates that interaction is influential in promoting and facilitating the development of second or foreign language proficiency. This perspective on language learning maintains that negotiated interaction assists SLA

Following Long's 1996 revised articulation of the interaction hypothesis, which flagged the importance of feedback, a number of studies were conducted that investigated the role of interactional feedback. Several researchers (Ayoun, 2001; Doughty and Varela, 1998; Leeman, 2003; Long, Inagaki et al., 1998; Mackey, Gass et al., 2000; Mackey and Philp, 1998; Oliver, 1995, 2000) have investigated the importance of such feedback strategies such as recasts, clarification checks, and confirmation checks. In the same vein, other studies (Lyster, 1998; Lyster and Ranta, 1997; Panova and Lyster, 2003) have specifically identified different types of corrective feedback provided to students by the instructor in face-to-face interactions and investigated the effectiveness of certain types of interactional feedback for the development of language.

Over the same period of time, a body of literature addressing CMC emerged, which investigated the language produced and the interaction taking place in

asynchronous and synchronous environments. A portion of this research described the language produced in asynchronous and synchronous modes of interaction (Beauvois, 1992; Kelm, 1992; Chun, 1994). While other studies analyzed the complexity of the language produced (Chun, 1994; Kern, 1995; Warschauer, 1996), and finally others compared the language produced in face-to-face, asynchronous and synchronous interaction (Sotillo, 2000; Warschauer, 1996).

Whereas numerous studies have examined corrective feedback in face-to face interactions, and yet other studies have examined language produced in CMC environments, no study has observed corrective feedback provided by instructors to students in online asynchronous and synchronous foreign language contexts.

Rationale

The present study explored the nature of corrective feedback within CMC environments, focusing specifically on university second-semester Spanish courses. Four groups of participants and their instructors carried out electronic discussions in two different environments, asynchronous and synchronous.

There is a need to describe, categorize, and examine closely the corrective feedback provided to learners in online asynchronous and synchronous environments. Research has described and examined the discourse of CMC closely, but has not specifically looked at the corrective feedback provided by instructors to students in these environments. Moreover, the studies that do analyze corrective feedback have been conducted in face-to-face classrooms situations. This present study, in contrast, examined

corrective feedback in online asynchronous and synchronous discussions in second semester university Spanish language classes.

Most university students are required to take two semesters of a foreign language, but these students rarely reach intermediate levels of proficiency (Pufahl, Rhodes et al., 2000). Taking a closer look at corrective feedback in lower level foreign language classes might provide insight into why students are not reaching higher levels of proficiency. Examining corrective feedback can also lead to recommendations on what types of corrective feedback are most effective in eliciting learner repair. These recommendations can facilitate improved instruction and thus lead to enhanced student learning.

Another phenomenon observed at the university level is the increase of undergraduate courses taught by teaching assistants (TAs) and adjunct teachers, especially at universities deemed research universities (Shannon, Twale et al., 1998). This prevalent model of instruction is customary in many foreign language classes. Goepper and Knorre (1980) found that 70% of the basic language sequence courses are taught entirely by graduate teaching assistants. In many instances, however, the TAs and adjuncts hired to teach have no training or teaching experience and are therefore often expected to participate in professional development using a variety of training strategies including an orientation before classes begin, attending foreign language methods courses, mentoring, attending ongoing workshops, carrying out observations, and video critiques (Brandl, 2000). As Brandl (2000) puts it, "the current practice of relying heavily on TAs who enter language graduate programs as inexperienced instructional

resources places tremendous burdens on language programs" (Brandl, 2000, p. 369). The content knowledge required to teach a second or foreign language course is, clearly, the second or foreign language itself, which TAs and adjuncts often know well due to their being Native Speakers and/or holding an undergraduate degree in the language in question. However, often these TAs do not have the pedagogical proficiency to know what teaching strategies are the most facilitative of Second Language Acquisition. Since corrective feedback is one of the many essential skills needed in the category of pedagogical knowledge, there is a need to examine the type of corrective feedback provided to students by TAs and adjuncts of the foreign language courses, who may be unsure as to what type of corrective feedback they should provide to their students. Hereafter in this study, TAs and adjuncts will be referred to under the umbrella term of instructors.

Purpose

This study investigated corrective feedback provided by instructors in online asynchronous and synchronous classroom environments to university first year Spanish learners. Specifically, this study first determined if corrective feedback was provided to learners by instructors in online asynchronous and synchronous environments. The study then identified and examined the types of corrective feedback provided to students by instructors in online asynchronous and synchronous environments. In addition to the types of corrective feedback provided to students, this study also investigated whether learner error affects the type of corrective feedback received. Furthermore, this study

examined the effects of corrective feedback on learner response or reaction to the corrective feedback itself. This study enhances the body of knowledge that has already been established, and is continuing to flourish, in the field of CMC, as well as to the already existing body of knowledge of corrective feedback in Second Language Acquisition studies.

Sixteen whole class discussions of students and instructor in both the asynchronous context and the synchronous context were examined. The data ere analyzed and corrective feedback types were identified. Additionally, the effects of learner error on corrective feedback type were also examined. In terms of effects, this study examined what type of learner error leads to what type of corrective feedback. Finally, a report on the distribution of learner responses following different types of corrective feedback and the types of corrective feedback found following different types of learner error is presented.

Specifically, this study investigated if corrective feedback is provided in online asynchronous and synchronous environments and explored the nature of the types of corrective feedback found. In addition, this study reports on the types of corrective feedback following different types of learner error and the distribution of learner responses following different types of corrective feedback. These variables were examined in two online environments: asynchronous and synchronous discussions. The technology used in the asynchronous environment was a bulletin board and the technology used in the synchronous environment was a chat room.

Research Questions

Attention was directed to the following four major questions and eight sub-questions:

1. Do instructors offer corrective feedback to learners in online asynchronous and synchronous environments?

a. Do instructors offer corrective feedback to learners in online asynchronous discussions conducted in university first year Spanish as a Foreign Language (SFL) classes?

b. Do instructors offer corrective feedback to learners in online synchronous discussions conducted in university first year Spanish as a Foreign Language (SFL) classes?

2. What is the nature of corrective feedback in online asynchronous and synchronous environments?

a. What are the different types of corrective feedback found in online asynchronous discussions conducted in university first year Spanish as a Foreign Language (SFL) classes and are they used equally?

b. What are the different types of corrective feedback found in online synchronous discussions conducted in university first year Spanish as a Foreign Language (SFL) classes and are they used equally?

3. What types of learner error lead to what types of corrective feedback in online asynchronous and synchronous environments?

a. What types of learner error lead to what types of corrective feedback in online asynchronous discussions conducted in university first year Spanish as a Foreign Language (SFL) classes?

b. What types of learner error lead to what types of corrective feedback in online synchronous discussions conducted in university first year Spanish as a Foreign Language (SFL) classes?

4. What is the distribution of learner response to different types of corrective feedback found in online asynchronous and synchronous environments?

a. What is the distribution of learner response to different types of corrective feedback found in online asynchronous discussions conducted in university first year Spanish as a Foreign Language (SFL) classes?

b. What is the distribution of learner response to different types of corrective feedback found in online synchronous discussions conducted in university first year Spanish as a Foreign Language (SFL) classes?

Delimitations and Limitations of the Study

This research study was confined to four undergraduate sections of beginning Spanish at a regional metropolitan university. The specific sections examined were second semester courses in a two semester foreign language university requirement sequence. The students in these courses enrolled for the course through normal means and did not have any prior knowledge of this study at the time of enrollment. The

selective nature of the participants in this study reduced the generalizability of the findings of this study.

It was expected that two distinctive varieties of corrective feedback would be found in the data collected, instructor corrective feedback and student feedback. Since the focus of this study is on instructor corrective feedback, the investigator only examined corrective feedback provided to the students by the instructors and did not consider feedback provided by students to students. In addition, the present study examined corrective feedback as a diagnostic teaching strategy employed by instructors to diagnose, gauge, and assess student understanding. The study reports on the types and distribution of corrective feedback moves found, the relationship between learner error and corrective feedback, and the relationship between corrective feedback and learner response.

The participants of this study, including the students enrolled in the course and the instructors teaching the course, were not randomly assigned into one of the two pedagogical settings, rather, intact classes were used and all classes conducted electronic discussions in both the asynchronous and synchronous environments. In addition, although an effort was made to keep observations independent of each other, in this study categories or responses are dependent upon or influenced by another.

Operational Definition of Terms

1. Asynchronous- This term is used to describe communication between interlocutors that occurs intermittently and with time delay. Examples of asynchronous technologies

include email, text messages transmitted over cell phones, and discussion boards. The present study examined online asynchronous communication and specifically investigated the use of electronic discussion boards.

2. Clarification Requests: This term is used to describe a type of corrective feedback where an instructor indicates to the learner either that the utterance is not understood by the instructor or that the utterance is ill-formed in some way. A clarification request does not provide the learner with the target-like form and it informs the student a repetition or a reformulation is required on the part of the student.

3. Computer-mediated Communication- Computer-mediated communication refers to the process of using computers to enhance human interaction. Computer-mediated communication includes asynchronous and synchronous technologies such as e-mail, bulletin boards, and chat rooms.

4. Corrective Feedback - In this dissertation, corrective feedback is defined as a response to a learner error that provides the learner with information about what is acceptable and unacceptable in the target language. Examples of types of corrective feedback in this study include: clarification requests, metalinguistic feedback, elicitation, and repetition.

5. Elicitation- This type of corrective feedback refers to instances when the instructor directly elicits the correct form from the learner. These elicitations can come in various forms: the instructor can allow the student to fill in the blank, can use questions to elicit the correct form, or can ask students to reformulate the utterance. Elicitation can also be preceded by some metalinguistic comment.

6. Error **-** An error is defined as an ill-formed language utterance that is an unacceptable utterance in the target language. Examples of types of errors in this study include: grammatical, lexical, orthographic conventions, typographical and spelling, and unsolicited use of L1.

7. Error Treatment Sequence- The error treatment sequence includes the learner error, the corrective feedback provided by the instructor, and the learner response to the corrective feedback.

8. Explicit Correction- The explicit provision of the correct form by the instructor. These corrections are often preceded by phrases such as "You mean," "Use this word," "You should say," etc. In electronic discussions, these explicit corrections may be preceded by phrases such as "Correction" or by employing all caps function to emphasize correction. Using *all caps* in chat rooms is widely accepted as 'screaming' within netiquette conventions.

9. Grammatical Error- This type of learner error constitutes the production of a grammatical construction which violates the grammar of the target language.

10. Learner Response- Learner response is defined as the learner's immediate response in some way to the instructor's intention to draw attention to some aspect of the learner's original written utterance. Examples of learner responses in this study include: result in repair and needs repair.

11. Lexical Error- This type of learner error constitutes the use of the wrong word in an utterance. Inaccurate, imprecise, or inappropriate choices of lexical items and nontarget derivations of nouns, verbs, adverbs, and adjectives constitute examples of lexical errors.

12. <u>Metalinguistic Feedback-</u> This type of corrective feedback constitutes comments that indicate to the learner that there is an error somewhere without providing the target-like form. These comments can be in the form of grammatical metalanguage such as asking if we use a certain tense in that sentence or can point to the nature of the error by stating to use a particular tense. E.g., "Can you find your error?", "Is that word masculine?", "Use the subjunctive".

13. <u>Multiple Errors-</u> when more than one type of error occurs in a student turn (for example, lexical and grammatical) these were coded as multiple. If a turn has several of one type of error, it was coded that type and not multiple.

14. <u>Needs Repair Response-</u> In this type of learner response the error on which the feedback focused is not repaired by the learner.

15. <u>Opportunity to Negotiate Form:</u> includes metalinguistic feedback, clarification request, elicitation and repetition types of corrective feedback because these do not provide the target-like form to learners. They provide information about the error and leave the window open for negotiation. Previous research (Lyster and Ranta, 1997, Lyster, 1998) has categorized these corrective feedback types as negotiation of form, but this term is not clear and can lead to confusion. In this particular study, these corrective feedback types were collapsed under the category *opportunity to negotiate form* to make the function of these corrective feedback types more salient.

16. <u>Orthographic Conventions-</u> This type of errors include omissions of accent and punctuation marks and letters unique to the Spanish alphabet. These include : á, é, í, ó, ú, ü, ñ, ¿, ¡.

17. Recasts: The instructor's reformulation of all or part of a student's utterance excluding the error including repetition with change, repetition with change and emphasis. Recasts are implicit and are not preceded by phrases such as "You mean," "Use this word," "You should say," etc. Recasts also include translations in response to a student's use of the L1.

18. Repetition- This type of corrective feedback refers to the instructor repeating the student's erroneous utterance in isolation. E.g. "a apple?", "la mapa?" f

19. Results in Repair Response- In this type of learner response the error on which the feedback focused is repaired by the learner.

20. Synchronous- This term is used to describe communication between sender and receiver that occurs at real time and without delay. Examples of online synchronous communication include telephone conversation, a board meeting, voice conferencing, video conferencing, and electronic chat. The present study examined electronic synchronous communication and specifically investigated the use of online chat rooms.

21. Target Language- This is the language which a person is learning, in contrast to a first language or mother tongue. In the case of this study, the target language is Spanish.

22. Typographical and Spelling- A typographical error is one made while inputting text via a keyboard, the error is made despite the user knowing the spelling of the word. This usually results from the person's inexperience using a keyboard, from rushing, from not paying attention, or carelessness. A spelling error is one made when forming words with letters and the letters are not put in the acceptable order, or the correct letters are absent. In this study, it was impossible to know whether the learner made a typographical error or

spelling error and therefore these were put in the same category. It should also be noted

that omission of specific orthographic marker such as accents and upside down question

marks will not be considered typographical and spelling, these will be grouped in a

category labeled orthographic conventions.

23. Turn- In this study, turns can occur in the asynchronous and synchronous

environments. Turns in the asynchronous interaction are defined as sentences and each

sentence entered on the bulletin board will count as a student turn. Turns in the

synchronous interaction are defined as each message composed and entered in the chat

room.

24. Unsolicited use of L1- The use of the native language (L1) is not an error per se, but

it is interesting to look at how teachers react to students' use of the unsolicited use of the

L1 and thus in this study, unsolicited use of L1 will be examined.

Organization of the Study

        The present study is organized in five chapters. Chapter 1 introduces the research

areas and outlines why this study is important in the field. It touches upon the main

issues at stake: online asynchronous and synchronous CMC and corrective feedback. The

main reasons for conducting this study are stated and research questions are posed.

These research questions will be answered based on the data collected. Finally,

operational definitions of the most commonly used terms in this study are provided for

the convenience of the reader.

Chapter 2 elaborates on the interactionist perspective in the field of Second Language Acquisition (SLA) and summarizes the review of the literature as it relates to corrective feedback, CMC, and content analysis.

Chapter 3 discusses the design of the study and provides the reader with a methodological overview of how the research is framed. Moreover, this chapter presents the overview of the procedures, including the data collection, the measures and instruments used as well as presents the nature of the data analysis employed for each research question.

Chapter 4 presents the data analysis and the results for the questionnaires and each research question. In addition, chapter 4 presents examples of the corrective feedback types and learner response types found in this study.

Chapter 5 discusses the findings for each research question, poses pedagogical implications, implications for the field of second language acquisition, and offers directions for future research.

Chapter 2: Review of the Literature

Introduction

        The purpose of this chapter is to review past and current theoretical and empirical

work related to this research and to explore how the present study is aligned with the

current leading views in the field. This chapter is divided into four sections. The first

section presents the theoretical foundation of the interactionist perspective on SLA. The

second section reviews studies on corrective feedback that provide the background for the

present study. Next, the literature of computer-mediated communication, including

asynchronous and synchronous technologies, especially as it relates to interaction and

corrective feedback, will be discussed. Finally, this chapter will describe the content

analysis method selected to conduct this study. In essence, this chapter will assess the

current state of research in the fields related to this study and identify trends.

Additionally, this chapter will make connections between the areas of research mentioned

above and the current proposed study.

Interactionist Perspective

        The theoretical underpinnings of this study fall under the interactionist view of

language learning. The interactionist perspective on language learning and teaching

highlights the importance of linguistic interaction in promoting and facilitating the

development of second language or foreign language proficiency. It contends that

negotiated interaction between learners and their interlocutors, either Native Speaker

(NS) or Non-Native Speaker (NNS), is facilitative of SLA.

The roots of the interactionist perspective.

The roots of the Interaction Hypothesis can be traced back to a series of seminal

articles put forth by Evelyn Hatch in the mid 1970s (Hatch, 1978a, 1978b). Until the

1970s, conversational interaction was viewed as a way of practicing structures learned in

the classroom. One common model used in the language classroom involved the

instructor presenting grammatical structures and rules, and students practicing the second

language features learned through conversational interaction with peers in order to

reinforce these features. Shortly after the seminal articles published by Evelyn Hatch

were presented, the field began to look at interaction as more than a forum for practice.

In 1975, Wagner-Gough discussed the relationship between language and

communication, specifically how participation in conversational interaction provides

learners with opportunities to hear and produce language. In addition, the authors

suggested that second language syntax may develop from conversational interaction.

Hatch continued with this line of inquiry and published a series of articles that examined

the role of interaction in second language acquisition (Hatch, 1978a, 1978b). In these

articles Hatch puts forward the notion that "[o]ne learns how to do conversation, one

learns how to interact verbally, and out of this interaction syntactic structures are

developed" (Hatch, 1978b, p. 404). In other words, she suggests that second language

18

syntax may perhaps develop out of conversation. At the time, much of the research was examining the learner's speech exclusively. Hatch challenged the field to go beyond simply examining the learner's speech (Hatch, 1978b). In her opinion, the speech of the other interlocutors engaged in the conversation should also be considered and examined.

From this premise and challenge put forth by Hatch, emerged several studies that described the interaction that takes place between the leaner and the learner with whom he or she interacts. Long (1980, 1981, 1983, 1985, 1996) was one of the first researchers to undertake the challenge put forth by Hatch. Long conducted a series of empirical studies that considered the speech addressed to the NNS by a NS of a language (Long, 1980, 1981, 1983, 1985, 1996). These studies lead him to successfully articulate and define the interaction hypothesis. The first articulation of the interaction hypothesis appeared in Long's 1981 and 1983 articles in which the author found that the NSs employ conversational modifications when interacting with NNSs. According to Long (1983), these conversation adjustments can be classified into two categories: adjustments made in an effort to avoid conversational trouble and adjustments made to repair discourse when trouble occurs. Certain attributes are clearly present in speech directed to the NNS by the NS (Long, 1983, 1985). Some of these elements include repetitions, confirmation checks, comprehension checks, expansions, and clarification requests. It is also important to note that Long found that while these attributes are present in NS-NNS interactions, they are also present in NS-NS interaction. The main difference is that these modifications are more abundant in NS-NNS interactions.

Using the evidence he had found, Long was able to refine his original articulation of the interaction hypothesis. Long's (1996) updated version of the interaction hypothesis accounts for the fact that negotiation of meaning is required to trigger interactional adjustments or modifications by the NS or more competent interlocutor. In the revised version of the interaction hypothesis, Long contents the following:

> I would like to suggest that *negotiation of meaning*, and especially negotiation
> work that triggers *interactional* adjustments by the NS or more competent
> interlocutor, facilitates acquisition because it connects, input, internal learner
> capacities, particularly selective attention, and output in productive ways (Long,
> 1996, p. 451-452).

From Long's early influential work and from his redefined articulation of the interactional hypothesis, developed a more focused line of research within the interactionist perspective: negotiation of meaning.

Comprehensible input.

Long's interaction hypothesis (1981, 1983, 1996) also developed from the work done by Evelyn Hatch (1978a, 1978b) arguing the importance of conversation to develop grammar and also from Krashen's (1985) notion that comprehensible input is a necessary factor, and may be the most important factor for language acquisition. Krashen (1985) hypothesized that learners can acquire more language when the messages they receive are comprehensible. He defined comprehensible input as the language that a learner hears or receives and is understandable to the learner. Krashen went on to explain that not only

does input need to be comprehensible to the learner, it should also contain linguistic structures that are realistically beyond the learner's current proficiency level (i + 1), where the i corresponds to the learners current level of competence and +1 represents the structures that are just beyond the learner's proficiency level.

Comprehensible output.

Another important tenant of second language acquisition is the notion of comprehensible output. Swain (1985) questioned Krashen's input hypothesis in which input is the central variable in second language acquisition. At the time, Swain was studying the productive skills of students enrolled in French immersion programs in Canada and found that although they received extensive comprehensible input, the students were not reaching native-like performance (Swain, 1985). This lead Swain to argue that input alone is not sufficient to achieve native-like performance and to propose the output hypothesis. In her articulation of the output hypothesis, Swain argues that learners need to be 'pushed' into production of comprehensible output in order to develop grammatical competence and consequently reach native-like performance. In 1995, Swain added to her already established output hypothesis and contended that it is having to actually produce the target language that forces the learner to think about the syntax involved. In addition, learners, in their efforts to be understood in the target language, are pushed in their production and may try out new forms or modify forms they constructed.

Negotiation of meaning.

Negotiation of meaning refers to the strategies used by conversational partners to deal with communication breakdown and to facilitate comprehension. The listener of an interaction may request clarification from the speaker and the speaker may use a variety of strategies to clarify what was said. "As they negotiate, they work linguistically to achieve the needed comprehensibility, whether repeating a message verbatim, adjusting syntax, changing its words, or modifying its form and meaning in a host of other ways" (Pica, 1994, p. 494). The various strategies used include repetition of the original message, modification of the original message, and simplification of the original message. In other words, participants 'negotiate' what was not understood or misunderstood and the ultimate goal of negotiation of meaning is to achieve successful communication and mutual understanding. It should also be noted that not in all cases does communication breakdown lead to negotiation of meaning. There are instances in which the conversation participants may choose to ignore the communication trouble or the request for clarification. The line of inquiry that has developed from these findings has focused in on those instances in which communication breakdown is dealt with by using negotiation of meaning.

For many years, experts in the field have examined what ultimately became know as negotiation work. In its earlier days, negotiation of meaning was known as interactional modification (Long, 1980, 1981, 1983). Specifically, Long (1981, 1983) refers to negotiation work comprising such strategies as confirmation checks, comprehension checks, clarification requests, self-repetitions, other repetitions, and

expansion. To Long (1983) these were known as strategies used to "avoid conversational

trouble" and tactics used to "repair the discourse when trouble occurs". Soon after, Long

(1996) himself and other researchers (Gass and Varonis, 1985; Pica and Doughty, 1985;

Varonis and Gass, 1985a, 1985b; Pica, 1988) called this type of work, in which

conversation participants negotiate to achieve mutual understanding, negotiated

interaction as well as negotiation of meaning. Other studies (Doughty and Pica, 1986;

Pica, 1985, 1986; Pica, Young et al., 1987) labeled this type of work conversational

modification as well as interactional modification. Essentially, all the research, no matter

what label they used, discussed the conversational routines in which one conversation

participant requests clarification and the other participant obliges and modifies his or her

message. The terminology that became most common in the field is negotiation of

meaning. To this day, this is the most common term used for this type of work.

The types of interactions research examined within the field of negotiation of

meaning variously focused on NS-NNS interactions as well as NNS-NNS interaction.

Most of the beginning work (Long, 1981; Gass and Varonis, 1985a, 1985b) examined

both NS-NS and NS-NNS interactions. Long (1981, 1983) compared adult NS-NS

interactions to NS-NNS interactions. He found that there were differences between NS-

NS interactions and NS-NNS interactions. NSs modified their utterances if prompted by

the NNSs. When the NNSs asked for help in interpreting the message, NSs shortened

their sentences, provided sentences with a lower type-token ratio, and used more nouns.

In addition, NSs used more confirmation checks, comprehension checks, clarification

requests, self-repetitions, other repetitions, and expansions. Gass and Varonis (1985)

23

also considered NS-NNS interactions. In their study, adult NNSs made telephone calls to randomly selected NSs from the phone book. They found that there were differences in negotiation of meaning, quantity of speech, scope of repair, elaboration, and transparency depending on the level of proficiency of the NNSs. In addition, NSs initiated more negotiation routines with low-level proficiency NNSs. Varonis and Gass (1985) looked at NS-NNS interactions and found that NSs and NNSs often do not share the same world view, background or cultural assumption and that it is this non-shared referential knowledge that may lead to misunderstandings.

While some researchers investigated NS-NNS interaction, others (Doughty and Pica, 1986; Pica, 1985, 1996; Pica and Doughty, 1985) compared the way in which classroom tasks used in a teacher-fronted format as well as in a group format framed NNSs interactions. These researchers found that confirmation and comprehension checks, clarification requests, and self- and other repetitions were more abundant in group interactions (Doughty and Pica, 1986; Pica, 1985). In addition, they found that in the tasks requiring information exchange, the interaction patterns were modified. In other words, when students worked in groups, they more consistently and routinely modified their utterances.

Following the many studies describing NS-NNS and NNS-NNS interactions, researchers began to look for a more direct link between interaction and L2 learning. Studies demonstrating a link between interaction and L2 development began to emerge (Gass and Varonis, 1994; Pica, 1986; Pica, Young et al., 1987). In her study, Pica (1986) compared the listening comprehension of learners who had received pre-modified input

with no interaction to the listening comprehension of learners who had received

interactionally-modified input and were encouraged to interact with the NS providing the

input. She found that interaction aids comprehension. Learners were assigned into one

of two conditions: pre-modified input with no interaction and interactionally modified

input. Listening comprehension of learners in the interactionally-modified input group

was greater. Pica, Young et al. (1987) also examined the impact of interaction on

comprehension and found that access to interactionally modified input lead to

significantly greater comprehension.

Gass and Varonis (1994) examined the effects of interaction on L2 production.

They compared performance of NS-NNS dyads that received modified input, unmodified

input, interactive communication, and non-interactive communication. The dyads had to

perform a task in which they described to a partner where to place certain objects on a

board. The data were analyzed by calculating the accuracy and inaccuracy of placements

on the board. The researchers found that NNS who had the opportunity to interact were

able to give better directions. This study helped to solidify the relationship between

interaction and L2 production.

The evidence supporting the notion that negotiation aids L2 learning in general

was mounting, yet there was a lack of direct confirmation between interaction and L2

development. Mackey (1995) in her study examined the acquisition of question

formations. She established that learners who participated in structure-focused

interactions moved along a developmental path more quickly than learners who did not

have an opportunity to participate in such interactions. Those learners who received

premodified input, but were not permitted to interact, did not move along the developmental path as rapidly.

Corrective Feedback

Interaction between two interlocutors can be modified or restructured through negotiating of meaning, but this is not the only means interaction can be modified; the flow of interaction can also be interrupted with the use of corrective feedback strategies. Negotiation work brings about feedback and "[s]uch feedback draws learners' attention to mismatches between input and output, that is, causes them to focus on form, and can induce noticing of the kinds of forms for which a pure diet of comprehensible input will not suffice " (Long and Robinson, 1998, p. 23). This feedback in turn produces corrective reformulations from a second language learner.

Although the need for negotiation of meaning, conversational interaction, input, and output for language learning has been acknowledged in the SLA field including the recognized fact that negotiation works brings about corrective feedback, the way in which learners should be informed that there is a mismatch between input and output remains problematic. Long (1990) states that corrective feedback is a way of drawing the language learner's attention to the mismatch between input and output. In other words, corrective feedback provides learners with information about what is acceptable and unacceptable in the target language. The questions that framed research in feedback were raised by Hendrickson (1978) and are still guiding questions regarding feedback today. These guiding questions include: should errors be corrected?, when should errors be

corrected?, which learner errors should be corrected?, how should learner errors be corrected?, and who should correct learner errors?

Steered by these guiding questions, researchers have conducted studies in the corrective feedback field. Since many of these researchers have used various terms, in the next section, terms used in the literature will be clarified and discussed.

Terms.

Various terms or labels have been used in the literature to describe what happens when the learner is informed that his or her production of the target language is unacceptable or deviant from the target language. The most common of these labels include corrective feedback, negative feedback, negative evidence, and interactive feedback. The term employed normally depends on the field of research, the theoretical perspective, the theoretical standpoint of the researcher, the research concern, and the way data is collected and analyzed. When Schachter conducted a historical perspective of corrective feedback in 1991, she found that various terms were being used within different fields of study:

> Corrective feedback is a term often found in the pedagogical field of second language teaching/learning. Its counterpart in the linguistic field of language acquisition is negative data or negative evidence; and its counterpart in the psychological field of concept learning is negative feedback (Schachter, 1991, p. 89).

Second language and foreign language teachers used the term *error treatment* (Fanselow, 1977) in the 70's and the term *corrective feedback* (Kasper, 1985) in the 80's. These terms were also used by researchers investigating the impact of feedback on classroom teaching. Hendrickson (1978) used the term *error correction* and (Lightbown and Spada, 1999) used the term *corrective feedback*. Researchers examining feedback within linguistics used the term *negative evidence* (DeKeyser, 1993; White, 1991). Several researchers who examined feedback in immersion classrooms (Carroll and Swain, 1993; Chaudron, 1977, 1986; Spada and Lightbown, 1993) used the term *corrective treatment*. Quite a bit of research in feedback was carried out under the interactionist theoretical perspective and many of these researchers (Doughty and Varela, 1998; Lightbown and Spada, 1990; Long, 1991; White, Spada et al., 1991;) used the term *focus-on-form* to refer to what took place when the learner received information that his or her utterance was incorrect or non-target like. Focus-on-form research specifically considered whether non-target utterances should be corrected at all. Recent work including Lyster and Ranta (1997), Lyster (1998), and Panova & Lyster (2002) use the term corrective feedback. Other contemporary research, all of it stemming from the interactionists perspective, uses the terms feedback (Doughty, 1993; Mackey, Gass et al., 2000), negative evidence (Long, 1996; Oliver, 1995), and negative feedback (Long, Inagaki et al., 1998; Oliver, 1995). Although various terms have been used, they all refer to the same phenomenon, what takes place when language learners are informed that an utterance is unacceptable in the target language.

28

Different terminology has also been used to distinguish or polarize different types of feedback. These distinctions include a *positive* versus *negative evidence* division, a *preemptive* versus *reactive* distinction, an *explicit* versus *implicit* distinction, as well as a *conversational* vs. *didactic* and a *conjunctive* vs. *disjunctive* categorization.

Positive evidence and negative evidence can be defined roughly as what is acceptable and what is unacceptable in a language respectively. The input that a learner receives from a native speaker serves as positive evidence (Long, 1996). Positive evidence provides the learner with models of what is acceptable in the target language. Negative evidence, on the other hand, informs the learner that certain utterances are unacceptable in the target language. Negative evidence "can take several forms, including grammar rules, overt feedback on error, recasts, or communication breakdowns followed by repair sequences containing positive evidence of permissible alternatives" (Long, 1996). These forms of negative evidence provide the learner with information of what is not allowed in the target language. In a later reiteration of input, Long (1998) breaks positive evidence and negative evidence down even further into preemptive and reactive evidence. Preemptive negative evidence can be defined as the explanation of grammar rules. Reactive evidence can be defined as "where the teacher reacted to an error or apparent difficulty that a student exhibited during a communicative activity" (Lightbown and Spada, 1990).

Reactive evidence, or feedback provided to the learner, is then further subdivided into explicit and implicit evidence. "Explicit negative feedback would be any feedback that overtly states that a learner's output was not part of the language-to-be-learned"

(Carroll and Swain, 1993). The most salient aspect of this definition is that feedback is provided openly and directly. On the other hand, implicit correction signals to the learner that the interlocutor failed to understand the message he or she is trying to covey. The interlocutor will use strategies such as negotiation strategies, confirmation checks and clarification requests. A more detailed definition of implicit feedback is provided by Carroll and Swain (1993):

> "Implicit negative feedback would include corrections (because learners must infer from the interaction that their utterance was wrong) and such things as confirmation checks, failures to understand, and requests for clarification (because learners must infer that the form of their utterance is responsible for the interlocutor's comprehension problem" (Carroll and Swain 1993, p. 361).

We can also further define explicit and implicit feedback according to whether the feedback provides information about the code or whether it provides information about the message (Long, Inagaki et al., 1998). The main focus of explicit feedback is to provide information about the code and what is unacceptable in the target language. The intent of implicit feedback, on the other hand, is to inform the learner that the message was not understood. Since explicit correction normally provides information about the rules of the language, and implicit correction provides information about the message, we find that explicit feedback is relatively infrequent and implicit negative feedback is more common in naturalistic interaction (Mackey, Oliver et al., 2003).

Two other taxonomies of repair that have been proposed are also important because they focus on classroom repair. These two distinctions include *conversational*

versus *didactic repair* and *conjunctive* versus *disjunctive repair*. This terminology

distinction was proposed by van Lier in 1988. According to van Lier (1988), didactic

repair is pedagogic in nature and conversational repair is common in face-to-face

interaction and addresses problems in conversation. Therefore, it is anticipated that when

the focus of an activity is conversation, one would expect more conversational repair and

when the focus of an activity is classroom specific, more didactic repair is observed. The

other distinction made by van Lier is one of conjunctive and disjunctive repair.

Conjunctive repair is feedback that helps, enables, and supports the conversation.

Disjunctive repair is repair that evaluates the utterance. Van Lier's terminology

distinction describes what might take place in a classroom when language is evaluated.

Since this particular study is nested in the pedagogical field, it will use the term

corrective feedback to refer to the response provided by an instructor to a learner turn

containing an error. The response contains information about what is acceptable in the

target language. This information is delivered in one of two ways: the instructor provides

the learner with the target-like form in the corrective feedback move or does not provide

the learner with the target-like form. The former can come in two forms, explicit

feedback and implicit feedback. The later provides information about the error or attempt

to elicit the correct answer from the learner.

Methodology.

Many empirical studies in the area of feedback and have been conducted under

various theoretical umbrellas within SLA and hence the use of different terminologies to

underline differing effects of a variety of feedback forms. A thorough review of the literature also highlights the richness in the research. This research ranges from observational to experimental, classroom based to laboratory based, within second language settings and foreign language settings, examining Teacher-NNS interactions, NS-NNS interaction and NNS-NNS interactions.

Experimental and quasi-experimental research.

The initial experimental and quasi-experimental studies considering feedback in language learning were conducted in the early 1990's (Carroll and Swain, 1993; Carroll, Swain et al., 1992; DeKeyser, 1993; Lightbown and Spada, 1990; Spada and Lightbown, 1993; White, 1991; White, Spada et al. 1991;). Although all of these studies fall under the experimental and quasi-experimental design category, one observes differences of participants used, setting of the study, and languages examined. Several of these early studies (Lightbown and Spada, 1990; Spada and Lightbown, 1993; White, 1991; White, Spada et al., 1991) examined corrective feedback in the elementary school setting while other studies examined corrective feedback in adult learners (Carroll and Swain, 1993; Carroll, Swain et al., 1992;). One of these studies examined corrective feedback in a high school setting (DeKeyser, 1993). Nearly all of the studies (DeKeyser, 1993; Spada and Lightbown, 1993; White, 1991; White, Spada et al., 1991;) were conducted with English as a Second Language (ESL) learners, except two (Carroll and Swain, 1993; Carroll, Swain et al., 1992) that were conducted with French as a Foreign Language learners.

Two of these early studies (White, 1991; White, Spada et al., 1991) examined how error correction aided the enhancement of the input. Both studies investigated the same population, used the same research design, but examined different syntactic forms. White (1991) examined adverb placement and White, Spada, et. al. (1991) examined question development. The population observed in these studies was comprised of children in grades 5 and 6, enrolled in an intensive ESL program in Canada, whose NL was French. The research design includes a pre-test, a post-test and a follow-up test. The tests consisted of two written tasks, a cartoon task and a preference task, and one oral communication task. All were administered three times during the school year and the results at the various points in time were used as the pre-test, post-test, and follow-up tests. Two classes received form-focused instruction on adverb placement and three classes received form-focused instruction on question formation. The form-focused instruction was administered by the classroom teachers. Teachers were encouraged to provide learners with corrective feedback to the learners throughout the school year as the learners performed the cartoon, preference and oral communication tasks. The students' responses to the tests were audio-recorded and transcribed for analysis. In the first study, White (1991) concluded that corrective feedback may assist L2 learners with adverb placement. However, the results from the follow-up study were not as strong and might have been the case that the knowledge is not retained in the long-term. The analysis of the second study (White, Spada et al., 1991) suggests that learners who receive form-focused instruction on question formation significantly outperform learners who do not receive this instruction. The conclusion that can be drawn from these two

33

early studies is that input enhancement, or more specifically corrective feedback, can assist learners with certain syntactic forms. These findings are in part corroborated by Spada and Lightbown (1993), who employed a quasi-experimental design study. In their study two classes received form-focused instruction and corrective feedback on question formation. The students in the comparison group continued to receive regular intensive teaching over the period of the study. Interestingly enough, it was the comparison group who outperformed the experimental group. It may be that both sustained focus on form and feedback are necessary for the development of certain syntactic features.

Earlier experimental work in corrective feedback focused heavily on acquisition of specific forms: (Carroll and Swain, 1993; Carroll, Swain et al., 1992; DeKeyser 1993). Carroll and Swain (1993) examined the effects of implicit and explicit negative feedback, while Dekeyser (1993) considered error correction on dative alternation, and Carroll and Swain, et. al. (1992) looked at grammar knowledge, as well as morphological generalizations.

Carroll, Swain, et al. in their 1992 study set out to investigate whether error correction can aid adult learners construct morphological generalizations. Using an experimental design, this study looked at 79 NSs of Canadian English who were studying French at the university level. Learners were first grouped into two levels of proficiency: intermediate and advanced learners of French. When examining whether error correction had an effect, the results of this study were quite positive. The experimental group outperformed the comparison group. The results with regard to morphological generalizations are not as positive. There were no differences between the experimental

34

group and the comparison group in regard to learned generalizations. Consequently, this study does not contribute to the question of whether corrective feedback can assist in language learning.

Another earlier quasi-experimental study examined the effects of corrective feedback on grammar acquisition and oral proficiency (DeKeyser, 1993). This study examined two classes of 35 Dutch-speaking high school seniors learning French as a foreign language. The researcher asked one teacher to correct student errors as frequently and as explicitly as possible for one school year. The other teacher was asked to avoid error correction as much as possible for the school year. Ten class periods from the school year were selected, audio-taped, transcribed, and analyzed. Five instruments were used to examine the effect of error correction on grammar and oral proficiency: aptitude test, extrinsic motivation measure, French class anxiety, proficiency, and grammatical achievement. The results for the study were mixed. Overall we can conclude that corrective feedback does not seem to have a significant across-the-board effect on student achievement and proficiency. The study does conclude that corrective feedback interacts with individual differences including previous achievement, extrinsic motivation, and anxiety. It is also important to note that for students with very high or very low scores on these variables, corrective feedback made a significant difference. Once again, this study fails to give conclusive evidence with regard to the role of corrective feedback on grammar acquisition and oral proficiency. However, this study does contribute to the body of research in corrective feedback since it does provide positive evidence for very high and very low scoring students.

Another study that contributed to a growing understanding of the effects of corrective feedback on specific aspects of language learning is Carroll and Swain (1993). These researchers set out to empirically demonstrate the effects of negative feedback on dative alternation by 100 adult ESL learners whose L1 was Spanish. The learners were enrolled in low-intermediate ESL classes in Toronto. An experimental design was used and it examined the interactions between the NNS and the researchers. Learners were placed into one of five groups. Learners in group "a" were told they were wrong and given explicit feedback on how dative alternation works while learners in group "b" were simply told they were wrong. Modeling was provided for learners in group "c" when they made a mistake. Modeling was considered to be an implicit type of feedback in this study. Learners in group "d" received indirect implicit feedback and were asked if they were sure of their response. The last group was group "z" and this group received no treatment. The experiment was conducted individually with each learner. In addition, the learner performed a listening test, filled out a background questionnaire, participated in the experimental session and performed a recall 1, and a recall 2 task. Learners who were told they were wrong and given explicit feedback on how the language worked performed significantly better than all other groups. According to the researchers, this is a significant result because both explicit and implicit types of feedback lead to learning. In addition, it is important to note that the group receiving explicit metalinguistic feedback is the one that outperformed all other groups. It may seem that it is this type of feedback that is the most effective.

In 1995, Mackey showed a direct link between interaction and L2 acquisition. Her study examined the acquisition of question formation. She found that learners who participated in structure-focused interactions moved along a developmental path more quickly than learners who did not have an opportunity to participate in such interactions. Those learners who received premodified input, but were not permitted to interact did not move along the developmental path as rapidly. Although Mackey's study did not specifically look at corrective feedback, she set the ground for other researchers who wanted to examine the effects of corrective feedback on L2 acquisition.

The early experimental studies paved the wave for the more recent experimental studies, many of which consider the effects of a specific type of corrective feedback: recasts (Ayoun, 2001; Doughty and Varela, 1998; Leeman, 2003; Long, Inagaki et al., 1998; Mackey and Philp, 1998). Several were conducted in an ESL setting (Doughty and Varela, 1998; Leeman, 2003; Mackey, Oliver et al., 2003; Mackey and Philp, 1998) and four (Ayoun, 2001; Leeman, 2003; Long, Inagaki et al., 1998; O'Relly, Flaitz et al., 2001) were conducted in a foreign language setting.

Several current experimental and quasi-experimental studies have been conducted in English as a second language settings. One such study (Doughty and Varela, 1998) was conducted with 34 middle school ESL students and it used two intact classes. Both classes completed science reports in which students wrote the answers to the questions and the teacher orally asked them about their answers. The focus of the activities was the past tense. The treatment group received focus on form instruction in addition to science content instruction in these three reports. The control group received only the science

content. The written reports as well as the oral reports were used as the data. The interlanguage was analyzed and coded as target-like (TL), emergent interlanguage (IL) and noted non-target-like (NTL). The researchers found that learners in the treatment group, in other words, the group receiving focus on form and feedback, improved in accuracy of the past tense as well as increased in their attempts to form the past tense. In addition, the study showed that students benefited from a combination of communicative pressure, the need to use the past tense for the activity, and frequent focused recasting; focused because it was limited to two linguistic features and frequent because it was almost always provided.

While the previous study, did not specifically deal with recasts, Mackey and Philp's 1998 study focused on the effects of recasting on language development. Similar to the previous study, this study examined ESL learners. Thirty-five adult ESL learners in Australia with mixed L1 backgrounds participated in the study. Students were then randomly placed into one of three groups: interactor, recast and control. The interaction group received negotiated interaction while the recast group received interaction with intensive recasts or reformulations of the statement, and the control group received no treatment. Participants worked in NS-NNS dyads and performed three tasks. Pretests, posttest, and delayed posttests were administered. The results suggest that advanced learners benefit from interaction with recasts more so than interaction alone.

Another study conducted in the ESL setting is that of Mackey, Oliver and Leeman, 2003. The uniqueness of this study is that it compared adult and child interactions and NS-NNS and NNS-NNS interactions. Learners were randomly assigned

to form 12 NS-NNS child dyads, 12 NNS-NNS child dyads, 12 NS-NNS adult dyads, and 12 NNS-NNS adult dyads. Each dyad carried out two tasks, a one-way task and a two-way task in a counter-balanced design. Transcriptions of the first 100 utterances in each task were made and the data were coded according to whether the utterance contained feedback, no feedback, opportunity for modified output, no opportunity, modified output, or no modified output. The data were analyzed in reference to the amount of feedback provided. In the adult dyads, NSs provided significantly more feedback than NNSs. In the child dyads, there was no significant difference in the amount of feedback provided by NSs or NNSs. The data were also analyzed for opportunities for modified output. In the adult dyads, feedback from NNSs offered significantly more opportunity for modified output than from NSs. In the child dyads, there was no significant difference for opportunities for modified output between NS-NNS and NNS-NNS. The data were also analyzed for production of modified output. In the adult dyads, no significant difference in terms of production of modified output between NNS-NNS and NS-NNS dyads was found. In the children dyads, children seemed to utilize feedback more if their interlocutor was a NNS. One can conclude that the amount, nature, and response to feedback depends on dyad type.

A handful of experimental and quasi-experimental studies have been conducted in a foreign language setting. Of these, two examined Spanish as a Foreign Language (Leeman, 2003; O'Relly, Flaitz et al., 2001), one study examined both Spanish as a foreign language and Japanese as a foreign language (Long, Inagaki et al., 1998), and one study examined French as a foreign language (Ayoun, 2001).

In their study, Long, Inagaki et al. (1998) examined the function of implicit negative feedback in SLA. Specifically, this experimental study considered the effects of models and recasts. The study was conducted with 24 adult learners of Japanese and with 30 adult learners of Spanish. Learners were administered a pretest and then assigned into the model, recast, and control groups. Learners performed communication tasks and received either models or recasts depending on the group they had been assigned to. The gain scores for the Japanese learners were not statistically significant, whether they received models, recasts, or control. The gain scores for the Spanish learners provided some evidence that models and recasts play a facilitative role in L2 acquisition.

Two other studies (Leeman, 2003; O'Relly, Flaitz et al., 2001;) were conducted with Spanish learners. O'Relly, Flaitz et al. (2001) compared the effects of clarification requests and the effects of confirmation checks on output. During the experimental sessions, learners in group one received clarification requests by NS when they made a error and learners in group two received corrective confirmation checks by NS when they made a mistake. The control group did not receive any type of feedback. Although the results were not statistically significant, students who received confirmation checks scored higher on the posttest.

A more recent study conducted with Spanish learners was conducted by Leeman in 2003. Leeman set out to investigate the relationship between recasts and language development. Seventy four first-year undergraduate Spanish students at the university level participated in the study. Participants were randomly assigned into one of four groups, each of which received specific types of feedback: recasts, negative evidence,

40

enhanced salience of positive evidence, and unenhanced positive evidence. The unenhanced positive evidence group served as the control group in this study. The target structure was adjective agreement and students received a pretest, posttest, second posttest assessing this structure. The students completed an information-gap activity with the researcher, who provided the learners with the corresponding type of feedback depending on the group they belonged to. The recast and enhanced-salience groups performed significantly better than the control group. This suggests that exposure to input with recasts can promote greater L2 development than input with unenhanced positive evidence.

In 2001, Ayoun she conducted a study in which she examined the role of negative and positive feedback in L2 acquisition of the past perfect and imperfect tense. The participants of this study included 145 students enrolled in second, third, and fourth semester French classes at a major university in the United States. The interesting aspect of this study is that the students performed the task and received feedback using the software program HyperCard. The students performed a grammaticality judgment task and a free production task that assisted in placing the students into three levels: low, mid or high. Students were then randomly assigned into one of three feedback groups: grammar, recasting, or modeling. The learners then performed another task, which varied based on the group they were assigned to. Posttest results showed that the recast group performed significantly better than the grammar group, but not the modeling group.

Observational research.

Similar to the experimental studies, one finds that observational studies examining feedback have been conducted in different settings and with different participants. This range of research includes research conducted in second language settings, immersion settings and foreign language settings, studies conducted with child participants and adult participants, and studies that examined teacher-student interaction, NS-NNS interactions, and NNS-NNS interactions.

The majority of observational studies done with feedback have been carried out in a English as a Second language setting (Fanselow, 1977; Mackey, Gass et al., 2000; Mackey and Oliver, 2000; Panova and Lyster, 2003; Oliver, 1995) and in a French Immersion setting (Chaudron, 1977, 1986; Lyster, 1998; Lyster and Ranta 1997). Fewer studies have been conducted in foreign language settings. Kasper (1985) conducted a study with Danish students learning English. Doughty (1993) looked at French as a Foreign language learners and Mackey, Gass, et al. (2000) compared ESL and Italian as a foreign language learners. One observational study has examined Spanish as a Foreign Language learners (Morris, 2002).

Within these observational studies in feedback one also find that the majority have been conducted with grade school children (Chaudron, 1977, 1986; Lightbown and Spada, 1990; Lyster, 1998; Lyster and Ranta, 1997; Oliver, 1995, 2000). Fewer studies have been conducted with adult learners (Mackey, Gass et al., 2000; Oliver, 2000; Panova and Lyster, 2003) and even a smaller amount have been conducted with university students (Doughty, 1993; Morris, 2002).

The bulk of observational studies has considered teacher-student interactions (Chaudron, 1977, 1986; Doughty, 1993; Fanselow, 1977; Kasper, 1985; Lyster, 1998; Lyster and Ranta, 1997; Oliver, 2000; Panova and Lyster, 2003) while two have considered NS-NNS interaction (Mackey, Gass et al., 2000; Oliver, 1995) and one has considered NNS-NNS interaction (Morris, 2002).

Observational studies examining the use of feedback in the language classroom were conducted from the late 1970's up until the mid 1990's (Chaudron, 1977, 1986; Doughty, 1993; Fanselow, 1977; Kasper, 1985). As mentioned above, these studies were conducted with different populations, but although conducted in different settings, some researchers obtained similar findings. This is true when one examines three of the early observational studies. One of these studies was conducted in an ESL setting and one conducted in an immersion setting. Fanselow (1977) videotaped 11 experienced ESL teachers teaching the same lesson to their class. The transcripts of the lessons were transcribed and analyzed. Fanselow found that teachers were more likely to correct meaning errors and that they were least likely to correct grammatical errors. These findings are corroborated by Chaudron's 1986 study in which he examined three French immersion teachers and their classes. He found that in rating the error types, all teachers considered content errors to be the most important. Similarly to these findings, Kasper (1985), while examining repair in foreign language teaching, found that content-centered activities elicited different types of repair patterns. In addition, Kasper found that interruptions of content-oriented discourse were avoided. These were expected in this

setting because the focus is on content instead of language, which is often the focus in second and foreign language classes.

Several of the early observational studies identified errors made by students, feedback types provided by teachers, and considered the link between error, feedback, and repair. Fanselow (1977) identified types of feedback provided by the teacher to the students. He found 16 types of error treatment with the most common type of treatment being one where the learner with the correct answer. Chaudron (1977) examined the relationship between error type, feedback, and success on the part of the learner in subsequent turns. He developed a model for corrective feedback in the classroom and analyzed the relationship between error type, corrections, and success. He categorized errors as phonological, morphological, syntactic, lexical, and content and the types of feedback as repetition with change, repetition with change and emphasis, repetition with no change, and repetition with no change and emphasis. The frequency of corrections and successes according to error type and feedback were calculated. The calculations revealed a positive relationship between repetitions with reductions and success on the part of the learner. Additionally, the calculations showed a very low success ratio between repetitions with expansion and success by the learner.

Similarly, Doughty (1993) investigated the fine-tuning of feedback by teachers. Learner utterances, teacher feedback and learner response were coded and analyzed. She found that teachers do fine-tune their feedback to language learners and it does appear that learners were able to perceive this fine-tuning.

A summary of these early studies reveals that type of error does have an impact on the type of feedback provided to learners. In addition, it appears that there is a link between feedback type and success or repair by students in subsequent turns.

Current observational studies continued to examine the topics previously explored, identifying feedback types as well as investigating whether there is a relationship between error type and feedback type. Some of these studies examine the use of feedback in a classroom setting and specifically look at teacher-student interactions (Lyster, 1998; Lyster and Ranta, 1997; Oliver, 2000; Panova and Lyster, 2003) while other studies examine the feedback provided to learners by NSs (Mackey, Gass et al., 2000; Oliver, 1995) and still yet other research has examined feedback in NNS-NNS interactions (Morris, 2002).

Most of the research examined adult interactions, but Oliver (1995) examined child NS-NNS dyads. This study sought to examine the nature of negative feedback in child NS-NNS conversation. Specifically, this study set out to investigate whether or not NSs provide negative feedback to their NNS conversational partners. Ninety-six child dyads performed a one-way and a two-way task on two occasions and one week apart. The interaction was audio- and video-recorded and transcribed. The researcher examined the exchange patterns, NNS initial turns, NS responses, the NS responses to NNS errors, and investigated whether or not the type of NNS error triggers a particular type of NS response. The results of this study seem to suggest that child NSs do provide implicit negative feedback to their NNS peers and that child language learners use this feedback in subsequent turns. NS children are able to modify their interactions for the NNS peer

and in turn provide negative feedback to the NNS. In addition, evidence from this study

seems to suggest that NNSs incorporate negative feedback into their language. It is also

important to note that this study has provided a methodological advance in feedback

research. Interestingly, the researcher eliminated turns in the data that did not provide an

opportunity for the NNS to repeat or incorporate the recast.

Another study that examined NS-NNS dyads is that of Mackey, Gass &

McDonough (2000). The difference with this study is that they examined adult NS-NNS

dyads in ESL and Italian as a Foreign language settings. Ten ESL and seven Italian as a

Foreign language learners participated in the study. NS-NNS dyads were formed and

they performed a two-way information exchange activity. The NS provided interactional

feedback when it seemed appropriate. Immediately after the activity, the video tape was

played for the learner and the learner reflected on what they believed they had been

corrected on and why, the stimulated recall technique. Findings from this study indicate

that learners are quite accurate in their perceptions of lexical, semantic, and phonological

feedback. Learners were not so accurate when distinguishing morphosyntactic feedback.

A different type of interaction was examined by Morris in 2002. He looked at

NNS-NNS interactions with university Spanish students. Students completed a jigsaw

activity in NNS-NNS dyads. The interaction was tape-recorded and the data were coded.

Errors were coded as syntactic error, lexical error, or use of L1. The feedback provided

by the NNS was also coded as explicit correction, recasts, and negotiation moves. The

immediate response by the NNS was coded as repair or needs repair. This study also

found that adult learners do provide interactional negative feedback to ill-formulated

utterances. With respect to the type of error and what type of feedback it invites, the study found that syntactic errors invite recasts, and lexical errors invite negotiation moves. The results for repair were low, but do seem to suggest that when learners receive interactional negative feedback, they do repair. Negotiation moves seem to be the most effective type of feedback because it leads to immediate syntactic repairs and lexical repairs.

Of significant importance to the current study is research that has looked at teacher-student interactions (Lyster, 1998; Lyster and Ranta, 1997; Oliver, 2000; Panova and Lyster, 2003). These are studies that examine error treatment sequences within the classroom and between teachers and students. The error treatment sequence that has been examined in the current research includes the error made by the student, the correction provided by the teacher, and the reaction of the student. Current research has identified the various types of feedback provided to learners, the types of errors made by students, and the relationship between error type and feedback type.

Oliver (2000) examined teacher-fronted lessons and pair work within the classroom. The data for this study were collected from 20 intact classes, ten classes comprised of adult ESL students and ten classes comprised of primary-school-aged ESL students, and 32 NS-NNS dyads. Teacher-fronted lessons were examined in the intact classes and pair work was looked at in the dyads. The teacher-fronted lessons were video- and audio-recorded. In the pair work aspect of the study, dyads worked on a two-way task and a one-way task. Transcriptions of the interaction were made and the data were coded. The learner's initial turn was coded as either correct, nontargetlike or

47

incomplete. The teacher's response to the learner's initial turn was coded as either ignore, negotiate, provide with negative feedback or ignore. The learner's reaction to the teacher's response was coded as continue, ignore, respond, no change to respond, or continue. "The results showed that learners both *received* negative feedback in response to their non-target-like utterances and *used* this feedback" (Oliver, 2000, p. 119). In addition, the study found that the age of the learners and context does affect the pattern of interaction.

Another study that examined teacher-student interactions is that of Lyster and Ranta (1997). These researchers examined six French immersion classrooms in the Montreal area. Their data base included 100 hours of audio-recordings of lessons in three Grade 4 classes and one Grade 4/5 class. The authors developed a coding model using the already existing COLT coding scheme and Doughty's analysis of fine-tuning feedback. The researchers examined error sequences comprised of an error, teacher feedback, and the reaction to the feedback. Errors in this study were defined as phonological, lexical, grammatical, gender, and L1. The researcher found that six different types of corrective feedback were provided to the students: explicit correction, recasts, clarification requests, metalinguistic feedback, elicitation, and repetition. The analysis showed that teachers tend to use recasts even though they are very ineffective at eliciting student-generated repair. Although not used as commonly, elicitation, metalinguistic feedback, clarification requests, and repetition are types of feedback that lead to more student-generated repair.

Using the same database, Lyster (1998) examined what types of learner errors lead to what types of corrective feedback and what types of corrective feedback lead to immediate repair of what types of learners. As mentioned above, Lyster & Ranta (1997) identified six main types of feedback: explicit correction, recasts, clarification requests, metalinguistic feedback, elicitation, and repetition. Since elicitation, metalinguistic feedback, clarification requests, and repetition all elicited peer- and self-repair, these four interactional moves were collapsed into negotiation of form. Because recasts and explicit correction did not lead to peer- or self-repair, they remained as separate categories. In the Lyster (1997) article there are three types of corrective feedback: explicit correction, recast, and negotiation of form. Similarly, one of the original categories used to classify learner errors had been dissolved in this new study. This study examined grammatical errors, lexical errors, phonological errors, and unsolicited uses of L1. The gender error classification has disappeared. The findings of this study confirm that error type does indeed affect the choice of feedback. In addition, the study found that lexical errors lead to negotiation of form; grammatical and phonological errors lead to recasts. Negotiation of form seems to be most effective in leading to immediate repair by the learner.

These findings are corroborated by Panova & Lyster (2003) with an adult population. One class of 25 adult students in an ESL class in Canada was examined. Classroom interaction was observed for three weeks, 18 hours were recorded, and 10 hours were used for the study. Using the COLT scheme, the data were analyzed. In this study seven types of feedback were identified: recast, translation, clarification request, metalinguistic feedback, elicitation, explicit correction, and repetition. The most

49

common type of feedback provided to learners by teachers was recast. Similarly, to Lyster's 1998 study, this study found that clarification requests, elicitation and repetition lead to the highest level of uptake by students.

Written feedback.

Another area of inquiry related to corrective feedback is that of error treatment in second language writing. This area of study, which will be discussed as *written feedback* here, has many similarities with corrective feedback provided orally in traditional face-to-face classrooms. According to Ferris (2002) the issues covered in written feedback research include: what are the effects of teacher error correction on student writing?, do students attend to teacher feedback and attempt to utilize it in revisions of their texts?, do students who receive error feedback improve in their writing over time?, does it matter what types of corrective feedback students receive?, are certain types of errors more "treatable" with certain types of error feedback?, what are students' views and perceptions about error treatment in their writing? These lines of inquiry are quite similar to oral corrective feedback research. Although these two areas of inquiry, written feedback and oral corrective feedback, have similar research agendas, the manner in which feedback is provided differs between the two. The purpose of the activity is one factor that affects the feedback provided. In writing classes, students typically turn in document and receive the document during the next class meeting. The teacher feedback is normally embedded on the text itself and some teachers use error codes to facilitate marking errors on the paper. The goal of oral interactions in foreign language classes is

typically communication and students receive feedback orally. In addition, learners

participating in oral interactions usually receive feedback from the instructor shortly after

the mistake is made. Usually oral interactions follow an IRF (initiating, responding,

follow-up) pattern.

This present study examines corrective feedback in the asynchronous and

synchronous mode. Because of the nature of the software, instructors are not able to

provide embedded written commentary on student turns. In addition, this interaction

takes place using many-to-many communication instead of one-to-one. All students and

the instructor are present while the discussion takes place in the online environment and

the feedback takes on a public approach. Moreover, computer-mediated communication

research (Sotillo, 2000) has found that the interactions and corrective feedback in the

asynchronous and synchronous mode resembles that found in oral interactions.

Nevertheless, it is important to acknowledge this area of inquiry and highlight the

similarities between the two lines of research.

Computer-Mediated Communication

Computer Mediated Communication (CMC) is the umbrella term that refers to

human interaction by means of computers. The various types of interaction that fall

under CMC can be grouped into two categories: asynchronous and synchronous

interaction. Asynchronous interaction involves the participants communicating over

elapsed timed. In this type of interaction, a time delay exists from the time the sender

sends a message and the receiver reads the message. Examples of asynchronous

technologies include email, text messages transmitted over cell phones, and bulletin

boards. Synchronous interaction involves interactants participating online at the same

time in order to communicate in real-time. Examples of synchronous communication

include telephone conversations, board meetings, voice conferencing, video

conferencing, and electronic chat. The present study involves both synchronous and

asynchronous interaction via a computer. Specifically, this study will examine discussion

boards and text-based chat.

The use of both asynchronous and synchronous technologies has intensified in all

sectors of society including educational settings. Specifically related to this study is the

use of CMC in university foreign language learning settings. It is, however, essential to

ask why do language instructors use CMC for interaction when communication can be

achieved just as easily, if not more easily in traditional face-to-face classrooms?

Computer-mediated communication has been exploited in language learning settings

because through interaction, CMC has the potential of providing learners with

comprehensible input, of encouraging learners to produce *comprehensible output*, and of

fostering *negotiation of meaning* (Chun, 1994; Ortega, 1997; Warschauer ,1998).

Computer-mediated communication is believed to provide learners with the components

associated with second language learning by supporting various types of interaction

including leaner-learner, learner-teacher, and learner-native speaker. In these diverse

settings, instructors can create an authentic environment for discussion; authentic because

students participate in a communicative activity with a purpose and an audience.

In asynchronous interaction, learners can communicate in a delayed text-based

medium. Learners have time to read the message or question posted and can plan before

replying to the message. In addition, the discussion is threaded and the original post and all comments related to the post remain available to the learners. In the language classroom, asynchronous medium interaction provides learners with a space for authentic writing and communication.

In synchronous interaction, learners can communicate in a text-based medium that has been found to possess both oral characteristics and written characteristics. Computer-assisted classroom discussion is neither really speaking nor is it exactly writing (Beauvois, 1992). Synchronous CMC exhibits qualities of written and spoken language as well as attributes unique to CMC. It is sometimes considered a blend of 'oral' and 'written' language (Kern, 1998) and other times dubbed 'speak-writing' (Erben, 1999).

Moreover, computer-mediated communication has been linked with numerous benefits for language learners. Computer-mediated communication has been associated with an increase in the quantity of language production, an enhancement of language production, and equality of participation; it is theorized that it leads to both speaking and writing skills in the second/foreign language, and that it fosters negotiation of meaning and focus on form.

Quantity of language production.

Research into CMC suggests that in this communicative environment, there is increased participation on the part of the students (Kelm, 1992; Kern, 1995; Sullivan and Pratt, 1996). The teacher's role as the instructor shifts from disseminator of knowledge to a moderator and thus increases student participation (Chun, 1994; Kern, 1995; Sullivan

53

and Pratt, 1996). Additionally, participation is equalized among students and no one student dominates (Kelm, 1992; Sullivan and Pratt, 1996; Warschauer, 1996).

Computer-mediated research indicates that computer assisted class discussions promote increased participation from students. In an observational study, Kelm (1992) found that students learning Portuguese produced between 100 to 130 written messages in a 50-minute synchronous whole-class discussion. Kern (1995) went a step further and compared the quantity of language produced by learners of French in an oral class discussion and the quantity of language produced in a synchronous discussion. He found a striking difference in the quantity of language production. Students in the synchronous discussion produced over twice as many turns and generated two to four times more sentences. In addition, Kern found that every student participated in the synchronous discussion whereas a few students did not participate at all in the oral discussion and the majority of oral discussion interactions was dominated by five or so students. Sullivan & Pratt (1996) also compared oral discussions and computer-assisted whole classroom discussions and found that the oral class had only 50% student participation while the computer-assisted discussion had 100% student participation. In a case study of a French learner, Beauvois (1992) interviewed the student and inquired about his experience in one session of electronic discussion. The student admitted that it was the most French he had ever produced in a single class period.

One of the ways that computer-assisted discussions assist in boosting student participation is by minimizing the teacher role; minimizing because a higher percentage of the turns are allocated to students in the computer-assisted environment. Sullivan &

54

Pratt (1996) found that 65% of turns in the oral discussion were accredited to the instructor, while only 15% of turns were teacher turns in the computer-assisted environment. The computer-assisted discussion tends to have more student-student interactions. Chun (1994) found that students interact directly with each other as opposed to interacting mainly with the teacher. Kern (1995) also found a dramatically higher level of direct student-to-student interaction in the synchronous discussions. The teacher role in the computer-assisted discussions shifts to one of moderator, the person in charge of moving the discussion along and contributing ideas.

Research (Kelm, 1992; Sullivan and Pratt, 1996; Warschauer, 1996) also finds that participation is equalized in computer-assisted discussion. Kelm (1992) noticed that computer-assisted discussion equalized participation. He observed that those students who sometimes dominate oral class discussion were unable to dominate in the synchronous environment. Every student had an opportunity to participate in the synchronous discussion. This includes shy students that sometimes do not participate in class. Chun (1994) found that the quieter, shyer students were sometimes the most prolific in the electronic discussion. Both Sullivan & Pratt (1996) and Warschauer (1996) examined small group interaction and compared face-to-face small group interaction to synchronous small group interaction. Sullivan & Pratt (1996) examined small group discussions for peer feedback on writing activities in the face-to-face environment and in the synchronous environment. They found that in the oral discussion, the author dominated the discussion while on the computer, the author spoke less, consequently equalizing the participation among all members. Warschauer (1996) also

compared student participation in two modes: face-to-face discussion and electronic

discussion. In a counterbalanced design, students in groups of four discussed questions;

one question was discussed face-to-face and one was discussed electronically. Three out

of the four groups had substantially more equal participation in the electronic discussion

when compared to the face-to-face discussion. This can be attributed to the fact that

learners can contribute to the discussion without interruptions.

Quality of language production.

Research into CMC also suggests that it impacts the quality of language generated

by learners (Chun, 1994; Kelm, 1992; Kern, 1995; Warschauer, 1996; Yates, 1996).

Kelm (1992) witnessed that students attempted more language structures in the electronic

discussion than they normally do in a face-to-face discussion. Chun (1994) went a step

further and classified sentences by function within the discourse. In her observation of

first-year German over two semesters, she found that learners asked questions and

provided answers, they used a variety of statements and imperatives, and managed

discourse by requesting clarification, using greetings and farewells. Chun (1994) also

found that learners had different 'styles' of discussing in the electronic medium. Some

learners wrote short sentences with simple grammatical structures and some learners

wrote more complete paragraphs with several sentences and with increased syntactic

complexity.

Kern (1995) classified the discourse functions of clauses used in two settings, oral

discussion and electronic discussion. He found a wider variety of discourse functions in

the electronic discussion than in the oral discussion. Greetings were present in the electronic discussion despite the fact that none were present in the oral discussions; assertions were more common in the electronic discussion, and surprisingly student questions were over seven times more frequent in the electronic discussion. Results form Kern's study indicate that students produced a greater number and variety of verb forms and clause types in the electronic discussion.

Warschauer (1996) set out to investigate if electronic discussions included language which was lexically or syntactically more complex than face-to-face discussions. He employed a type-token ratio to investigate lexical complexity and a coordination index to examine syntactic complexity. Warschauer found that electronic discussions involved significantly more lexically and syntactically complex language.

Another interesting phenomenon that occurs in electronic discussions is the use of the Target Language. Although the use of the TL per se does not constitute quality of language, language teachers are always trying to get students to practice the TL in the classroom. As Chun (1994) put it, students tend to revert to the L1 when the teacher is not present, but in the electronic discussion, the entire class, including the teacher reads and writes all the statements and students tend to use the TL. Kelm (1992) also found that learners 'spoke' in the Target Language and even made comments in the TL that were unrelated to the class or discussion such as jokes and asides. Similarly, Beauvois (1992) noticed that in a Portuguese class, there was little code-switching to English when the students were participating in an electronic discussion. Incidents of English occurred when there was a need to clarify a particular vocabulary word.

Asynchronous vs. synchronous.

While some of the early research looked at the quantity and quality of language produced in synchronous electronic discussions, an interest in a comparison of quality and quantity of language produced in the asynchronous and synchronous modes of interaction surfaced. Sotillo (2000) examined the functions and syntactic complexity and the use of the Target Language in synchronous and asynchronous communication. She examined 25 students and two instructors in two intact classes of ESL academic writing university-level courses. Students in these classes participated in both asynchronous and synchronous discussions and the transcripts were analyzed. Findings from this study indicate that there are differences in the types of discourse functions present in both the asynchronous and synchronous data. Asynchronous data contained topic initiation moves, questions, student responses to teacher- or student-generated questions, and comments on postings made by both teacher and students. Synchronous data contained greetings, imperatives, requests for clarification and information, and adversarial moves. Since substantial differences were found by observing the data in the two modes, Sotillo elected to compare syntactic complexity of language produced in the two modes of interaction. Findings from her study indicate that language produced in the asynchronous mode is more syntactically complex than that produced in the synchronous mode. Although the findings of this study are valuable, a problem with the design of the study exists. In this particular study, asynchronous discussions were conducted during class time and as a group. This does not constitute a true asynchronous discussion because

58

students read postings and reply right away; it is merely a delayed synchronous discussion.

CMC, input, output, negotiation of meaning.

Additional benefits of CMC in language learning include access to comprehensible input (Ortega, 1997; Warschauer and Healey, 1998), opportunities for output production by learners (Blake, 2000; Erben, 1999; Ortega, 1997; Warschauer, 1998), and opportunities to negotiate meaning (Blake, 2000; Fernández-García and Martínez-Arbelaiz, 2002; Pellettieri, 2000).

The interactionist literature emphasizes the role comprehensible input plays in second language acquisition. CMC can act as a resource in providing learners with comprehensible input. When learners are using CMC to communicate, they can always reread the sentence, take out a dictionary, ask questions, etc. in order to make the input comprehensible (Warschauer, 1998). In addition, learners have access to input produced by their peers and they have an opportunity to incorporate others' input (Ortega, 1997).

In addition to examining the role of comprehensible input, the interactionist's perspective claims that output may assist in language learning. Output assists in language learning because it is believed to enhance fluency, contribute to consciousness raising, and can serve as a means to test hypotheses (Warschauer, 1998). Electronic interactions in the target language appear to be optimal for facilitating and promoting comprehensible output (Ortega, 1997). Evidence points to the benefits of CMC in relation to output, language production is increased by students and quality is improved. In addition to

59

these benefits, there is a hidden benefit that CMC seems to assist the production of comprehensible output by learners. In electronic discussions, learners have more time to plan (Ortega, 1997; Warschauer, 1998). This is true in both the asynchronous and synchronous environments, but more so in the former. In both these environments, learners have an opportunity to review what they have written before sending it to the rest of the group. Increased planning time in CMC has the potential of assisting production of comprehensible output by learners.

Another claim of the interactionist's view of language learning is that negotiation of meaning can facilitate language learning (Long, 1980, 1996). Negotiation of meaning assists in language learning because it aids in making input more comprehensible through the use of devices such as confirmation checks and clarification requests. In addition, the use of these devices leads to modified output. CMC environments appear to foster negotiation of learning. Interest stemmed from this claim and researchers began to explore negotiation of meaning in CMC environments.

Negotiation of meaning in CMC was investigated in various manners. Some studies examined the types of modification devices used in the electronic environment (Lee, 2002a), other studies examined the quality and quantity of negotiation (Fidalgo-Eick, 2001). Still other studies examined negotiation of meaning in conjunction with task-based instruction (Blake, 2000; Fidalgo-Eick, 2001; Pellettieri, 2000; Smith, 2003b). Finally, another group of studies investigated how the face-to-face Varonis and Gass (1985) model of interaction responded in the electronic environment (Fernández-García and Martínez-Arbelaiz, 2002; Fidalgo-Eick, 2001; Smith, 2003a).

Lee (2002) reported on the types of modification devices that NNSs of Spanish employ during online synchronous exchanges in order to negotiate with other NNSs. Her results found that learners use the following strategies: request for help, clarification check, self-correction, comprehension checks, confirmation checks, use of English, topic shift, use of approximation, and sue of keyboard symbols. The first three of these strategies were the most common.

Continuing to examine negotiation of meaning, Fidalgo-Eick (2002) set out to investigate negotiation of meaning in synchronous interactions. She examined interaction between 30 intermediate Spanish I students at a university, and interactions of these same students with native speakers. She found that the patterns of negotiation are very similar in both NNS-NNS and NS-NNS dyads. This study found no significant differences in the amount of negotiations between these two types of dyads.

Other studies set out to investigate how the Varonis and Gass (1985) model for negotiation of meaning in face-to-face interaction holds up in electronic discussions (Blake, 2000; Fidalgo-Eick, 2001; Smith, 2003a). Blake (2000) and Fidalgo-Eick (2002) found that the model developed for face-to-face interaction does hold true in the synchronous electronic environment. Learners do in fact follow the typical schema of trigger, indicator, response, a reaction that was illustrated in Varonis and Gass (1985). Similarly Fernández-García, M. and A. Martínez-Arbelaiz, (2002) found that negotiations as they are operationalized by Varonis and Gass (1985) do occur in the electronic medium, although not all types of modifications posed in the Varonis and Gass (1985) model appeared in the electronic discussions.

61

Still yet, other studies examined negotiation of meaning in conjunction with task-based instruction (Blake, 2000; Fidalgo-Eick, 2001; Pellettieri, 2000; Smith 2003a). Pellettieri (2000) explored negotiation of meaning and task-based instruction using electronic discussions with 20 undergraduate Spanish students. Learners participated in communicative online tasks ranging from focused open conversation to more closed tasks such as jigsaw activities. This study found that task-based synchronous electronic discussions do indeed foster negotiation of meaning. In addition, these negotiations do facilitate mutual comprehension and that learners do attend to form and modify their output. Fidalgo-Eick (2002) examined differences in the quantity of negotiation of meaning according to different task types. Her results showed significant differences in the amount of negotiation according to task type in which decision-making tasks triggered more negotiation. However, these results are not corroborated by other studies. Blake (2000) found that jigsaw activities elicited more negotiations in an online environment. Still another study (Smith, 2003b) found that task-type did not have a significant effect on communication strategy use.

Overall, the CMC research examining negotiation of meaning in electronic discussions is promising. Overall results indicate that negotiation of meaning does take place in electronic discussions.

Interaction patterns in CMC.

Thus far, the advantages and the types of studies conducted in computer-mediated communication have been presented. However, other distinct features of the language

62

produced in CMC environment need to be examined. Particularly, turn-taking and

patterns of interaction in both the asynchronous and synchronous mode need to be

highlighted because they are of importance to this study and its methodology.

The discourse functions in asynchronous interaction seem to be similar to the

question-response-evaluation sequences found in some face-to-face interactions (Sotillo,

2000). A closer examination reveals that the teacher and students initiated topics,

students responded to both the teacher- and student- initiated topics, whereas the teacher

responded with comments or evaluation to the students, and students commented on peer

postings.

Synchronous discussion patterns, on the contrary, do not follow the traditional

IRF (initiating, responding, follow-up) patterns found in face-to-face interactions

(Warschauer, 1997). In synchronous discussions, there appears to be fewer instances of

teacher evaluation (Kern, 1995). This is not to say that teacher evaluation does not exist,

it is just less common than in face-to-face interaction due to the nature of the interaction.

Consequently, CMC interaction seems to be disrupted and discontinuous and

interlocutors are forced to manage turn-taking and turn-giving in different ways from oral

interaction (Negretti, 1999). Participants have resorted to other means of dealing with

turn taking. Examination of transcripts has revealed that learners use a turn-giving

strategy by making explicit who they are addressing, normally by using the person's

name (Negretti, 1999) or by using some other explicit linguistic markers to highlight the

start or end of turn-taking moves (Erben, 1999).

Research examining negotiation of meaning in CMC has also resorted to other strategies for analyzing this data. Utterances that are not part of the nonunderstanding routine, utterances that move the discourse forward in a linear fashion are not examined (Fernández-García and Martínez-Arbelaiz, 2002). Only the utterances related to the negotiation routines extracted from the text and examined.

CMC and corrective feedback.

The focus of many early studies in computer-mediated communication was the interaction itself. Thus, these studies rarely examined feedback directly in the electronic environment. Instead, research commented on corrective feedback anecdotally. Some early studies in CMC recommend a delayed type of corrective feedback (Beauvois, 1992; Kelm, 1992), where the instructor provides students with a printed copy of the messages on which grammatical mistakes are highlighted. Other recommendations included asking the students to turn in the corrected version of the transcript or creating a follow-up grammar lesson based on the errors made by the students in the electronic discussion (Kelm, 1992). Another slight variation of this technique is asking learners who participated in online interactions with a small group of peers to reexamine and revise their exchanges with guided instruction (Lee, 2002b).

Other studies commented on feedback provided by instructors in the electronic medium. Kern (1995) found that instructor's questions tended to focus on content in the electronic discussions and more on language and vocabulary in oral discussions. Sotillo (2000) noticed that both instructors and students produced corrective moves in the

64

synchronous discussions, but only teachers provided responses or comments in the asynchronous discussions.

Other studies considered student perspectives regarding feedback in the electronic environment. Blake (2000) in a study with NNS-NNS dyad interaction administered a survey to students in order to inquire about their attitude toward participating in electronic discussions. He found that students felt that they learn by correcting themselves and other. Similarly, Lee (2002b) found student comments such as: "I realized that I wrote more quickly without worrying too much about making mistakes," "I worried more about getting ideas across and less on grammar" (Lee, 2002b, p.20). It appears that learners correct themselves because of the nature of electronic interactions. Most electronic discussion software allows learners the opportunity to revise and edit a message before sending it to all participants or to a partner.

It is also evident in these studies that learners provide feedback to their peers (Chun, 1994; Sotillo, 2000). Sotillo (2000) found that students noticed errors in spelling, grammar, and punctuation, and occasionally corrected each other. Sotillo goes on to suggest strategies to encourage self-correction and accuracy in writing by distributing the transcripts of the discussion to the students and asking them to study and critique their own and other's use of the target language.

After these first attempts to describe corrective feedback in electronic discussions, one study investigated corrective feedback in a more direct way. Pellettieri (2000) asked: "Do negotiated interactions foster the provision of corrective feedback and the incorporation of target-like forms into subsequent turns?" (Pellettierri, 2000, p. 64). This

65

study examined NNS-NNS interactions produced while the NNSs completed task-based activities. The results of this study found that corrective feedback was indeed offered on all aspects of grammar and sometimes on lexicon. The analysis of the data found both explicit and implicit corrective feedback types and the quantity of feedback provided was high. Additionally, the study found that learner incorporated 70% of the explicit feedback and 75% of the implicit feedback.

The Pellettieri (2000) study examined corrective feedback using two broad types of corrective feedback, explicit and implicit feedback. Morris (2002) and Iwasaki & Oliver, 2003) went a step further and examined more discrete types of corrective feedback. Morris (2002) examined the electronic interactions of NNS-NNS in two alternate Spanish courses at the university level. Students completed a jigsaw activity in pairs. Learner errors were coded as syntactic errors, lexical errors, and use of L1. Corrective feedback from peers was coded as: explicit correction, recasts, and negotiation moves. The learner response to the corrective feedback was coded as: repair or needs repair. The results found that adult learners do indeed provide negative feedback to their peers and that this is done 70% of the time. The study examined what types of errors lead to what type of corrective feedback, and it determined that syntactic errors invite recasts and lexical errors invite negotiation moves. Finally, this study found that negotiation moves seem to elicit syntactic repairs and the majority of lexical repairs. Similarly, Iwasaki and Oliver (2003) examined corrective feedback found in electronic interactions of NS-NNS of Japanese. The transcripts were analyzed, looking specifically at the Non-native speaker (NNS) initial turn, Native speaker (NS) response to Non-target-

like (NTL) forms, and the Non-native speaker's (NNS) reaction. The data were coded as follows: NNSs initial turn was coded as Target-Like (TL) or NTL. Non-target-like turns included typographical, grammatical, lexical, and other types errors. The NSs response to NTL was coded as ignoring the non-target-like utterance, or providing negative feedback (NF) as either a recast or negotiating meaning. Finally, the NNSs reaction was coded as responding to the NF, incorporating a recast, or modifying a NTL to a Toward more target-like (TTL), ignoring the NF, or no chance to respond. The findings of this study show that NSs do provide negative feedback to their NNSs counterparts and they do this 21.58% of the time. In addition, the study found that NNSs do use the negative feedback provided to them by the NNSs.

Summary of Interaction, Corrective Feedback, and CMC Literature

To summarize, the established benefits of computer-mediated communication (CMC) suggested by previous research include: increase in language production, improved quality of language production, equalizer of participation, provision of comprehensible input, opportunities to produce output, and opportunities to negotiate for meaning. Corrective feedback research has also found benefits of various types of corrective feedback. Classrooms where students focus on form and receive feedback seem to be more effective in promoting second language acquisition. In addition, learners who receive specific types of corrective feedback perform better than learners who do not, and it appears that learners use the corrective feedback they receive. While numerous studies have examined corrective feedback in face-to face interactions, and

numerous studies have examined language produced in CMC environments. A study that

examines corrective feedback provided by instructors to students in online asynchronous

and synchronous foreign language contexts has not yet been conducted. This study aims

to combine the research already established on corrective feedback in face-to-face

classrooms with the findings of research conducted in computer-mediated

communication. Specifically, this study will investigate whether or not corrective

feedback is provided in online asynchronous and synchronous environments, will identify

the types of corrective feedback found, will examine if certain types of learner error lead

to certain types of corrective feedback, and will examine if certain types of corrective

feedback are more effective in eliciting repair from learners.

Content Analysis Research Method

A content analysis method will be used to investigate corrective feedback in the

asynchronous and synchronous environments. According to Weber (1990) content

analysis is a method that uses a set of procedures to make valid inferences from text.

Weber (1990) goes on to explain that content analysis can be used for many purposes

including describing trends in communication content, describing attitudinal and

behavioral responses to communication, and identifying the intentions and other

characteristics of the communicator. Given that the current study examines the text

produced by instructors and students while communicating in asynchronous and

synchronous environments and attempts to make conclusions about the corrective

feedback provided to students by their instructors, content analysis is the most

appropriate method for investigating these objectives.

Another characteristic of content analysis is that it is able to compress many

words of text into fewer content categories using explicit coding rules (Weber, 1990). It

should be noted that the word content in content categories has a different meaning when

compared to content in pedagogy. The word content in pedagogy denotes subject matter.

In contrast, the word content in content categories signifies essence. As mentioned

above, in content analysis methodology content categories are created that capture the

essence of the items in that grouping. This study will examine transcripts of text in order

to identify types of corrective feedback that will be placed into content categories.

Advantages of content analysis.

An additional reason for why content analysis will be employed is because it is

advantageous over other methods for this particular study. According to Weber (1990),

Asher (1994a), and Asher (1994b) content analysis has several advantages when

compared with other data-generating and analysis techniques. The advantages of content

analysis (Asher, 1994; Weber, 1990;) relevant to the present study include: (a) content-

analytic procedures are able to examine text or transcripts of human communication

directly, (b) it provides insight into complex models of human thought and language use,

when compared to other techniques such as interviews, (c) it usually generates

unobtrusive measures in which the participants of the interaction are not aware that their

interaction is being analyzed, (d) it is able to compress many words of text into

manageable content categories, and (e) it can be totally automated and applied to large samples of text. The compressing of text into categories enables the analysis of larger numbers of texts and facilitates statistical analysis.

Quantitative vs. qualitative.

An interesting advantage of content analysis over other data-generating and analysis techniques is that it uses both qualitative and quantitative operations on texts (Weber, 1990). According to Weber, the ability of content analysis to combine qualitative and quantitative operations is a benefit because content analysis methods combine what used to be thought to be antithetical modes of analysis. Others (Tashakkori and Teddlie, 2003) have described this phenomena as a "quantitative analysis of qualitative data". Qualitative data generated from study participants or archival sources is quantified in order to conduct a content analysis.

Although some researchers (Gall, Borg et al., 1996; Krippendorff, 1980; Weber 1990) discuss the fact that content analysis uses quantitative descriptions and quantifies them, they have placed content analysis under the quantitative umbrella. Other statisticians (Tashakkori and Teddlie, 2003) contend that "[i]t can be argued that unless further qualitative analysis is undertaken to extend or expand the results of the content analysis. It cannot really be considered a mixed method, rather a quantitative method that happens to be applied to qualitative data" (p.405). Nonetheless, these same statisticians go on to tag content analysis as a "hybrid" when discussing research in terms of experiments versus more qualitative methods. Since the present study will not conduct in

70

depth qualitative analysis of the results, it will be categorized as a quantitative content analysis. The present study is a study that uses qualitative data and quantifies it.

Content analysis procedures.

Another advantage of content analysis is its analytical method of examining particular aspects of text and assessing the degree of attention or concern devoted to particular issues. "Any systematic approach that seeks to measure the patterns of meaning communicated through existing samples of language can be called 'content analysis'" (Asher, 1994b). From the above mentioned definitions, we can conclude that one of the central aspects of content analysis is its systematic practice of collecting and analyzing data. Comparable steps for performing content analysis have been proposed by Gall, M. D., W. R. Borg, et al. (1996) and Neuendorf, K. (2002). Gall, M. D., W. R. Borg, et al. (1996) suggest the following steps for doing a content analysis: identifying documents that are relevant to your research purpose, specifying research questions, hypothesizing, selecting samples of documents to analyze, developing a category-coding procedure, conducting the content analysis, and interpreting the results.

Similarly, Neuendorf (2002) presents a flowchart for the typical process of content analysis research. For the purposes of this study, Neuendorf's (2002) flowchart will guide the content analysis method. Neuendorf's flowchart is comprehensive and it fits the present study's objectives and procedures. The detailed steps of how Neuendorf's flowchart will be used for this study can be found in the procedures section of this chapter. Following Neuendorf´s flowchart, first, the theory and rationale are presented.

The content to be examined should be discussed and a rationale for examining this content should be presented. Second, conceptualizations of the study are discussed including the variables to be used in the study and the definitions of these variables in the study. Third, the measures to be used and the unit of analysis are discussed. Next, a decision has to be made between human coding and computer coding. If human coding is used, a codebook and coding are developed during this step. If computer coding is used, coding schemes and a dictionary are developed and the method of applying them is discussed. Continuing to follow Neuendorf´s flowchart, sampling is conducted from the content. Next, if human coding is employed, training of coders and reliability tests are performed. Once the training and reliability have been conducted, coding is performed on the data and final reliability is calculated. The final step in Neuendorf´s flowchart is to tabulate and report the data. The present study will adhere to the steps detailed in Neuendorf´s (2002) flowchart.

Summary

This chapter has presented evidence that interaction is beneficial for learners because it provides them with comprehensible input, opportunities to negotiate meaning, and occasions to produce output. In addition, conversational interaction allows learners to receive corrective feedback on their interlanguage. Furthermore, this chapter explored the literature of computer-mediated communication, and focused on how this technology relates to interaction and corrective feedback. Finally, this chapter described the method selected to conduct the analysis of this study.

Chapter 3: Methods and Procedures

Introduction

      This study maintained four objectives: (a) to investigate whether instructors

provide learners with corrective feedback in online asynchronous and synchronous

interactions; (b) to examine the nature of the corrective feedback provided by instructors

to learners in online asynchronous and synchronous discussions and attempt to identify

the types of corrective feedback used in these environments; (c) to examine the nature of

corrective feedback as it results from different types of learner errors; and (d) and to

examine the distribution of learner responses following different types of corrective

feedback. This chapter will explain the research methods and procedures that were

employed in this study. Chapter 3 will also provide an outline of the design of the study,

explain the procedures of implementing the study and data collection, and describe in

detail the data analyses that were employed for each research question.

Participants

      Four sections of Beginning Spanish II at a Research I university, including all the

students and the four instructors of the courses, were chosen to participate in this study.

Four sections of the course were chosen in order to examine the nature of corrective

feedback in two different pedagogical settings, by various instructors, and on different

occasions throughout the semester. The study took place during the Summer 2004

semester; a total of 72 students were enrolled in the four sections of the course. Both

male and female students between the ages of 19 and 62 were enrolled in the courses and

the mean age was 26 years while the median age was 23 years. The vast majority of the

students were also U.S. citizens whose native language was English. Detailed

demographic findings from the background questionnaire will be presented in the next

chapter.

The total number of Beginning Spanish II classes offered in the Summer 2004

semester was four and all four were selected for the purposes of this study. At the time of

the study, the instructors of these courses were TAs and adjuncts whose teaching load

was between one and four sections each semester. From here on, the umbrella term

'instructor' will be used to refer to TAs and adjuncts who participated in this study.

Instructors were both male and female as well as native speakers of Spanish and native

speakers of English.

When speaking in terms of sample, the sample for this investigation was drawn

from four Spanish II sections. It should also be noted that the sample selected was a

convenient sample; the participants of this study were available and easy to access.

Setting

All study-related elements were integrated into the structure of each section of the

course. The instructors of each section were provided with all the curriculum materials

required to carry out this investigation. The Beginning Spanish II courses at the selected

institution met four times a week for one hour and fifteen minutes during the summer

semester. The course is the second in a two-semester sequence and successful

completion of this class constitutes fulfillment of the foreign language requirement.

Students taking this course ranged from freshmen to seniors and some had taken Spanish

I as a previous course at the same institution, while others had studied Spanish in high

school or at other post-secondary institutions, though the majority of the students took the

two-semester sequence at the same institution.

This investigation focused in on Beginning Spanish II courses because even

though most university students are required to take two semesters of a foreign language,

nevertheless these students rarely reach intermediate levels of proficiency (Pufahl,

Rhodes, & Christian, 2000). The examination of corrective feedback and learner

responses to corrective feedback can give insight into this problem. This in turn can lead

to recommendations on what types of error correction are most effective in achieving

student repair.

It is also important to discuss the philosophy of the department in which this study

took place and the workings of the department and the classes. The department

philosophy emphasizes a communicative orientation toward language learning, but many

instructors rely heavily on grammar activities. In addition, many of the assessment tools

assess grammatical structures. The textbook used in Beginning Spanish courses at this

institution at the time of the study was Arriba (Prentice Hall, 2001) and it is organized

around themes. All sections of Beginning Spanish at the selected institution use the

textbook mentioned above and follow a standardized curriculum. Standardized

curriculum in this study is defined as the use of a common textbook in all sections, a

comparable syllabus, and identical quizzes and exams created by the instructors

themselves and approved by the lower division Spanish sections coordinator. Teams of

instructors from the course take turns in preparing tests and quizzes to be administered in

all sections of the course. In addition, the weightings assigned to course components are

uniform across all sections. Instructors have freedom in how they teach the material as

long as they follow the schedule on the syllabus and administer the departmental quizzes

and exams.

The Database

Data were collected via a background questionnaire administered to the

instructors, a background questionnaire administered to the participants, from the

collaborative online asynchronous discussion tasks, and from the collaborative online

synchronous discussion task. The background questionnaires were in written form and

were administered at the beginning of the study during the second week of classes and

during the first day of orientation for the study. The background questionnaire

administered to instructors and students inquired about general computer experience and

about specific experience using asynchronous and synchronous communication software.

Data for this study were also collected from the collaborative online discussion tasks.

The instructors and learners participated in collaborative asynchronous and synchronous

discussions.

Asynchronous communication is a type of interaction that takes place with a time

delay. Examples of online asynchronous technologies include email and bulletin boards.

Since in the asynchronous activities for this study both the receiver and sender of the message do not have to be present at the same time, these technologies are considered asynchronous. In a typical asynchronous collaborative discussion, the instructor creates a forum for discussion and posts a discussion question on an electronic bulletin board. Students log on to their computer and enter the bulletin board at a time that is convenient for them; this can be an hour, a day, a week, etc., after the teacher has posted the question. Students read the message or question posted by the instructor and can reply to the message when they choose. Students have the opportunity to compose a message at their leisure and can preview the message before submitting it. If other students have posted messages, students can read their messages and similarly can reply to their classmates' postings.

Synchronous communication requires that all parties be present at the time the communication takes place. Examples of synchronous communication include telephone conversation, a board meeting, voice conferencing, video conferencing, and electronic chat. In a typical online synchronous collaborative class discussion, the instructor and students log on to their respective computers and enter the chat room at the same time. The instructor presents a discussion topic that appears on all the participants' computer screens. The participants compose a message in the editing buffer and enter the send command when they are ready to post their message to the other members of the class.

The university where the study was conducted uses the Blackboard software package to supplement courses with online components or to teach entire courses online. The Blackboard software package is a course management system with many features.

This system allows instructors to post course syllabi, readings, assignments, deliver online quizzes, post announcements, etc. In addition, the Blackboard software contains several communication features including email, a discussion board, and a chat room. Each semester, each course is assigned its own Blackboard web site which is password protected and only the instructor and students registered to the course have access to the online section of the course. Two of the communication features available on Blackboard were used to collect the data for this study; the discussion board and the chat room, which permit asynchronous and synchronous capabilities respectively. The data were collected using the Blackboard software package feature that archives the interactions that take place in both the discussion board and in the chat room. The software program automatically saves the transcripts of the interactions of all parties, which may be reviewed or retrieved at a later time. This is an unobtrusive way to collect interactions that take place between the instructor and students because the researcher need not be present and there is no need to use a tape- or video-recorder. Although it was not necessary for the researcher to be present during the collection of synchronous data, the investigator chose to be present for technological help during the chat room interactions. The instructors of the course felt more comfortable with the researcher being present and assisting students who had problems logging on to the computer or computer problems during the interaction. In addition, the researcher often visited instructors in their offices to assist them with the bulletin board postings at the instructors' request. The researcher also offered email help to all the instructors. The instructors took advantage of this assistance to ask questions or clarify any procedures of the study.

The transcriptions of the data received from the Blackboard software archives include all entries by students and instructors. Transcripts from the asynchronous discussion include the forum title, the date, the author, the subject, and the posting comprised of several sentences. All student and instructor names were deleted in order to maintain the anonymity of instructors and students, and identification numbers were created to keep track of the data. As part of the Spanish language instruction and objectives of the course, all of these interactions were designed to occur in Spanish. A sample asynchronous interaction comprised of two postings from the Blackboard bulletin board is shown below with translation (See figure 3.1).

Figure 3.1 Sample Blackboard Bulletin Board Discussion

Forum: Homework
Date: 06-11-2004 16:21
Author: Instructor 3 <instructor3@email.com>
Subject Homework
Situación: Tú estás muy enfermo. Describe tus síntomas en un párrafo y usando el vocabulario del libro. ¿Qué te duele? ¿Cuánto tiempo hace que estás enfermo/a? ¿Cómo te sientes? ¿Fuiste al médico? Etc. Situación: Tu profesor/a está muy enfermo/a. Usando el subjuntivo, escribe un párrafo con recomendaciones para tu profesor/a. ¿Qué le recomiendas al profesor/a? ¿Qué le sugieres al profesor/a? ¿Qué le prohíbes al profesor/a? ¿Qué le pides al profesor/a? ¿Qué le aconsejas al profesor/a? ¿Qué insistes que el profesor/a haga? Etc.
Forum: Homework
Date: 06-15-2004 11:32
Author: Student 1<student1@email.com>
Subject Re: Homework
!Oh dios mio! Estoy muy enferma! Me siento mal. Me duele mucho la cabeza y me duelen tambien el estomago. Hace dos dias que estoy enferma. No fui al medico porque yo odio las visitas al medico!

(Figure 3.1 Continued)
Sample Blackboard Bulletin Board Discussion (Translation)

Forum: Homework
Date: 06-11-2004 16:21
Author: Instructor 3 <instructor3@email.com>
Subject Homework
Situation: You are very sick. Describe your symptoms in a paragraph and using the vocabulary in your book. What hurts? How long has it been since you fell sick? How do you feel? Did you go to the doctors? Etc. Situation: Your teacher is very sick. Using the subjunctive, write a paragraph with recommendations for him or her. What do you recommend to your teacher? What do you suggest to your teacher? What do you prohibit from your teacher? What do you ask that s/he do? What do you recommend? What do you insist that s/he do? Etc.
Forum: Homework
Date: 06-15-2004 11:32
Author: Student 1<student1@email.com>
Subject Re: Homework
Oh my God! I am very sick! I feel really bad. My head hurts a lot and my stomach hurts also [wrong conjugation of verb]. It has been two days that I have been sick. I did not go to the doctor because I hate doctor visits!

Similarly, the transcripts from the synchronous discussions included the name of each participant, the date and time each participant entered the room, and all statements posted by each participant in the order in which they were published to the chat room. A sample synchronous interaction from the Blackboard chat room is shown below (See figure 3.2).

Figure 3.2 Sample Blackboard Chat Room Transcript

Instructor 1: Si hay un fuego , ¿es importante que los bomberos lleguen temprano. Jun 22, 2004 2:19:28 PM **Student 1:** es cierto Jun 22, 2004 2:19:57 PM **Student 2:** Los bomberos necesitan muchos ejercicio para se mantienen en forma. Jun 22, 2004 2:20:10 PM **Student 3:** Es indispensable. Jun 22, 2004 2:20:13 PM **Student 4** Es muy importante que los bomberos lleguen más temprano Jun 22, 2004 2:20:15 PM **Student 5:** Es muy importante porque mucho gente necesita ayudan. Jun 22, 2004 2:20:24 PM **Instructor 1:** Muy bien!¿Crees que los bomberos reciben un buen sueldo o un mal sueldo? Jun 22, 2004 2:21:25 PM **Instructor 1:** R.L necesitan llegar a tiempo Jun 22, 2004 2:21:25 PM

Figure 3.2 (Continued)
Sample Blackboard Chat Room Transcript – (Translation)

Instructor 1: If there is a fire, is it important that the firefighters get there early.
Jun 22, 2004 2:19:28 PM
Student 1: it is true Jun 22, 2004 2:19:57 PM
Student 2: The firefighters need much exercise for stay in shape. Jun 22, 2004 2:20:10 PM
Student 3: It is indispensable. Jun 22, 2004 2:20:13 PM
Student 4 It is very important that the firefighters get there more early. Jun 22, 2004 2:20:15 PM
Student 5: It is very important because many people need help. Jun 22, 2004 2:20:24 PM
Instructor 1: Very good! Do you believe firefighters receive a good or a bad salary? Jun 22, 2004 2:21:25 PM
Student 6: they need to get there on time Jun 22, 2004 2:21:45 PM

Overview of the Procedures

The procedures for this study took place in four phases (See Figure 3.3). First, a pilot study was conducted the semester prior to the study. Second, a pre-observation session and orientation were conducted with the instructors and students during the first week of the semester. Third, the data were collected in the observation phase of the study for nine weeks of the semester. Finally, the data were analyzed the semester following the data collection.

Figure 3.3 Procedures of the Study

	1	2	3	4
Phase	Pilot Study	Pre-Observation	Observation	Data Analysis
Semester	Spring 2004	Summer 2004	Summer 2004	Fall 2004
Duration	4 weeks	1 week	9 weeks	10 weeks
Activity	Various tasks piloted Sample data collected Codebook and coding form developed	Provide instructors with orientation Provide instructors and participants with IRB documentation Administer questionnaire to instructors Administer questionnaire to participants Provide participants with orientation on using bulletin boards and the chat room	Instructors conduct collaborative discussions in asynchronous and synchronous environments every two weeks	Code data Tabulate data Identify corrective feedback types Calculate what learner error leads to what corrective feedback Calculate learner response Report data

The pilot study phase was carried out the semester prior to the study in an effort to develop and fine-tune aspects of the procedures of this study. The various tasks to be used in the asynchronous and synchronous environment were also piloted, a sample of data was collected, and the codebook and coding forms were checked and fine-tuned when deemed necessary.

In the pre-observation session, the investigator first obtained permission from the TA coordinator and the chair of the department to conduct the study and notified the instructors informally and then formally using a memo (See Appendix A). Then, the

investigator provided the instructors with a general orientation of the study. In this

orientation, the researcher demonstrated the Blackboard software program for the

instructors, focusing on the asynchronous bulletin boards and the synchronous chat room

features. In order to raise the instructors' awareness of corrective feedback, the

investigator also discussed patterns of corrective feedback typically found in the face-to-

face language classes with the instructors. It was hoped that through this awareness

raising, instructors would employ corrective feedback during the online interactions. The

investigator then discussed with the instructors their speculations on whether they

expected the corrective feedback to be similar or different in the asynchronous and

synchronous environments. Instructors were then directed to provide interactional

corrective feedback online whenever it seemed appropriate and in whatever form seemed

most appropriate during each of the four online discussions. The instructors were aware

that one of the focuses of the study was corrective feedback. Next, the researcher

provided the instructors and participants with the documentation required by the

Institutional Review Board (IRB). The investigator also administered a background

questionnaire to the instructors and the participants (See Appendices B and C). These

questionnaires inquired about target language and computer experience, specifically

about familiarity with chat rooms and bulletin boards in and outside of the classroom. In

addition, instructions on how to use the software program were given to the participants.

These instructions demonstrated to the students how to enter their username and

password using in the login screen and how to use both the asynchronous bulletin board

and the synchronous chat room. Each class practiced using both the bulletin board and the chat room.

For the next part of the study, the researcher asked each instructor to conduct class discussions in the asynchronous and synchronous environments a total of four separate times over the course of the semester (See Figure 3.4). The instructors were asked to conduct class as normal throughout each week and were also asked to lead an online discussion every two weeks; two weeks using the bulletin board or asynchronous mode, and two weeks using the chat room or synchronous mode. The class discussions were incorporated as a course activity and consequently a course requirement. All instructors were provided with a list of discussion questions related to the course material to be used in their discussions (See Appendices D and E for examples). The guiding questions follow the chapter themes, employing the vocabulary and grammatical forms discussed in each chapter. The tasks were designed to elicit communicative effectiveness and grammatical accuracy. The questions were designed to bring about a discussion between instructors and students and at the same time, the questions focused on the vocabulary and grammar points for each chapter. It was hoped that by designing questions that elicit vocabulary and target forms that instructors would provide learners with corrective feedback. The same list of questions was provided to all instructors. Instructors were informed that these were guiding questions, but that they could choose to use all of the questions, some of the questions, or none of the questions. For the asynchronous discussions, most instructors chose to use the questions provided. For the synchronous discussions, most instructors used the questions as a guide and often added

original questions of their own. The instructor led the discussion, either in the bulletin

board or in the chat room, using the questions provided or original questions and s/he

guided the discussion. In addition, the instructor was asked to make decisions as the

discussion took place. These decisions included: what questions are appropriate at what

point in time of the discussion and when should new questions be posted.

Figure 3.4 Data Collection Schedule for the Ten Week Semester

	Class 1	*Class 2*	*Class 3*	*Class 4*
Week 1	-Instructor orientation	-Instructor orientation	-Instructor orientation	-Instructor orientation
Week 2	-IRB documentation -Instructor Questionnaire -Participant Questionnaire -Participant Orientation	-IRB documentation -Instructor Questionnaire -Participant Questionnaire -Participant Orientation	-IRB documentation -Instructor Questionnaire -Participant Questionnaire -Participant Orientation	-IRB documentation -Instructor Questionnaire -Participant Questionnaire -Participant Orientation
Week 3	No Data Collection	No Data Collection	No Data Collection	No Data Collection
Week 4	Data Collection of Synchronous Discussion	Data Collection of Synchronous Discussion	Data Collection of Synchronous Discussion	Data Collection of Synchronous Discussion
Week 5	No Data Collection	No Data Collection	No Data Collection	No Data Collection
Week 6	Data Collection of Asynchronous Discussion	Data Collection of Asynchronous Discussion	Data Collection of Asynchronous Discussion	Data Collection of Asynchronous Discussion
Week 7	No Data Collection	No Data Collection	No Data Collection	No Data Collection
Week 8	Data Collection of Synchronous Discussion	Data Collection of Synchronous Discussion	Data Collection of Synchronous Discussion	Data Collection of Synchronous Discussion
Week 9	No Data Collection	No Data Collection	No Data Collection	No Data Collection
Week 10	Data Collection of Asynchronous Discussion	Data Collection of Asynchronous Discussion	Data Collection of Asynchronous Discussion	Data Collection of Asynchronous Discussion

For the asynchronous mode, the discussion was designed as a homework assignment conducted outside the classroom. The rationale for giving this task as a homework assignment was to afford the students a true asynchronic interaction experience. If the bulletin board discussions had been completed in class, this would not have constituted a true asynchronous discussion because students could have read postings and replied immediately. Therefore, students were given a homework assignment to be completed within the week. Students were required to log on to the courseware package used by the university, Blackboard, and access the bulletin board. There, students found one posting from the instructor with several discussion questions. Students were asked to continue the discussion and were encouraged to post new questions of their own. The bulletin board allows for messages or individual postings containing normally several sentences to be threaded. This allows the instructor and students to access a particular posting by any individual. It was anticipated that the asynchronous interaction would yield about 360 postings. It was anticipated that the instructor would post the guiding questions, all learners would reply to the instructor posting, the instructor would reply to most of the learner postings with comments and feedback, and learners would reply back to most of the instructor comments. Only 290 postings were obtained during the asynchronous data collection of this study. Possible reasons for this low number will be explained later on in this dissertation. The transcriptions from the discussions obtained were compiled and saved electronically for analysis at a later time.

For the synchronous discussion, the instructors were asked to take the entire class

to the computer lab in order to conduct the discussion. Students were asked to log on to

the courseware package used by the university, Blackboard, and enter the chat room

feature. There, students found a discussion question posted by the instructor and the

students were be asked to continue the discussion, contribute to the discussion, and were

encouraged to post new questions of their own. The interaction appeared in

chronological order and students were able to scroll back to previously posted messages.

It was anticipated that the synchronous interaction would yield eight hours of interaction,

but it only yielded seven hours because it took students time to log on to the computer

and for the instructor to begin the interaction. The transcriptions from the discussion

were archived and saved electronically for analysis at a later time.

Overview of the Process

The present study employed Neuendorf's (2002) flowchart for the typical process

of content analysis research discussed in detail in chapter two. In the current chapter,

Neuendorf's flowchart has been adapted to fit the present study (See Figure 3.5)

Figure 3.5 Neuendorf's Flowchart for the Typical Process of Content Analysis Research for the Present Study

---

1. Theory and rationale: This perspective to language learning deems interaction essential for language learning. The interactionist perspective of language learning deems interaction an essential component in language learning. The content from interactions conducted by instructors and students in online asynchronous and synchronous environments were examined. Research questions that were investigated include:1.Do asynchronous and synchronous environments provide opportunities for the provision of corrective feedback by instructors to students? 2. What is the nature of feedback in online asynchronous and synchronous environments? 3.What type of learner error leads to what type of corrective feedback in online asynchronous and synchronous environments 4.What is the distribution of uptake following different types of corrective feedback found in online asynchronous and synchronous environments?

---

2. Conceptualizations: The variables used in this study include: learner error, instructor corrective feedback, and learner response. Definitions of variables: error is defined as an ill-formed language utterance or an unacceptable utterance in the target language, corrective feedback is defined as an instructor's response to a learner error, and learner response is defined as the student's immediate response in some way to the instructor's intention to draw attention to some aspect of the student's original utterance.

---

3. Operationalizations (measures): The unit of analysis in this study is the error treatment sequence which is comprised of the learner error, the instructor's corrective feedback, and the learner's response. A priori categories were employed, but room was left for emergent categories due to the nature of the interaction.

Human
Coding

4a. Coding schemes: The following materials have been created:

   a. Codebook (with all variable measures fully explained)

   b. Coding form

Human
Coding

---

5. *Sampling*: All transcripts of interactions produced by instructors and learners participating in collaborative online tasks were used.

Figure 3.5 (Continued)

6. Training and pilot reliability: A training session was conducted prior to coding the data. Initial reliability of coding was conducted for each variable and the codebook and coding form were revised when needed.

7. Coding: At least two coders were employed to establish intercoder reliability. Coding was done independently.

Human
Coding

8. Final reliability: Reliability figure was calculated using percent agreement for each variable.

9. Tabulation and reporting: Examples of content analysis results were examined in order to see the ways in which results can be reported. Figures and statistics were used to report the data.

It was important to first examine the theoretical basis, as well as the rationale for this study. In terms of theory, the current study is nested under the interactionist theoretical framework, which was discussed in detail in chapter 2. The interactionist perspective to language learning deems interaction essential for language learning. For the purposes of this study, the content from interactions conducted by instructors and students in online asynchronous and synchronous environments was examined. The motivation for choosing this content is two-fold: First, it is believed that the examination of corrective feedback in the classroom may offer insight into why lower level Spanish as

a Foreign language students are not reaching higher levels of proficiency. Second, research that specifically examines corrective feedback provided to students by instructors in online asynchronous and synchronous environments does not yet exist. The hope is that as a result of this study, the recommendations made as to what types of corrective feedback are better at eliciting student repair, will contribute to improving online instruction.

Continuing to follow Neuendorf's flowchart, the current study then conceptualized decisions. In this step of content analysis, decisions were made about what variables would be used in the study and how they are conceptualized. The variables for the present study include learner error, instructor corrective feedback, and learner response or reaction. An error is defined as an ill-formed language utterance or an unacceptable utterance in the target language. Corrective feedback is defined as an instructor's response to a learner error that provides the learner with information about what is acceptable and unacceptable in the target language. Response is defined as the student's immediate response in some way to the instructor's intention to draw attention to some aspect of the student's original written utterance.

Subsequently, Neuendorf recommends that the measures used in the study be operationalized ensuring sure that the measures match the researchers conceptualization. During this step decisions regarding the unit of analysis, the categories to be used, and the coding scheme decisions were considered.

According to Weber (1990), the unit of analysis in content analysis research can be a word, word sense, sentence, or theme. Similarly, Gall, Borg, et al.(1996) and

Neuendorf (2002) point out that the message can act as the unit of analysis or the unit of data collection. The unit of analysis for this research study is the *error treatment sequence* (See figure 3.6). The use of the error treatment sequence as the unit of analysis is corroborated by corrective feedback research (Lyster, 1998; Lyster and Ranta, 1997; Mackey, Gass et al., 2000; Oliver, 2000). The majority of this research in the field uses the error treatment sequence as the unit of analysis with minor variations, especially in the terminology used to label the error treatment sequence. Some researchers use the term *error treatment sequence* (Lyster, 1998; Lyster and Ranta, 1997) while other researchers (Mackey, Gass, et al., 2000) use the term *episodes* and still other research (Oliver, 2000) uses the term the *three part exchange*. All of this research refers to the student's initial turn containing an error, the instructor's response to the error, and the student's reaction to the correction. Most studies examining corrective feedback have been conducted with face-to-face interactions. This study was conducted in an online environment and the error treatment sequence normally contained other turns in between. In the asynchronous environment, the instructor posted a set of questions, learners then posted a set of responses, and instructors posted a set of replies to the learner responses. This means that in this study, the learner error, corrective feedback and learner response had to be identified within each posting comprised of several sentences. In the synchronous environment, instructors posed a question, there were several learner responses to the instructor's question, some of which contained errors and some of which did not, there may have been instructor corrective feedback or not, and they may have been a learner response or not. The error treatment sequence was identified from the

91

many postings by examining all the postings close to the learner error, corrective

feedback, and learner response. It was only in a few instances that the researcher was

unable to identify to whom the instructor was providing corrective feedback.

Figure 3.6 Error treatment sequence

Learner error → instructor corrective feedback → learner response

The learner errors, corrective feedback, and learner response found in the text

were placed into categories, the process of which will be described subsequently.

According to Neuendorf (2002) and Tahakkori and Teddlie (2003), categories can be *a*

priori or *emergent* themes. Themes are *a priori* when they are preplanned on the basis of

previous research, and themes are *emergent* when they might emerge from the analysis.

The present study contained both *a priori* and *emergent* themes or categories. Learner

error types, instructor corrective feedback types, and learner responses to corrective

feedback have only been previously identified for face-to-face interactions between

instructors and students, and the categories already identified served as the basis, or the *a*

priori themes, for the present study. It was expected that new varieties of learner errors,

instructor corrective feedback, and learner responses would be found because of the

nature of interactions taking place in the asynchronous and synchronous environments; if

found, these new varieties would constitute the *emergent* themes or categories.

The next step was to decide whether human coding or computer coding would be

used. Due to the nature of the data collected, the present study employed human coding

of the data. According to Neuendorf (2002) if human coding is used, a codebook and a

coding form should be created. A codebook was created for the present study and can be

found in Appendix G. In addition, a coding form was also created and can be found in

Appendix F.

Subsequently, sampling was considered. According to Neuendorf, the researcher

should ask "How will you randomly sample a subset of the content?" For the present

study, all the transcripts produced by instructors and learners participating in

collaborative online tasks were used. It was anticipated that the transcripts would yield

and approximate sixteen hours of interaction. The data collected for this study was shy of

the sixteen hours and it generated an approximate total of fourteen hours of interaction

data, seven for the asynchronous interaction and seven for the synchronous interaction.

All turns in all transcripts were coded for errors, corrective feedback, and learner

responses.

Continuing to follow the flowchart, the next step was training and initial

reliability. It was recommended that a training session in which coders work together

and find out whether they can agree on the coding of variables be performed. In the

present study, this training session was conducted prior to the final coding of the data.

The initial reliability of coding was conducted for each variable and when needed, the

codebook and the coding form were revised.

For the coding step of the content analysis research, two coders were used to code

the data. The coders coded the data independently. A final reliability was calculated for

each variable and will be reported in the next chapter.

Reliability and Validity

    Reliability.

According to Krippendorff, "[i]f research results are to be valid, the data on which they are based, the individuals involved in their analysis, and the processes that yield the results all must be reliable" (Krippendorff, 1980, p. 129). Krippendorff goes on to distinguish two types of reliability that are pertinent to content analysis. These are *stability* and *reproducibility*. These concepts are defined below, and the processes that was taken to ensure reliability in the present study will be discussed.

Stability refers to the extent to which the content classifications used in the study are invariant over time. Stability is also known as intra-coder reliability. Problems of the stability type of reliability arise when data are coded inconsistently. This inconsistency can result from ambiguous coding rules, ambiguities in the text, cognitive changes within the coder, and simple errors. According to Weber (1990), stability can be determined when the same content is coded more than once by the same coder. In order to ensure that the coding rules are transparent, the researcher asked colleagues to verify the definition of the coding rules. In addition, the researcher conducted an initial training session and calculated an initial reliability before the coding of the data. This initial reliability was conducted on each variable and a revision of the codebook and coding form was made when needed. Moreover, after a lapse of time at least 10% of the data for this study was coded a second time by the same coder to check the coding rules, to ensure that cognitive changes were not affecting the coding, and to make sure that simple errors were not being made.

Reproducibility refers to the extent to which content classification produces the same results when the same text is coded by more than one coder. This can also be referred to as intercoder reliability since it measures the consistency of shared understanding by two or more coders. Problems of reproducibility arise from cognitive differences among coders, ambiguous coding instructions, and random coding errors. At least 15% of the data for this study was coded by two coders and intercoder reliability was calculated using Holsti's (1969) percent agreement method, $PA_o = 2A / (n_A + n_B)$. Where PA_o stands for proportional agreement observed, A is the number of agreements between the two coders, and n_A and n_B are the numbers of units recorded by coders, respectively.

Validity.

According to Krippendorff, "'validity' designates that quality of research results which leads one to accept them as indisputable facts" (Krippendorff, 1980, p. 155). Research validity is the degree to which a study accurately reflects the specific concept that the research is attempting to measure. In content analysis, this is the degree of correspondence of the definitions of concepts and the categories with the generalizability of the results across methods. According to Weber (1990), *face validity* constitutes the correspondence between the researcher's definitions of concepts and the definitions used to describe the categories that measure them, and *construct validity* entails the generalizability of the construct across measures or methods. Face validity is achieved by utilizing multiple classifiers to arrive at the agreed upon definition of the category.

95

Construct validity is reached by defining categories that accurately measure the idea that the researcher is seeking to measure. In the present study, two steps will be taken to ensure validity. First, the present study employed already existing categories that have been established in the field. Second, the codebook was validated by colleagues in the field. Colleagues were persons in the field with experience teaching Spanish as a Foreign Language and experts in second language acquisition theory.

Data Analysis

   Unit of analysis.

The unit of analysis used to answer the research questions in this study is the error treatment sequence (See figure 3.6). The error treatment sequence refers to the student's initial turn containing an error, the instructor's response to the error, and the student's reaction or response to the correction. Student turns and instructor response in the asynchronous interaction were defined as sentences. In typical asynchronous interactions, instructors and students post a paragraph-like posting comprised of many sentences. For this study, these paragraphs were separated into sentences and consequently, each sentence was considered a turn. Student turns and instructor responses in the synchronous interaction constitute each message composed by the student or instructor. In typical synchronous interactions, students and instructors compose a message in the editing buffer and enter the send command when they are ready to post their message to the other members of the class.

Variables.

The variables for the present study include learner turn, learner error, instructor corrective feedback, and learner response (See Figure 3.7). An error is defined as an ill-formed language utterance or an unacceptable utterance in the target language. Corrective feedback is defined as the instructor's response to a learner error that provides the learner with information about what is acceptable and unacceptable in the target language. Response is defined as the student's immediate reaction in some way to the instructor's intention to draw attention to some aspect of the student's original written utterance.

Figure 3.7 Variables

Learner Turn	Learner Error	Instructor Corrective Feedback	Learner Response
No Error			

Error	Type of error
	   Grammatical
	   Lexical A priori
	   Orthographic
	   Typo & Spell
	   L1
	   Multiple
	 …..
	 ….. Emergent
	 …..
		Topic Continuation
		
		 Provide Feedback
		   Explicit Correction
		   Recast
		   Negotiation of form
		     Elicitation A priori
		     Metalinguistic
		     Clarification Request
		     Repetition
		 …..
		 ….. Emergent
		 …..
			Topic Continuation
			
			 Provide Response
			   Still needs repair A priori
			   Repair
			 …..
			 …..
			 ….. Emergent

At the conception of the study, learner errors were identified as grammatical, lexical, orthographic conventions, typographical and spelling, unsolicited use of L1, and multiple errors. These categories served as the *a priori* categories of the analysis. It was

also expected that new varieties of errors would be found due to the nature of the interactions, although this was not the case in this study. Even though errors are not the focus of this research question, there is a need to categorize errors in order to identify instructor corrective feedback. It is also important to note that the absolute number of student errors will not be reported, rather, the number of student turns containing at least one error will be used. In counting student turns without errors, short turns with little or no potential for error such as *names of people, yes, no, hello, good morning,* etc. were excluded.

The six corrective feedback types, explicit correction, recasts, elicitation, metalinguistic, clarification request, and repetition identified by Lyster and Ranta (1997) in face-to-face classrooms, were used as the basis for identifying corrective feedback types in this study. These corrective feedback types served as the *a priori* categories. It was also expected that new corrective feedback types would emerge from the data, due to the nature of the interactions, but this was not the case in this study. Although new categories of corrective feedback were not found, new varieties of corrective feedback were found and will be presented in the next chapter. Corrective feedback moves were identified, coded and tabulated separately for the two pedagogical settings: asynchronous discussions and synchronous discussions.

Based on previous research (Lyster and Ranta, 1997; Morris, 2002; Oliver, 1995; Panova and Lyster, 2003), two types of learner response were expected. The learner can ignore the corrective feedback and continue the conversation or the learner can provide a response. If the learner provides a response, the response can be *'repaired'* by the learner

or it can still *'need repair';* these two categories of responses served as the a priori

categories. Due to the nature of the environments, it was expected that other types of

learner responses might emerge.

Procedures

The procedures and analysis for each research question are presented below. The

results from these procedures and analysis will be discussed in the following chapter.

The research questions are presented in Figure 3.8.

Figure 3.8 Research Questions

1. Do instructors offer corrective feedback to learners in online asynchronous and synchronous environments?
        a. Do instructors offer corrective feedback to learners in online asynchronous
        discussions conducted in university first year Spanish as a Foreign Language
        (SFL) classes?
b. Do instructors offer corrective feedback to learners in online synchronous discussions
conducted in university first year Spanish as a Foreign Language (SFL) classes?
2. What is the nature of corrective feedback in online asynchronous and synchronous
environments?
        a. What are the different types of corrective feedback found in online
        asynchronous discussions conducted in university first year Spanish as a Foreign
        Language (SFL) classes and are they used equally?
        b. What are the different types of corrective feedback found in online
        synchronous discussions conducted in university first year Spanish as a Foreign
        Language (SFL) classes and are they used equally?
3. What types of learner error lead to what types of corrective feedback in online
asynchronous and synchronous environments?
        a. What types of learner error lead to what types of corrective feedback in online
        asynchronous discussions conducted in university first year Spanish as a Foreign
        Language (SFL) classes?
        b. What types of learner error lead to what types of corrective feedback in online
        synchronous discussions conducted in university first year Spanish as a Foreign
        Language (SFL) classes?

Figure 3.8 (Continued)

4. What is the distribution of learner response to different types of corrective feedback found in online asynchronous and synchronous environments?
     a. What is the distribution of learner response to different types of corrective feedback found in online asynchronous discussions conducted in university first year Spanish as a Foreign Language (SFL) classes?
     b. What is the distribution of learner response to different types of corrective feedback found in online synchronous discussions conducted in university first year Spanish as a Foreign Language (SFL) classes?

Procedure for research question one.

In order to answer research question one, all learner turns were first examined to determine whether or not they contained errors. The coding form columns were first transferred into an Excel file for ease of tabulation. Using column two of the coding form (See Appendix F), each learner turn was coded *'yes'* if it contained an error and *'no'* if it did not contain an error. Next, the learner turns that contained an error, those marked *'yes'*, were further examined to determine whether or not they received corrective feedback from the instructor. Using column four of the coding form (See Appendix F), learner turns containing an error were coded *'yes'* if they received corrective feedback and *'no'* if they did not receive corrective feedback. Coding was performed on both the asynchronous data and the synchronous data. Specific types of errors and specific types of corrective feedback were not identified at this time. This information was coded and analyzed at a later time for research questions two and three.

The provision of corrective feedback by instructors to students was calculated for both the asynchronous and synchronous environments in order to answer the two sub-questions pertaining to research question one: (a) Do instructors provide learners with

100

corrective feedback in online asynchronous discussions conducted in university first year

Spanish as a Foreign Language (SFL) classes? and (b) Do instructors provide learners

with corrective feedback in online synchronous discussions conducted in university first

year Spanish as a Foreign Language (SFL) classes? A formula was entered into the

Excel document that counted all turns containing error or a *'yes'* in column two. A

separate formula was entered into the Excel document that tabulated all learner turns

receiving corrective feedback. The percentage of learner errors that received corrective

feedback was then calculated and reported for each instructor and across the four classes.

Procedures for research question two.

In order to answer research question two, specific types of corrective feedback

were teased from the data obtained. The data, which was coded initially for research

question one, was further analyzed here and specific types of corrective feedback were

identified using the codebook (See Appendix G). Each instructor turn providing

corrective feedback was coded using one of the codes in the codebook. This was done in

the Excel file for ease of tabulation. Once all the data were coded, a formula was entered

into the Excel file that tabulated each type of corrective feedback for each instructor. The

types of corrective feedback and their rate of occurrence, including explicit correction,

recast, elicitation, metalinguistic, clarification request, and repetition were reported for

each instructor and across the four classes using a distribution of corrective feedback

types table.

The tabulations of the corrective feedback categories were calculated separately

for both the asynchronous and synchronous environments in order to answer the sub-

questions of research question two: What are the different types of corrective feedback

found in online asynchronous discussions conducted in university first year Spanish as a

Foreign Language (SFL) classes and are they used equally? And what are the different

types of corrective feedback found in online synchronous discussions conducted in

university first year Spanish as a Foreign Language (SFL) classes and are they used

equally?

It was also possible to perform a chi-square goodness-of-fit test for the corrective

feedback types in each of these environments because enough incidents of corrective

feedback types were found. A chi-square goodness-of-fit test is appropriate for

distributions of data with one nominal variable and several categories. In the present

research question, as concerns the asynchronous data, the asynchronous environment

serves as the nominal variable and the various types of corrective feedback serve as the

categories. Similarly, with the synchronous data, the environment serves as the nominal

variable and the types of corrective feedback serve as the categories. It would appear that

the chi-square goodness-of-fit test is the most appropriate for this type of data. A chi-

square goodness-of-fit test employs a systematic hypothesis-testing procedure and a null

hypothesis was established for this research question.

The chi-square test of goodness-of-fit requires that certain conditions be met and

this study made certain that these assumptions were met before conducting the chi-square

test of goodness-of-fit. These assumptions include independence of the observations and

that each frequency must exceed the minimum frequency of five. To facilitate the chi-square goodness-of-fit examination, data from the categories obtained earlier in this research question were also collapsed. This is a common practice in chi-square analysis and previous studies in the field have also performed collapsing of categories. Care was also taken to collapse categories with a purpose. Only categories that could be collapsed and had a viable rationale for collapsing, were collapsed.

The corrective feedback types identified previously in this research question were collapsed into overarching categories in order to answer research question two. Of these six types of feedback, two, explicit correction and recast, provide the target-like form to learners explicitly and implicitly respectively. The other corrective feedback types, metalinguistic feedback, clarification request, elicitation and repetition, do not provide the target-like form to learners, and provide an opportunity to negotiate form. Previous research (Lyster, 1998; Lyster and Ranta, 1997) has categorized these corrective feedback types as negotiation of form, but this term is not clear and can lead to confusion. In this particular study, these corrective feedback types were collapsed under the category *opportunity to negotiate form* to make the function of these corrective feedback types more salient.

Once the categories were collapsed, a chi-square goodness-of fit test was used to determine if the observed frequencies differed from the expected. A chi-square was performed separately for both the asynchronous and synchronous environment. A systematic hypothesis-testing procedure was undertaken.

103

Procedure for research question three.

In order to answer research question three, the first step was to categorize the specific types of learner error and their occurrence using the Excel file and coding form. Most corrective feedback move identified were linked to a learner turn containing errors. Due to the nature of interaction, in a few instances, it was impossible to determine to whom or to what learner turn with error the corrective feedback was directed. This was most common in the synchronous interaction where turns not associated with the error treatment sequence are embedded in between other turns. These instances were very few and were not coded. The collapsed categories of corrective feedback types were used to answer research question three. Elicitation, metalinguistic, clarification request, and repetition types of corrective feedback were collapsed into *opportunity to negotiate form*.

In order to answer research question three, a chi-square test of association was performed. A chi-square test of association is appropriate for data containing two traits, in this case corrective feedback and learner error. Similarly to the assumptions of the chi-square goodness-of-fit test discussed in research question two, a chi-square test of association requires independence of the observations and that each frequency exceed the minimum frequency of five. Similarly to the chi-square goodness-of-fit test discussed in research question two, a systematic hypothesis-testing procedure was undertaken in order to conduct the chi-square test of association.

These analyses were conducted separately for each of the two sub-questions in research question three: What types of learner error lead to what types of corrective feedback in online asynchronous discussions conducted in university first year Spanish as

104

a Foreign Language (SFL) classes? And what types of learner error lead to what types of corrective feedback in online synchronous discussions conducted in university first year Spanish as a Foreign Language (SFL) classes?

Procedures for research question four.

In order to answer research question number four, the different types of corrective feedback identified in research question two were utilized. In addition, learner response was examined. First, the data were analyzed and instances of learner responses to instructor corrective feedback were identified in the data. Using column six of the Excel file, '*yes*' was marked when a learner response to the instructor's corrective feedback was present and '*no*' when the corrective feedback did not receive a response from the learner. Learner responses were tabulated and a further analysis of learner response was conducted in order to determine if the learner response lead to '*repair*' or '*needs repair*'.

In addition to reporting the distributions of repair and needs repair in the asynchronous and synchronous environments, it was possible to perform a chi-square test of association depending because enough incidents of repair and needs repair were found in the data. The data obtained for research question four contains more than one nominal variable and thus a chi-square test of association is appropriate. The collapsed categories of corrective feedback were used in order to facilitate the chi-square test of association examination.

Summary

   In this third chapter, a detailed description of the setting, the database, the overview of the procedures, the overview of the process, and the data analysis have been discussed. In chapter 4, the results for each research question will be discussed.

Chapter 4: Data Analysis and Results

Introduction

The purpose of the present research study was to examine the corrective feedback provided by instructors to students in online asynchronous and synchronous environments. This study set out to determine whether or not corrective feedback was provided by instructors to students in these two environments, identify the various types of corrective feedback provided, investigate the relationship between learner error and corrective feedback, and calculate the distribution of learner response following the different types of corrective feedback.

After an introduction to the problem area in chapter 1 and an expanded review of the most salient contributions to the field in chapter 2, chapter 3 described in detail the design of the study. The aim of this particular chapter is to communicate the data analysis and results as well as report the findings related to each research question.

General Overview of the Procedures

This study was conducted with four second-semester Spanish classes at a major research I university. The instructors of these four classes were given an orientation session where the study was explained and corrective feedback in face to face classes was discussed in order to raise the instructors' awareness of the focus of the study. The

107

instructors were made aware that the research would examine the corrective feedback

they provided in the asynchronous and synchronous environments. Three of the four

instructors attended a general orientation session and a special session was given to the

one instructor who was not able to attend the general orientation. Instructors were then

asked to take their students to the computer lab for an orientation of the Blackboard

software which included a familiarization of the bulletin board and the chat room

functions. Instructors were then asked to take their classes two more times to the

computer lab in order to two chat discussions, or synchronous interactions with their

students. Additionally, instructors were also asked to conduct two bulletin board

discussions or asynchronous interactions during the semester. These bulletin board

discussions were assigned as homework and took place outside the classroom setting.

Since there were four classes, this generated a total of sixteen interaction, eight

asynchronous interactions and eight synchronous interactions. These sixteen interactions

formed the database for this study.

Background Questionnaire

　　　Background questionnaires were distributed, completed and collected from the

instructors and students on the computer orientation day. Although these questionnaires

do not serve to address or answer any particular research question, they do provide rich

background information on the instructors and students. The intent of these

questionnaires was to collect background information on the language teaching and

learning as well as computer experience of the instructors and students in case any

anomalies appeared in the data that could be attributed to personal background and/or computer experience. None of these irregularities was identified, but the background questionnaires served as a good introduction to the participants of this study.

First, background questionnaires were administered to the four instructors (See Appendix A for full questionnaire). The instructor background questionnaire inquired about native language (Question 4), teaching experience (Question 5), other language experience (Question 6), travel experience (Question 7), general computer experience (Questions 8, 9, 10), the use of bulletin boards (Questions 11, 12, 13) and the use of chat rooms (Questions 14, 15, 16). Table 4.1 below presents the information in a table. Two female instructors and two male instructors participated in the present study. Of these four instructors, two instructors reported English as their native language, one instructor reported Spanish as her native language, and one instructor reported both Spanish and English as his native languages. The amount of time these instructors had taught Spanish varied from 1 month to 10 years, although the instructor who stated he had been teaching Spanish for one month had taught French for one year prior to participating in the study. All the instructors had used computers for many years and felt comfortable using computers. When asked about the use of bulletin boards in classes taught and for personal use, only one instructor had used bulletin boards in classes taught and one had used them for personal use. The instructors had never used the chat room in classes taught, yet all of the instructors had used chat rooms for personal use.

Table 4.1 : Instructor Questionnaire Findings

	Inst. 1	Inst. 2	Inst. 3	Inst. 4
Gender:	F	F	M	M
Age:	40	39	27	32
Native Language:	Spanish	English	Spanish/English	English
Time Teaching Spanish:	10 years	4 years	1 month	7 years
Years using computers:	10	14	8	20
Comfort with Computers:	Somewhat Comfortable	Very Comfortable	Very Comfortable	Very Comfortable
Use of Bulletin Boards in classes taught:	No	No	Yes	No
Use of Bulletin Boards for personal use:	No	No	No	Yes
Use of Chat room in classes taught:	No	No	No	No
Use of Chat rooms for personal use:	Yes	Yes	Yes	Yes

(N = 4)
Note. The abbreviation "Inst." is used for instructor

Second, the students of these courses were asked to fill out a background questionnaire during the computer orientation day. The four Spanish II courses that participated in this study contained a total of 72 students. Of particular interest was the students' comfort level with computers and the use of discussion boards and chat rooms (See Appendix B for full questionnaire). The student background questionnaire inquired about classification (Question 5), native language (Question 6), language experience (Questions 7, 8, 9, 10, 12), general computer experience (Questions 13, 14, 15), the use of bulletin boards (Questions 16, 17), and the use of chat rooms (Questions 18, 19). Table 4.2 presents distributions of gender, level of study, native language, reason for studying Spanish, and several factors related to computer use. The vast majority of these students (99%) were undergraduate students with a median age of 23. The majority of students (97%) reported English as their native language and the majority (84%) were taking this course because language study is a requirement at this university. Most

students (97%) were either very comfortable or somewhat comfortable with computers.

Interestingly, about half (57%) of the students used discussion boards in class, but rarely

(17%) used discussion boards for personal use. Conversely, students rarely (17%) used

chat rooms in class, but about half (51%) used chat rooms for personal use.

Table 4.2 : Student Questionnaire Findings

Age:	Mean: 26	Median: 23	
Gender:	M (44%)	F (56%)	
Level of study:	Undergraduate (99%)	Graduate (1%)	
Native language:	English (97%)	Other (3%)	
Reason for studying Spanish	Requirement (84%)	Personal growth (13%)	Heritage (3%)
Length of time using computers	Mean: 10 years	Median: 10 years	1 student 0 years
Comfort with computers	Very comfortable (73%)	Somewhat comfortable (24%)	Uncomfortable (3%)
Use of discussion boards in class	No (43%)	Yes (57%)	2 times a week when yes
Use of discussion boards for personal use	No (83%)	Yes (17%)	4 times a week when yes
Use of chat rooms in class	No (87%)	Yes (13%)	2.5 times a week when yes
Use of chat rooms for personal use	No (49%)	Yes (51%)	4 times a week when yes

(N = 72)

The Database

The data for this study constituted a total of sixteen online asynchronous and

synchronous interactions between instructors and students. The asynchronous and

synchronous data were collected using the bulletin board and chat functions of the

Blackboard courseware package. First, instructors were given an orientation of the chat

room and bulletin board functions of Blackboard. Next, instructors were given a

schedule (See Figure 3.1) for data collection for the semester. Prior to the interaction

sessions, instructors were given guiding questions (See Appendix D and E for examples)

that they could use to conduct the discussions on the bulletin board and in the chat room. Instructors were not required to use these questions, but most instructors used the provided questions for the asynchronous discussions and used the guiding questions to begin their discussion in the synchronous interaction and then added original questions.

The sixteen online interactions were transferred into an Excel file for ease of coding. In the Excel file, the raw data was separated into turns and columns for coding the learner errors, instructor corrective feedback, and learner responses were created. Asynchronous turns were comprised of sentences and synchronous turns encompassed each entry made by the student or instructor. At the time of the conception of the study, it was proposed that short turns with little or no potential for error such as names of people, yes, no, hello, good morning, etc. would be excluded from the analysis. However, after the data were examined closely, a few short utterances that were associated with errors and corrective feedback, such as "thank-you", "oops", etc., were found and these were kept because of their relationship to corrective feedback and their relevance to the study.

After the data were separated into turns and cleaned up by deleting short turns not related to the study, it yielded a total of 5,874 turns. The turns figure is a more accurate figure than the fourteen hour figure because the hour figure is an estimation of how much time students could have spent on the computer while performing the asynchronous task.

Data Analysis

As discussed in chapter 3, the unit of analysis for this research study is the *error treatment sequence.* The *error treatment sequence* refers to the learner's initial turn containing an error, the instructor's response to the learner error, and the learner's response to the correction. The data collected for this study were examined and all errors, corrective feedback moves, and learner responses were identified and coded using the codebook (See Appendix G).

Error.

All learner turns were coded as either having an error or not. Using face-to-face studies in the field as a guide, it was hypothesized that grammatical, lexical, unsolicited use of L1, and multiple error types would be found in the data. In addition, it was speculated that typographical, spelling, and orthographic errors would be found in online interactions in Spanish. It is impossible to differentiate between a typographical or spelling error unless learners are interviewed regarding the error made and interviews were beyond the scope of this study. In summary, six *a priori* categories were anticipated: a) grammatical, b) lexical, c) typographic and spelling, d) orthographic conventions, e) use of L1, and f) multiple. Although the use of L1 is not an error per se, other studies have considered these for analysis because it is interesting to examine how teachers react to learners' use of unsolicited L1. Turns containing one or more types of errors, were coded as containing multiple errors.

New or emergent categories of errors were not found in the asynchronous and synchronous data. However, adjustments had to be made to the original *a priori* categories. When examining orthographic conventions, it was found that instructors themselves used orthographic conventions sparingly. In addition, only one instructor provided minimal corrective feedback for orthographic errors. In light of this discovery, orthographic conventions were grouped with typographic and spelling errors to create a new overarching category of orthographic/typographic/spelling errors. In conclusion, five types of errors were identified in the asynchronous and synchronous interactions included in this study. These included: grammatical, lexical, orthographic/typographic/spelling, unsolicited use of L1, and multiple.

Corrective feedback.

All instructor turns were coded as either providing corrective feedback or not to a learner turn containing an error. It was anticipated that six types of corrective feedback would be found in online interactions. Explicit correction, recasts, clarification requests, metalinguistic feedback, elicitation, and repetition were expected and constituted the *a priori* categories for corrective feedback in this study. All anticipated types of corrective feedback were found in the data, although one type of corrective feedback, repetition, was not found in the asynchronous interactions. It was also expected that new types of corrective feedback might be found and thus room was left for *emergent* categories. New or emergent categories of corrective feedback were not found in the data, but variations of the *a priori* corrective feedback types were found.

114

The various types of corrective feedback distinguished from the asynchronous and synchronous data of this study are presented below with examples. In addition, variations of these corrective feedback types are discussed and examples are provided.

1. *Explicit correction* constitutes the explicit provision of the correct form by the instructor. These corrections are often preceded by phrases such as "You mean," "Use this word," "You should say," etc.

(1)   (Instructor 1 - Synchronous)

    Instructor 1:   *Crees que yo viajaba?*
                    Do you think I used to travel?
    Student: *tú viajabas al caribeño* [Error – Lexical]
                    you used to travel to the Caribbean (Caribbean as an adjective*)*
    Instructor 1:   *E.P. Caribe not caribeño* [Corrective Feedback – Explicit correction]
                    E.P. Caribbean (noun) not Caribbean (adjective)

Example one above was obtained from a synchronous interaction. Additional student turns occurred between the student error and the instructor corrective feedback, but the error treatment sequence was pulled from the data to highlight the interaction. A feature of synchronous interaction is the fast pace of interaction. In the above turn, it appears that the instructor wants to make sure the student who made the mistake, receives the corrective feedback. The instructor denoted the receiver of the corrective feedback by using the student's initials (student's names and initials have been changed to preserve anonymity). Instructors used the learner's initials at the beginning of a turn containing corrective feedback in order to indicate the receiver of the feedback. In traditional face-to-face classroom interaction, instructors do not use initials to denote who the corrective feedback is directed to, instead the instructor may use first name or more commonly eye

115

contact. In addition, in face-to-face interaction, the communication typically follows a

teacher question, student response, and teacher evaluation sequence. This is not the case

in online interaction where multiversing (T. Erben, personal communication, May 23,

2005) is the typical type of interaction. In multiversing, other turns are many embedded

between the student response to teacher question and the teacher evaluation. The most

representative online interaction includes: teacher question, student 1 response, student 2

response, student 3 response, student 4 response, teacher evaluation of student 2 response

Instructor 1 discovered a unique way to direct the feedback to a particular student in the

synchronous environment.

     Other uses of technology and conventions of technology to denote explicit

corrections were also found in the data. For example, in the synchronous discussion,

instructors preceded a corrective feedback turn with the word "correction" (Example 2).

(2)   (Instructor 1 - Synchronous)

    Instructor 1: *Qué hacías tu de niño?*
               What did you used to do as a child?
    Student: *Hacia beisbol.* [Error – Lexical]
               I used to make baseball
    Insructor 1: *corrección : jugaba beisból* [Corrective Feedback – Explicit]
               correction : I used to play baseball

     In the asynchronous discussion, the "correction" strategy was also used, but in a

slightly different manner. In the bulletin board, the instructors often created a posting

with the heading "corrections" and this posting was followed by a list of corrective

feedback moves in bullet format (See Example 3). For this study, some of the corrective

feedback moves were coded as explicit correction while others constituted a different

type of corrective feedback. In this study, a decision was made that all bullets that were

116

under the heading "corrections" and provided the learner with the answer would be coded

as explicit feedback. The other types of corrective feedback that did not provide the

answer would be coded according to the codebook and fell under elicitation,

metlainguistic feedback, clarification request or repetition.

(3)   (Instructor 3 – Asynchronous)

Student:	*Ahora mismo yo mucho enferma.* [Error - Lexical] Right now I very sick
Student:	*Tengo alergias a todo para que simepre siento mucho enferma.* [Error - Multiple] I have allergies to everything that I always (misspelled) feel very sick.
Instructor 3:	*Correcciones:* Corrections:
Instructor 3:	*- Ponle más atención a lo que escribes...* [Corrective feedback - clarification request] - pay more attention to what you write ....
Instructor 3:	*- se te olvidó el verbo "estar"* [Corrective feedback - metalinguistic feedback] - you forgot the verb 'to be'
Instrutor 3:	*Tengo alergias a todo y por eso simepre me siento muy enferma.* [Corrective Feedback - Explicit Correction] I am allergic to everything and that is why I always feel sick.

Another technique employed by instructors in online interaction was the use of *all*

caps to emphasize the correction to the student. Using *all caps* in chat rooms is widely

accepted as 'screaming' within netiquette conventions. The *all caps* strategy was used to

present the corrective feedback in a whole turn (example 4) or to point out a particular

correction (example 5). Additionally, the *all caps* function was used by one instructor as

a strategy to differentiate his postings from those of students. Instructor 4 began the

synchronous discussions using lower case, but in the middle of the discussion switched to

all caps and posed questions, made comments and made corrections using *all caps*. The

computer mediated communication literature has found that the role of the instructor is compromised and more student-student interaction is found ((Beauvois, 1992; Kelm, 1992; Kern, 1995). Less attention is given to instructor turns in the synchronous mode of interaction. This was the case in this particular synchronous interaction and the instructor found a way to differentiate his turns from those of the students.

(4) (Instructor 3 - Synchronous)

      Instructor 3:   *Hola clase......¿Qué profesión les interesa?*
                     Hello class......What profession interests you?
      Instructor3:   *¿qué quieres ser Mel?*
                     What do you want to be Mel?
      Student: *yo quiero ser una trabajo de social* [Error – Lexical]
                     I want to be a social work
      Instructor 3:   *TRABAJADORA SOCIAL.....* [Corrective Feedback – Explicit]
                     SOCIAL WORKER.....

(5) (Instructor 3 - Asynchronous)

      Student: *Quizá obtendré para viajar a otros países.* [Error – Lexical]
                     Maybe I will obtain to travel to other countries.
      Instructor 3:   *Quizá PODRÉ viajar a otros países.* [Corrective Feedback – Explicit]
                     Maybe I WILL BE ABLE TO travel to other countries.

2. *Recast* is the implicit provision of the correct form by the instructor. The instructor reformulates all or part of a learner's utterance excluding the error. This can constitute a repetition with change or a repetition with change and emphasis (See example 6). Recasts are implicit and are not preceded by phrases such as "You mean," "Use this word," "You should say," etc. In the electronic interaction, recasts were often followed by a question mark. Recasts also include translations in response to a student's use of the L1 (See example 7).

(6) (Instructor 4 - Asynchronous)

118

Student: *Tengo dolor de cabeza y gargantuan.* [Error- Spelling]
             I have a headache and a gargantuan.
Instructor 4: *¿Tienes dolor de garganta?* [Corrective Feedback – Recast]
             Does your throat hurt?

(7)   (Instructor 4 - Asynchronous)
        Student: *Yo trabajare con la oficina del probation.* [Error – Use of L1]
                     I will work with the probation office
        Instructor 4: *probation = la libertad condicional* [Corrective Feedback –
                     Recast]

3. *Clarification requests* indicates to the learner either that the utterance is not

understood by the instructor or that the utterance is ill-formed in some way without

providing the learner with the target-like form and that a repetition or a reformulation is

required on the part of the student. A clarification request is typically done with

questions such as "Pardon me?" "What do you mean by x?" etc.

(8)   (Instructor 1 - Synchronous)

        Instructor 1: *¿Es importante que el gobierno pague los sueldos de los
                     bomberos? o ¿es mejor que las compañías privadas paguen los
                     sueldos de los bomberos ¿por qué?*
                     Is it important that the government pay the salaries of the
                     firefighters? Or is it better if private companies pay the salaries of
                     firefighters? Why?
        Student: *si, es muy importante que el gobierno pague por los bombers
                     porque los bomberos trabajen para los estados unidos* [Error –
                     Multiple]
                     yes, it is very important that the government pay for the firefighters
                     (misspelled) because the firefighters work (in subjunctive verb
                     tense) for the United States
        Instructor 1: *B.W.: no entiendo su respuesta, por favor conteste la pregunta*
                     [Corrective Feedback – Clarification Request]
                     B.W.: I don't understand your answer, please answer the question.

4. *Metalinguistic feedback* constitutes either comments, information, or questions that

indicate that there is an error somewhere without explicitly providing the correct form to

the learner. These comments can be in the form of grammatical metalanguage such as asking if we use a certain tense in that sentence or can point to the nature of the error by stating to use a particular tense.

(9)   (Instructor 1 - Synchronous)

Instructor 1:   *Qué hacías tu de niño?*
                 What did you use to do as a child?
Student: *fue a la tienda para compra mucho juguetes* [Error – Multiple]
                 he or she went to the store buy many toys
Instructor 1:   *K.T. Use imperfect not preterite* [Corrective Feedback –
                 Metalinguistic]

5. *Elicitation* is where the instructor directly elicits the correct form from the learner. These elicitations can come in various forms. The instructor can allow the student to fill in the blank, use questions to elicit the correct form, or ask students to reformulate the utterance. Elicitation can also be preceded by some metalinguistic comment. In the online environment, instructors often used ellipses to denote elicitation (See example 10).

(10)   (Instructor 3 – Synchronous)

Instructor 3:   *¿Qué hace un traductor?*
                 What does a translator do?
Student: *Un traductor hace traducir* [Error – grammatical]
                 A translator makes to translate
Instructor 3:   *casi Jim...* [Corrective Feedback – eliciation]
                 almost Jim…

6. *Repetition* constitutes the repetition of the erroneous utterance in isolation by the instructor. In the online interaction, instructors often followed a repetition with several question marks (See example 11).

(11)   (Instructor 1 – Asynchronous)

Instuctor 1:   *En el futuro, ¿Qué tipo de comida comeremos?*
                 In the future, what type of food will we eat?

120

Student: *Comeremos comestible eschicle.* [Error – Lexical]
            We will eat eschicle ??? [Corrective Feedback – Repetition]

Learner Response.

All learner immediate responses to corrective feedback from the instructor were examined. It was expected that two types of learner response would be found: responses that result in repair from the learner and responses that still need repair. These two categories constituted the *a priori* categories and both were found in the asynchronous and synchronous interactions (See Examples 12 and 13).

(12)   (Instructor 1 – Synchronous)

Instructor 1:   *Que quieres ser al terminar la universidad?*
               What do you want to be after you finish the university?
Student: *Quiero ser la gerontologist.* [Error – Use of L1]
               I want to be the gerontologist (gerontologist in English)
Instructor 1:   *A.S. gerontóloga* [Corrective Feedback – Recast]
               A.S. gerontologist
Student: *Quiero ser la gerontologa.* [Learner Response – Results in Repair]
               I want to be the gerontologist

(13)   (Instructor 4 – Synchronous)

Instructor 4:   *QUE HACIA YO CUANDO TENIA 16 ANOS?*
               WHAT DID I USE TO DO WHEN I WAS 16 YEARS OLD?
Student: *FUMA* [Error – Gramatical]
               HE/SHE SMOKES
Instructor 4:   *yo fumaba, si* [Corrective Feedback – Recast]
               I used to smoke, yes
Student: *fumia* [Learner Response – Needs Repair]
               I used to smoke (wrong verb ending)

Although new categories of learner response were not found, a variety of the needs repair type of learner response was observed in the electronic data and it is worth mentioning because of its frequency. Learners frequently responded to corrective

121

feedback with an acknowledgement of the instructor's intent to draw attention to some

aspect of the learner's original written utterance. These acknowledgements included

remarks such as: thank you, oops, my bad, etc. (See Example 14).

(14)   (Instructor 1 – Synchronous)

Instructor 1:   *Qué hacías tu de niño?*
                What did you used to do as a child?
Student: *Creci en Tampa, Florida. Cuando yo era una nina, yo quise*
                humoristicas, y los dulces. [Error – Multiple]
                I grew up in Tampa, Florida. When I was a childe, I wanted
                humoristicas (non existent word) and candies.
Instructor 1:   *A.S. me gustaban las comiquitas y los dulces* [Corrective
                Feedback – Recast]
                A.S. I used to like comics and candies
Student: *gracias!* [Learner Response – Acknowledgement]
                thank you!

Results

The remainder of this chapter is organized according to the research questions of

this study (See Figure 4.1). Each research question will be stated and the results will be

presented. The asynchronous and synchronous data yielded a total of 5,874 turns, of

which 4,315 were learner turns. Each of these turns was examined and coded for error,

instructor corrective feedback, and learner response.

122

Figure 4.1 Research Questions

1. Do instructors offer corrective feedback to learners in online asynchronous and synchronous environments?
   a. Do instructors offer corrective feedback to learners in online asynchronous discussions conducted in university first year Spanish as a Foreign Language (SFL) classes?
b. Do instructors offer corrective feedback to learners in online synchronous discussions conducted in university first year Spanish as a Foreign Language (SFL) classes?
2. What is the nature of corrective feedback in online asynchronous and synchronous environments?
   a. What are the different types of corrective feedback found in online asynchronous discussions conducted in university first year Spanish as a Foreign Language (SFL) classes and are they used equally?
   b. What are the different types of corrective feedback found in online synchronous discussions conducted in university first year Spanish as a Foreign Language (SFL) classes and are they used equally?
3. What types of learner error lead to what types of corrective feedback in online asynchronous and synchronous environments?
   a. What types of learner error lead to what types of corrective feedback in online asynchronous discussions conducted in university first year Spanish as a Foreign Language (SFL) classes?
   b. What types of learner error lead to what types of corrective feedback in online synchronous discussions conducted in university first year Spanish as a Foreign Language (SFL) classes?
4. What is the distribution of learner response to different types of corrective feedback found in online asynchronous and synchronous environments?
   a. What is the distribution of learner response to different types of corrective feedback found in online asynchronous discussions conducted in university first year Spanish as a Foreign Language (SFL) classes?
   b. What is the distribution of learner response to different types of corrective feedback found in online synchronous discussions conducted in university first year Spanish as a Foreign Language (SFL) classes?

Reliability.

Problems of the stability type of reliability arise when data are coded

inconsistently. To ensure that data were not coded inconsistently, several steps were

taken in this study. First, the researcher coded the data and fine-tuned the codebook. In

addition, when problems arose as to how to classify a corrective feedback type or an

error, colleagues in the field were consulted. When new varieties of corrective feedback

were discovered in the data, colleagues were also consulted. Once the codebook was finalized and after a period of a couple of weeks, the coder coded all of the data a second time to verify that simple errors had not been made the first time the data were coded and that cognitive changes had not affected the coding. Finally, intercoder reliability was calculated for error, corrective feedback, and learner response. At least 15% of the data were coded by two coders, the researcher and a colleague with Spanish language teaching experience. Intercoder reliability was calculated using Holti's (1969) percent agreement method PAo = 2A / (nA+nB). Where PAo stands for proportional agreement observed, A is the number of agreements between the two coders, and nA and nB are the numbers of units recorded by coders, respectively. The researcher and a colleague with many years of Spanish language teaching experience met a first time to conduct a training session. The codebook was discussed in detail and the colleague took a portion of the data home to code independently. The researcher and the coder met a second time to discuss the coding and to calculate the intercoder reliability. The total number of agreement turns and the total number of turns coded were tallied. The intercoder reliability was calculated and the results in this study yielded a 89% intercoder reliability for error, a 91% reliability for corrective feedback, and 94% reliability for learner response.

Results for research question one.

A variety of corrective feedback strategies was present in the asynchronous and synchronous transcripts of this study. Instructors did vary in their provision of corrective

feedback strategies in the two environments. The transcripts also suggest that instructors used all caps, punctuation, emoticons, initials, and bullets to enhance the effect of the corrective feedback.

Results for research question one (a).

Instructors did indeed provide corrective feedback in the asynchronous environment. Table 4.3 provides a breakdown by instructor, as well as totals for the entire database of the total number of learner turns, the number of learner turns containing errors, the percentage of learner turns with error, the total number of learner turns with error receiving corrective feedback, and the percentage of student turns with error receiving corrective feedback. Of all the learner turns (N =1059) in the asynchronous interaction, just over half (54%) contained errors. Instructors provided corrective feedback to learner turns containing errors 85% of the time in the asynchronous interaction. One instructor provided corrective feedback to learner turns containing errors 122% of the time, while the other three instructors offered corrective feedback 85%, 85%, and 54% of the time. Instructor three, who provided corrective feedback 122% of the time, had a high percentage of provision of corrective feedback because this instructor often provided multiple feedback moves for learner turns with errors. In several instances, if the learner turn contained one error, the instructor provided two distinctive turns with different types of corrective feedback.

Table 4.3: Percentage of Corrective Feedback Provision in the Asynchronous Environment

Instructor	Total Number of Learner turns	Total Number of Learner Turns Containing Errors	Percentage of Learner Turns with Error (Total Number of Learner Turns with Error over Total turns)	Total Number of Learner Turns with Error Receiving Corrective Feedback	Percentage Student Turns with Error Receiving Corrective Feedback (Corrective feedback over learner error)
Inst. 1	387	238	61%	203	85%
Inst. 2	201	66	33%	56	85%
Inst. 3	198	120	61%	146	122%
Inst. 4	273	147	54%	80	54%
Total	1059	571	54%	485	85%

Note. The abbreviation "Inst." is used for instructor

Results for research question one (b).

Instructors also provided corrective feedback in the synchronous environment, but not to the extent that it is provided in the asynchronous environment. Table 4.4 provides a breakdown by instructor, as well as totals for the entire database of the number of learner turns, the number of learner turns containing errors, the percentage of learner turns with error, the total number of learner turns with error receiving corrective feedback, and the percentage of student turns with error receiving corrective feedback. Of all the learner turns in the synchronous interaction, only 15% received corrective feedback from the instructor. This is in major contrast to the asynchronous mode where students received considerably more corrective feedback from the instructors.

Interestingly, the same instructor (instructor 3) that provided the most amount of feedback in the asynchronous mode, provided the most amount of feedback (48%) in the synchronous mode. Two other instructors, instructors 1 and 4, provided corrective

126

feedback 11% and 15% of the time respectively in the synchronous mode of interaction.

One instructor (instructor 2) did not offer corrective feedback to learner turns containing

errors in the synchronous interaction, although this instructor provided corrective

feedback in the asynchronous mode of interaction. In the chat room, this particular

instructor posed many questions for the learners, but never provided feedback when

learner turns contained errors.

Table 4.4: Percentage of Corrective Feedback Provision in the Synchronous
Environment

Instructor	Total Number of Learner turns	Total Number of Learner Turns Containing Errors	Percentage of Learner Turns with Error (Total Number of Learner Turns with Error over Total turns)	Total Number of Learner Turns with Error Receiving Corrective Feedback	Percentage of Student Turns with Error Receiving Corrective Feedback (Corrective feedback over learner error)
Inst. 1	869	454	52%	50	11%
Inst. 2	911	277	30%	0	0%
Inst. 3	402	166	41%	79	48%
Inst. 4	1077	544	51%	83	15%
Total	3259	1441	44%	212	15%

Note. The abbreviation "Inst." is used for instructor

Results for research question two.

A variety of corrective feedback types were found in the asynchronous and

synchronous interactions. One corrective feedback type, repetition, was found in the

asynchronous interaction but was not observed in the synchronous interaction.

Results for research question two (a).

Six different types of corrective feedback, explicit correction, recast,

metalinguistic feedback, clarification request, elicitation and repetition, were observed in

the asynchronous mode of interaction. Tendencies for different types of corrective

feedback types are shown for each instructor in table 4.5. When all instructors are

examined, the most widely used type of corrective feedback in the asynchronous

environment was the explicit correction. More than half (56%) of the corrective feedback

provided in the asynchronous environment constituted an explicit correction. The other

corrective feedback types found in the asynchronous mode of interaction include: recast,

metalinguistic feedback, clarification request, elicitation, and repetition. These types of

feedback were found 16%, 15%, 5%, 4%, and 2% of the time respectively. Individual

instructors had tendencies toward certain types of corrective feedback. Two instructors

(instructor 1 and 3) provided explicit correction most often, 87% and 64% of the time

respectively.   Instructor 2 had a preference (57%) for metalinguistic feedback while

instructor 4 had a tendency to use recast most often (84%).

Table 4.5: Distribution of Corrective Feedback Types in the Asynchronous Environment

	Inst.1 (N =203)	Inst.2 (N =56)	Inst.3 (N =146)	Inst.4 (N =80)	Total (N =485)
Explicit correction	176 (87%)	2 (4%)	94 (64%)	2 (3%)	274 (56%)
Recast	4 (2%)	4 (7%)	7 (5%)	67 (84%)	82 (17%)
Metalinguistic feedback	6 (3%)	32 (57%)	27 (18%)	2 (3%)	67 (14%)\
Clarification Request	10 (5%)	10 (18%)	10 (7%)	1 (1%)	31 (6%)
Elicitation	1 (0%)	8 (14%)	6 (4%)	8 (10%)	23 (5%)
Repetition	6 (3%)	0 (0%)	2 (1%)	0 (0%)	8 (2%)

Note. The abbreviation "Inst." is used for instructor

Recall that of these six types of feedback, two provide the target-like form to

learners. Explicit correction provides the answer overtly to learners while recast provides

the answer implicitly to learners. The other corrective feedback types, metalinguistic

128

feedback, clarification request, elicitation and repetition, do not provide the target-like form to learners, thus leaving a window open or providing an opportunity to negotiate form. Previous research (Lyster, 1998; Lyster and Ranta, 1997) has categorized these corrective feedback types as negotiation of form, but since this term is not clear and can lead to confusion, in this particular study, these corrective feedback types will be collapsed under the category *opportunity to negotiate form* to make the function of these corrective feedback types more salient.

Using the collapsed categories, explicit correction, recast, and opportunity to negotiate form, a chi-square goodness of fit was performed in order to determine if the corrective feedback types are used equally in the asynchronous environment. A chi-square goodness of fit test was chosen because it is the most appropriate for data concerned with one nominal variable and several categories, in this case the asynchronous environment is the variable and the categories are the corrective feedback types. The assumptions for a chi-square of goodness-of-fit test include independence of the observations and that each frequency must exceed the minimum frequency of five. The null hypothesis for research two a is as follows: instructors will use corrective feedback types, explicit correction, recasts, and opportunity to negotiate form, equally in the asynchronous environment. To put it another way, there will be no difference between the set of observed frequencies and the set of expected frequencies, and if any difference does exist, it can be attributed to sampling. Given the three categories, it is expected that explicit correction will be provided 33% of the time, recasts 33% of the time, and opportunity to negotiate form will also be provided 33% of the time. The 485

129

corrective feedback moves were distributed across the corrective feedback types as follows: 274 (56%) were explicit correction, 129 (27%) were opportunity to negotiate form, and 82 (17%) were recasts. These constitute the observed frequencies that were used to calculate the chi-square goodness of fit test. The main effect for corrective feedback type in the asynchronous environment was significant, χ^2 (2, $N = 485$) = 123.91, $p <.001$, confirming that corrective feedback types are not used equally in the asynchronous environment. The chi-square test enabled us to determine a mismatch between the observed frequency and the expected frequency and thus reject the null hypothesis. Results indicate that instructors have a preference for explicit correction in the asynchronous mode of interaction.

Results for research question two (b).

Although the asynchronous data revealed six types of corrective feedback, only five types of corrective feedback types were observed in the synchronous interaction. Repetition type of corrective feedback was not witnessed in the synchronous data. Tendencies for different types of corrective feedback types are shown for each instructor in table 4.6. When we examine all instructors, the most widely used type of corrective feedback in the synchronous environment was the recast. More than half (51%) of the corrective feedback provided in the synchronous environment constituted a recast. The other corrective feedback types found in the synchronous mode of interaction include: elicitation (21%), explicit correction (17%), clarification request (6%) and metalinguistic feedback (5%). Instructors 1 and 4 used recast type of corrective feedback most often when responding to learner turns containing errors. Instructor 3 used elicitation most

130

often (34%) of the time, although explicit correction and recasts constituted 28% and

22% of the corrective feedback provided by this instructor.

Table 4.6: Distribution of Corrective Feedback Types in the Synchronous Environment

	Inst.1 (N = 50)	Inst.2 (N =0)	Inst.3 (N =79)	Inst.4 (N =83)	Total (N =212)
Recast	28 (56%)	0	17 (22%)	63 (76%)	108 (51%)
Elicitation	3 (6%)	0	27 (34%)	15 (18%)	45 (21%)
Explicit correction	13 (26%)	0	22 (28%)	1 (1%)	36 (17%)
Clarification request	3 (6%)	0	6 (8%)	4 (5%)	13 (6%)
Metalinguistic	3 (6%)	0	7 (9%)	0 (0%)	10 (5%)
Repetition	0	0	0	0	0

Note. The abbreviation "Inst." is used for instructor

Using the same collapsing rationale used for the asynchronous data, the categories

were also collapsed for the synchronous environment. Elicitation, clarification request

and metalinguistic feedback were collapsed under the *opportunity to negotiate form*

category. A chi-square goodness-of-fit test was performed on the collapsed categories to

determine if these corrective feedback types are used equally in the synchronous

environment. For the chi-square test, the synchronous environment served as the variable

and the corrective feedback types as the categories. The null hypothesis for research

question two b is as follows: instructors will use corrective feedback types, explicit

correction, recasts, and opportunity to negotiate form, equally in the synchronous

environment. That is, there will be no difference between the set of observed frequencies

and the set of expected frequencies, and if any difference does exist, it can be attributed

to sampling. It is expected that explicit correction, recasts, and opportunity to negotiate

131

form will be provided equally, or 33% of the time. The 212 corrective feedback moves

were distributed across three feedback types as follows: 108 (51%) were recasts, 68

(32%) were opportunity to negotiate form, and 36 (17%) were explicit correction. These

constituted the observed frequencies and when the chi-square was performed, the main

effect was significant, χ^2 (2, $N = 212$) = 36.83, $p <.001$, confirming that feedback types

are not used equally in the synchronous environment. In the synchronous mode of

interaction, instructors have a preference for recasts.

Results for research question three.

The corrective feedback provided by instructors to learners in the asynchronous

and synchronous environments has been discussed. It is now interesting to examine if

there is a relationship between learner error type and instructor corrective feedback type.

Do particular varieties of learner error lead to the provision of particular kinds of

corrective feedback?

Results for research question three (a).

The 485 corrective feedback moves following learner error in the synchronous

interaction were distributed across the three feedback types as follows: 274 (56%) were

explicit correction, 129 (27%) involved an opportunity to negotiate form, and 82 (17%)

constituted a recast. Explicit correction was the most common type of corrective

feedback among instructors in the asynchronous interaction. Recall that in this study an

error can be grammatical, lexical, orthographic/typographic/ spelling, the use of L1 or

132

multiple. A comparison of the distribution of the various corrective feedback types

across different error types is presented in Table 4.7. Of particular interest are turns with

multiple errors which received explicit correction 60% of the time and grammatical errors

which received explicit correction 59% of the time. Also interesting is the fact that Use

of L1 errors always received or an explicit correction or a recast. Instructors never used

clarification request, metalinguistic feedback, elicitation or repetition as a form of

corrective feedback for the use of L1..

Table 4.7: Distribution of Errors Receiving Feedback Across Feedback Types and Error
Types in the Asynchronous Environment

	Grammatical (N =240)	Multiple (N =102)	Lexical (N -99)	Orthographic Typographic Spelling (N =37)	Use of L1 (N =7)
Explicit Correction	142 (59%)	61 (60%)	48 (48%)	20 (54%)	3 (43%)
Opportunity to Negotiate Form	61 (25%)	28 (27%)	29 (29%)	11 (30%)	0
Recast	37 (15%)	13 (13%)	22 (22%)	6 (16%)	4 (57%)

(N = 485)

In order to answer research question three a, a chi-square test of association was

performed. A chi-square test of association is used when there are two variables

involved. In this case, corrective feedback and error type constitute the two variables.

The null hypothesis $H_{\circ}$ for research question three a is as follows: there is no relationship

between corrective feedback type and learner error type in the asynchronous

environments. An analysis was performed on a 3 X 5 table (Table 4.8) which tested the

effects of the categorical data and the interaction between corrective feedback type and

error type. The interaction between corrective feedback type and error type in the

asynchronous mode of interaction was not significant , χ^2 (8, $N = 485$) = 15.06 , $p = .10$.

133

It cannot be determined that an overall relationship exists between corrective feedback type and learner error type in the asynchronous environment.

Since the interaction between corrective feedback type and learner error type is not significant in the asynchronous mode of interaction, additional statistical analysis will not be performed. Nevertheless, it is important to discuss what types of learner error lead to what types of corrective feedback and this can be done using the percentages found on table 4.8. As can be seen on this table, all types of learner error consistently receive an explicit correction as a response. Explicit correction was used 56% of the time in the asynchronous mode of interaction. Grammatical errors are followed by explicit correction 59% of the time, multiple errors 60% of the time, lexical 48% of the time, orthographic/typographic/spelling 54% of the time, and the use of L1 43% of the time. It is evident that explicit correction is the most common type of corrective feedback in the asynchronous interaction regardless of the type of learner error.

Table 4.8: Contingency Table of Observed Frequencies of Corrective Feedback Types and Learner Error Types in the Asynchronous Environment

	Grammatical	Multiple	Lexical	Orthographic Typographic Spelling	Use of L1	Total
Explicit Correction	142	61	48	20	3	274
Opportunity to Negotiate Form	61	28	29	11	0	129
Recast	37	13	22	6	4	82
Total	240	102	99	37	7	485

Results for research question three (b).

The 212 corrective feedback moves following learner error in the synchronous interaction were distributed across the three collapsed corrective feedback types as

follows: 108 (51%) were recasts, 68 (32%) involved the opportunity to negotiation form, and 36 (17%) constituted explicit correction. A comparison of the distribution of the various feedback types across different error types is presented in Table 4.9. Of particular interest are grammatical, lexical, use of L1, and multiple errors. Grammatical, lexical and use of L1 type of errors were most often followed by a recast; the most common type of feedback in the synchronous environment. Interestingly, this was not the case for multiple errors. Multiple errors were most often, 56% of the time, followed by an opportunity to negotiate form.

Table 4.9: Distribution of Errors Receiving Feedback Across Feedback Types and Error Types in the Synchronous environment

	Grammatical (N =67)	Lexical (N =56)	Multiple (N =43)	Orthographic Typographic Spelling (N =28)	Use of L1 (N =18)
Recast	45 (67%)	29 (52%)	14 (33%)	11 (39%)	9 (50%)
Opportunity to Negotiate Form	17 (25%)	15 (27%)	24 (56%)	5 (18%)	7 (39%)
Explicit Correction	5 (7%)	12 (21%)	5 (12%)	12 (43%)	2 (11%)

(N = 212)

In order to answer research question three b, a chi-square test of association was performed. A chi-square test of association is used when there are two variables involved, in this case corrective feedback and error type. The null hypothesis H_o for research question 3b is as follows: there is no relationship between corrective feedback type and learner error type in the synchronous environments. A contingency analysis of a 3 X 5 contingency table (Table 4.10) tested the effects of the categorical data and the interaction between corrective feedback type (3 levels: recast, opportunity to negotiate, and explicit correction) by error type (5 levels: grammatical, lexical, multiple,

135

orthographic/typographic/spelling, and the use of L1). The interaction between

corrective feedback and learner errors was significant, χ^2 (8, $N = 212$) = 34.44, $p < .001$,

confirming that there is a relationship between corrective feedback type and learner error

type. A relationship between error type and corrective feedback type offered by

instructors seems to exist.

A comparison of corrective feedback choice for each error type revealed that

recasts were more likely to be used when the learner turn contained a grammatical error,

χ^2 (2, $N = 67$) = 37.73, $p < .001$ and recasts were more likely to be provided when a

learner turn contained a lexical error χ^2 (2, $N = 56$) = 8.82, $p < .05$, whereas the

opportunity to negotiate was more likely to follow a multiple error χ^2 (2, $N = 43$) = 12.60,

$p < .01$.

Table 4.10: Contingency Table of Observed Frequencies of Corrective Feedback Types
and Learner Error Types in the Synchronous Environment

	Grammatical	Lexical	Multiple	Orthographic Typographic Spelling	Use of L1	Total
Recast	45	29	14	11	9	108
Opportunity to Negotiate Form	17	15	24	5	7	68
Explicit Correction	5	12	5	12	2	36
Total	67	56	43	28	18	212

Results for research question four.

Previous research questions have determined that corrective feedback is provided

in online environments, that certain types of corrective feedback are more common in

certain environments and that certain types of learner error lead to certain types of

corrective feedback. More interesting is whether a relationship exists between corrective

feedback type and learner response. Research question four aims to answer how effective

certain corrective feedback types are in leading to learner response.

Results for research question four (a).

Recall that instructors provided corrective feedback to learner turns containing

errors a total of 485 times in the asynchronous environment. Of the 485 corrective

feedback moves, only six received a response from learners and of these six learner

responses, only one resulted in repair. Table 4.11 presents the provisions of corrective

feedback by instructor, the number of learner responses to corrective feedback, and the

number of learner responses resulting in repair.

Table 4.11: Instructor Corrective Feedback, Learner Response, and Learner Response
Resulting in Repair in the Asynchronous Environment

Instructor	Total Number of Provisions of Corrective Feedback	Total Number of Learner Response to Corrective Feedback	Percentage of Learner Responses (Total Number of Learner Responses over Total Number of Corrective Feedback)	Total Number of Learner Responses Resulting in Repair	Percentage of Learner Responses Resulting in Repair (Total Number of Learner Responses Resulting in Repair over Learner Responses)
Inst. 1	203	0	0	0	0
Inst. 2	56	3	5%	0	0
Inst. 3	146	0	0	0	0
Inst. 4	80	3	4%	1	33%
Total	485	6	1%	1	17%

Note. The abbreviation "Inst." is used for instructor

A breakdown of learner response by corrective feedback types (Table 4.12),

illustrates that of the 265 explicit correction moves provided by instructors to learners,

only one received a learner response that resulted in repair. Similarly, of the 73 recast

137

type of corrective feedback moves provided, only two received a response, but these

responses did not result in repair. Metalinguistic corrective feedback type received three

learner responses, all of which still needed repair. The clarification requests, elicitation

and repetition types of corrective feedback posed by the instructor received no learner

response.

Table 4.12: Learner Response Following Instructor Corrective Feedback in the
Asynchronous Environment

	Response with Repair	Response that Needs Repair	No Learner Response
Explicit Correction (N =265)	1	0	264
Recast (N =73)	0	2	71
Metalinguistic (N =66)	0	3	63
Clarification Request (N =23)	0	0	23
Elicitation (N =19)	0	0	19
Repetition (N =7)	0	0	7

Results for research question four (b).

Differing from the asynchronous data, corrective feedback in the synchronous

environment lead to considerably more learner responses. Table 4.13 presents the total

number of corrective feedback provided by each instructor, the total number of learner

responses to corrective feedback, the percentage of learner responses, the total number of

learner responses resulting in repair, and the percentage of learner responses resulting in

repair. Of the 212 corrective feedback moves provided by instructors to learner turns

with error, 84 or 40% received a response from learners. Moreover, of the 84 learner

responses, 31 or 37% resulted in repair.

Table 4.13: Instructor Corrective Feedback, Learner Response, and Learner Response Resulting in Repair in the Synchronous Environment

Instructor	Total Number of Provisions of Corrective Feedback	Total Number of Learner Response to Corrective Feedback	Percentage of Learner Responses (Total Number of Learner Responses over Total Number of Corrective Feedback)	Total Number of Learner Responses Resulting in Repair	Percentage of Learner Responses Resulting in Repair (Total Number of Learner Responses Resulting in Repair over Learner Responses)
Inst. 1	50	22	44%	10	45%
Inst. 2	0	0	0%	0	0
Inst. 3	79	22	28%	9	41%
Inst. 4	83	40	48%	12	30%
Total	212	84	40%	31	37%

Note. The abbreviation "Inst." is used for instructor

It was established in a previous research question that the most common type of corrective feedback in the synchronous environment was the recast. A breakdown of learner response by corrective feedback types (Table 4.14), illustrates that of the 108 recasts provided by instructors, only 41 or 38% received a response, but more surprising is that of these 41 responses, only 9 or 8% resulted in repair on the part of the learner. This pattern is also observed with explicit correction which received 10 or 28% learner responses, but only 2 or 6% of these resulted in repair. Conversely, of the 45 elicitation corrective feedback types, 25 or 55% received a response. However, 15 or 33% of these constituted a repair from the learner. Similar observations are made of the clarification requests and metalinguistic corrective feedback types, all of which had a tendency to lead to repair. The most successful technique for eliciting a learner response is elicitation.

Similarly, the most successful technique for eliciting a repaired learner response is also elicitation.

Table 4.14: Learner Response Following Types of Corrective Feedback in the Synchronous Environment.

	Repair	Needs Repair	No Learner Response
Recast (N=108)	9 (8%)	32 (30%)	67 (62%)
Elicitation (N=45)	15 (33%)	10 (22%)	20 (45%)
Explicit Correction (N=36)	2 (6%)	8 (22%)	26 (72%)
Clarification Request (N=13)	3 (23%)	2 (15%)	8 (62%)
Metalinguistic (N=10)	2 (20%)	1 (10%)	7 (70%)
Repetition (N=0)	0	0	0

Recall that a recast is a corrective feedback type that provides the learner with the answer and an elicitation is a type of corrective feedback that gives the learner the opportunity to negotiate form. If we group the corrective feedback types into those that give the opportunity to negotiate form and those that do not, we can get a better picture of which types leads to repair. Table 4.15 illustrates the distribution of repair and needs repair by corrective feedback types that offer the opportunity to negotiate from or not. Corrective feedback types that offer the opportunity to negotiate form received the most learner responses (49%) while recasts and explicit correction received 38% and 28% learner response respectively.   More remarkable is the percentage of opportunity to negotiate corrective feedback types that lead to repair. While recasts and explicit correction only lead to 8% and 6% repair, opportunity to negotiate form lead to 29% repair.

Table 4.15: Frequency of Learner Turns, Learner Turns with Error, Corrective Feedback to Learner Turns with Error, Learner Responses, and Learner Responses Resulting in Repair in the Synchronous Environment

	Repair	Needs Repair	No Learner Response
Recast (N =108)	9	32	67
	(8%)	(30%)	(62%)
Opportunity to Negotiate Form (N =68)	20	13	35
	(29%)	(19%)	(51%)
Explicit (N =36)	2	8	26
	(6%)	(22%)	(72%)

A contingency analysis of a 3 X 2 contingency table (Table 4.16) tested the effects and interaction of corrective feedback type (3 levels: recast, opportunity to negotiate form, and explicit correction) by learner response (2 levels: repair and needs repair). The main effect of corrective feedback type was significant, χ^2 (2, $N = 84$) = 13.13, $p <.01$, confirming that there is a relationship between corrective feedback type and learner response. Certain corrective feedback types are more effective in leading to repair.

Table 4.16: Contingency Table for Analysis of Corrective Feedback Type and Learner Response

	Repair	Needs Repair	Total
Recast	9	32	41
Opportunity to Negotiate Form	20	13	33
Explicit	2	8	10

Summary

This chapter presented the relationship between learner error types, corrective feedback types, and learner response to corrective feedback types for both the asynchronous and synchronous environment.

The asynchronous data or bulletin board data in this study yielded a total of 1879 turns. Of these turns, 1059 constituted learner turns. Table 4.17 presents a breakdown by instructors as well as the totals for the entire database of the total learner turns, total and percentage of learner turns containing error, total and percentage of corrective feedback to learner turns with errors, total and percentage of learner responses to corrective feedback, and total and percentage of learner responses resulting in repair in the asynchronous environment. The totals for the database are illustrated in Figure 4.2. As a summary of the entire asynchronous database, it can be concluded that 54% of learner turns contained error or errors, 85% of these learner turns received corrective feedback from instructors, 4% of these corrective feedback moves aroused a learner response, and 17% of these learner responses resulted in repair. The latter percentages have to be considered carefully because of the low presence of learner responses in the asynchronous mode of interaction. We have to keep in mind that only one learner response resulted in repair in the entire asynchronous database.

Table 4.17: Frequency Learner Turns, Learner Turns with Error, Corrective Feedback to Learner Turns with Error, Learner Responses, and Learner Responses Resulting in Repair in the Asynchronous Environment

Instructor	Total Learner Turns	Total Learner Turns with Error (% of Total Learner Turns)	Total Corrective Feedback to Learner Turns with Error (% of Total Learner Errors)	Total Learner Responses (% of Total Corrective Feedback)	Total Learner Responses Resulting in Repair (% of Total Learner Response)
Inst. 1	387	238 (61%)	203 (85%)	0	0
Inst. 2	201	66 (33%)	56 (85%)	3 (5%)	0
Inst. 3	198	120 (61%)	146 (122%)	0	0
Inst. 4	273	147 (54%)	80 (54%)	3 (4%)	1 (33%)
Total	1059	571 (54%)	485 (85%)	6 (1%)	1 (17%)

Note. The abbreviation "Inst." is used for instructor

Figure 4.2 Total Learner Turns, Learner Turns with Errors, Corrective Feedback, Learner Responses, and Repair in the Asynchronous Environment

143
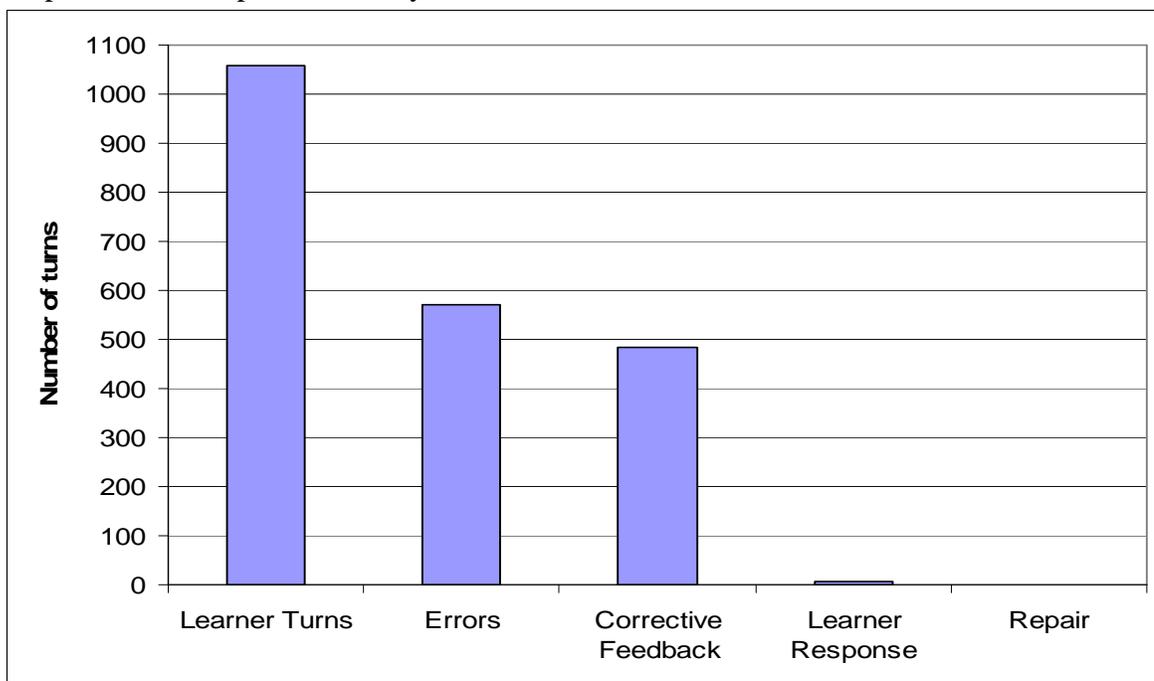
The synchronous data or chat room data in this study produced a total of 3995 turns, 3259 of which constituted learner turns. Table 4.18 offers a breakdown by instructor and the totals for the entire database of the total learner turns, total and percentage of learner turns containing error, total and percentage of corrective feedback to learner turns with errors, total and percentage of learner responses to corrective feedback, and total and percentage of learner responses resulting in repair in the synchronous environment. In addition, the totals for the database are illustrated in Figure 4.3. As a summary of the entire synchronous database, it can be concluded that 44% of learner turns contained error or errors, 15% of these learner turns received corrective feedback from instructors, 40% of these corrective feedback moves received a learner response, and 37% of these learner responses resulted in repair.

Table 4.18: Frequency Learner Turns, Learner Turns with Error, Corrective Feedback to Learner Turns with Error, Learner Responses, and Learner Responses Resulting in Repair in the Synchronous Environment

Instructor	Total Learner Turns	Total Learner Turns with Error (% of Total Learner Turns)	Total Corrective Feedback to Learner Turns with Error (% of Total Learner Errors)	Total Learner Responses (% of Total Corrective Feedback)	Total Learner Responses Resulting in Repair (% of Total Learner Response)
Inst. 1	869	454 (52%)	50 (11%)	22 (44%)	10 (45%)
Inst. 2	911	277 (30%)	0	0	0
Inst. 3	402	166 (41%)	79 (48%)	22 (28%)	9 (41%)
Inst. 4	1077	544 (51%)	83 (15%)	40 (48%)	12 (30%)
Total	3259	1441 (44%)	212 (15%)	84 (40%)	31 (37%)

Note. The abbreviation "Inst." is used for instructor

144

Figure 4.3 Total Learner Turns, Learner Turns with Errors, Corrective Feedback, Learner Responses, and Repair in the Synchronous Environment
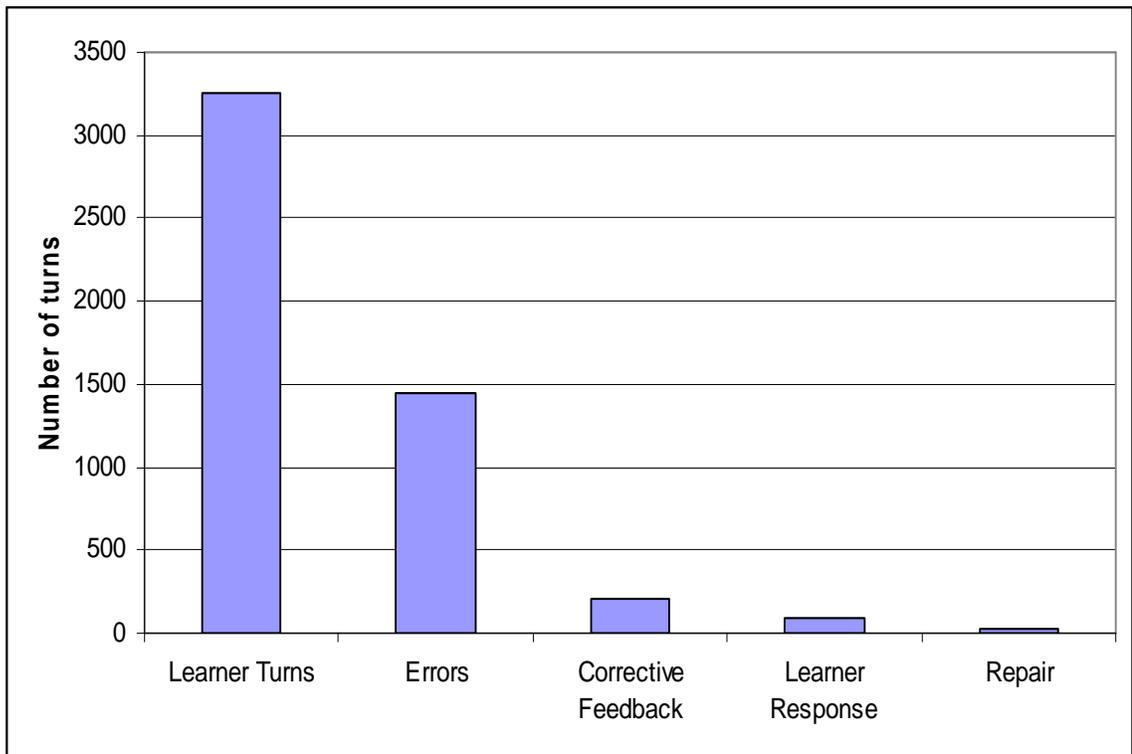
The data from this study show that differences exist with respect to corrective feedback in the asynchronous and synchronous environments. Unexpectedly, learner turns contained more errors in the asynchronous mode than in the synchronous mode of interaction. Not surprisingly, learner turns containing errors received more corrective feedback from the instructor in the asynchronous mode of interaction. The difference in distribution of learner response to corrective feedback is also somewhat surprisingly in that learners responded more frequently to corrective feedback in the synchronous mode of interaction. Possible reasons for these findings will be discussed in detail in the next chapter as well as specific issues in the results that need further discussion in order to answer the research questions. In addition, implications for second language acquisition

145

research, pedagogical implications, and directions for future research will be presented.

Chapter 5: Discussion

Introduction

This dissertation has investigated the provision of corrective feedback in online asynchronous and synchronous environments. After an introduction in chapter 1, a review of the most valuable contributions from related fields in chapter 2, a description of the method for data collection and analysis in chapter 3, chapter 4 presented the results of this study. This final chapter will present the interpretation of the results addressing each research question, present additional findings, present implications for the field of second language acquisition, discuss pedagogical implications, make recommendations for future research, and provide final conclusions.

Interpretation of the results

The results of the data analysis were presented in chapter 4. The interpretations of the results for each research question will now be discussed, links to the literature in the field will be made, possible reasons for the obtained results will be presented, and recommendations that address shortcomings in the results will be proposed. The research questions are presented again below in Figure 5.1.

Figure 5.1 Research Questions

1. Do instructors offer corrective feedback to learners in online asynchronous and synchronous environments?
   a. Do instructors offer corrective feedback to learners in online asynchronous discussions conducted in university first year Spanish as a Foreign Language (SFL) classes?
b. Do instructors offer corrective feedback to learners in online synchronous discussions conducted in university first year Spanish as a Foreign Language (SFL) classes?
2. What is the nature of corrective feedback in online asynchronous and synchronous environments?
   a. What are the different types of corrective feedback found in online asynchronous discussions conducted in university first year Spanish as a Foreign Language (SFL) classes and are they used equally?
   b. What are the different types of corrective feedback found in online synchronous discussions conducted in university first year Spanish as a Foreign Language (SFL) classes and are they used equally?
3. What types of learner error lead to what types of corrective feedback in online asynchronous and synchronous environments?
   a. What types of learner error lead to what types of corrective feedback in online asynchronous discussions conducted in university first year Spanish as a Foreign Language (SFL) classes?
   b. What types of learner error lead to what types of corrective feedback in online synchronous discussions conducted in university first year Spanish as a Foreign Language (SFL) classes?
4. What is the distribution of learner response to different types of corrective feedback found in online asynchronous and synchronous environments?
   a. What is the distribution of learner response to different types of corrective feedback found in online asynchronous discussions conducted in university first year Spanish as a Foreign Language (SFL) classes?
   b. What is the distribution of learner response to different types of corrective feedback found in online synchronous discussions conducted in university first year Spanish as a Foreign Language (SFL) classes?

Interpretation of Results for Research Question One

A detailed analysis of the bulletin board scripts and chatscripts revealed that

corrective feedback is in fact provided by instructors to learners in both online

asynchronous and synchronous interactions.

148

Before the study was conducted, it was expected that the asynchronous interaction would contain more corrective feedback than the synchronous discussion, as previous studies in the field have found that asynchronous discussions follow the teacher question, student response, and teacher evaluation sequence typical of face-to-face classroom interaction (Sotillo, 2000). This was the case in this study; the majority of the interactions in the asynchronous environment contained a set of teacher questions, a set of student responses, and a series of instructor responses with evaluation. This interactional pattern resulted in instructors providing corrective feedback to learner turns containing errors 85% of the time in the asynchronous environment.

Instructors provided much less (15%) corrective feedback to learner turns containing errors in the synchronous mode of interaction. There are several possible reasons for the low provision of corrective feedback in this environment. Unlike asynchronous interaction, synchronous communication rarely follows the teacher question, student response, and teacher evaluation pattern. Computer-mediated communication (CMC) research has noted that there appears to be fewer instances of teacher evaluation in the synchronous mode of interaction (Kern, 1995), but this is not to say that evaluation does not exist. As is the case in this study, teacher evaluation or corrective feedback is present, but at a lower percentage. The findings from this study are corroborated with previous research in the field (Iwasaki and Oliver, 2003) examining student-student online interactions. Although Iwasaki and Oliver (2003) examined Native Speaker (NS) – Non-Native Speaker interactions, they also found that the

149

provision of negative feedback by NSs is lower in an online environment when compared to the provision of feedback in face-to-face interactions.

The disparity of provision of corrective feedback in online asynchronous and synchronous environments might be attributed to other reasons related to the nature of online interactions. In the asynchronous mode of interaction, a learner turn containing one or more errors, often received multiple turns with corrective feedback from the instructors but this was not the case in the synchronous mode of interaction. Another possible reason errors received more corrective feedback in the asynchronous mode is because instructors had more time to attend to errors. When interacting asynchronously, the instructor can dedicate as much time as he or she wants to each posting made by a student. This is not the case in the synchronous mode where the conversation moves fast and instructors cannot attend to all turns and consequently cannot attend to all learner turns containing errors. One way to look at this might be to examine the percentage of instructor turns and learner turns in each environment. In the asynchronous environment, 820 (44%) of the turns constituted instructor turns while 1059 (56%) constituted learner turns. The percentages are different in the synchronous environment where 736 (18%) constituted instructor turns and 3259 (82%) constituted learner turns. Although learner turns were more abundant in both modes of interaction, many more turns were learner turns in the synchronous mode of interaction.

Interpretation of Results for Research Question Two

Various types of corrective feedback were found in the asynchronous and synchronous modes of interaction. Since other studies have found that asynchronous discussions are more similar to the teacher question, student response, and teacher evaluation sequence found in face-to-face classrooms (Sotillo, 2000), it was expected that the asynchronous interaction would contain more overall corrective feedback and in turn more types of corrective feedback. Six corrective feedback types were observed in the asynchronous mode and five corrective feedback types were observed in the synchronous mode of interaction. The types of corrective feedback found included: explicit correction, recast, metalingusitic feedback, clarification request, elicitation, and repetition; the last of which was not observed in the synchronous mode of interaction.

The most common type of corrective feedback in the asynchronous mode of interaction was explicit correction while the most frequent type of corrective feedback in the synchronous mode of interaction was recast. One reason the explicit correction may be the most common type of corrective feedback in the asynchronous mode may be because two instructors bulleted their corrections for students under the heading *corrections.* In the bulletin board, these two instructors often answered learners' postings with a paragraph comprised of bullets and under the heading "corrections" (See Example 3 in chapter 4). In this study, the corrective moves that provided the target-like form under these bullets were coded as explicit correction. The rationale being that the heading "corrections" and the provision of the target-like form converted these bullets into explicit corrections rather than implicit corrections. Using this technique, turns that

might otherwise be coded as recasts were coded as explicit. This might help explain why corrective feedback turns or moves were more common in the asynchronous environment.

Face-to-face studies (Lyster and Ranta, 1997; Panova and Lyster, 2002) found recasts to be the most frequently used type of corrective feedback. In this study, recasts were the most common type of corrective feedback in the synchronous mode of interaction. In the synchronous mode of interaction, learners communicate in a text-based medium that possesses both oral and written characteristics. Pervious research (Kern, 1998) has considered synchronous communication a blend of 'oral' and 'written' skills while other research (Erben, 1999) has dubbed it 'speak-writing'. It may be the case that recasts are observed more often in the online synchronous interaction because this type of interaction mirrors face-to-face interaction.

Interpretation of Results for Research Question Three

In the asynchronous mode of interaction, this study was unable to determine if certain types of learner errors lead to certain types of corrective feedback. Explicit correction is the most common type of corrective feedback and it was most often provided for all types of errors in this mode of interaction. It appears that there is a propensity for instructors to use explicit correction most frequently for all error types: grammatical, multiple, lexical, orthographic/typographic/spelling, and the use of L1 in the asynchronous environment.

In the synchronous mode of interaction, instructors have a tendency to follow learner turns containing certain types of errors with certain types of corrective feedback. Recasts are more likely to follow learner turns containing grammatical and lexical errors and opportunity to negotiate form most often follows learner turns containing multiple errors. The researcher found many of the turns in the data containing multiple errors hard to decipher, it may be that instructors were also unable to understand many of these turns containing multiple errors. Consequently, instructors may not be able to provide the learner with specific feedback or feedback that provides the target-like form. Since recasts and explicit correction provide the learner with the target-like form, instructors may have to resort to other types of corrective feedback that do not provide the target-like form. For example, asking the learner to reformulate the utterance or informing the learner that the turn is not understood.

Interpretation of Results for Research Question Four

Learner response to corrective feedback was deficient in the asynchronous mode of interaction. Learner turns containing errors received 485 provisions of corrective feedback, yet there were only six responses to these corrective feedback moves. This finding may be due to the nature of interaction in the asynchronous environment or the assignment itself. Students may have viewed a response to the instructor's original posting with questions as a completion of the assignment. It may be that instructors did not require students to go back to read the instructor's feedback and respond to this feedback. In addition, in some instances, instructors took up to a week to reply to a

153

student's posting. The tendency was for instructors to sit down and reply to all postings by students on a certain date and time, usually a couple of days after the assignment was due. By this time, the assignment may have been forgotten by the students themselves.

In the synchronous mode of interaction, corrective feedback moves received considerably more responses from learners. On the average, students responded to corrective feedback 37% of the time. This is still a lower percentage when compared to the proportions found in face-to-face studies which have found up to 55% learner response.   The low response rate in the online interaction may be attributed to the nature of online interaction. Because many turns can be submitted to the whole class in chat sessions at the same time using multiversing techniques, synchronous communication is fast. Often learners want to keep up with the conversation and in order to do this, they may feel they do not have enough time to reply to instructor's responses with corrective feedback. Another possible reason learner response is lower in the synchronous environment when compared to face-to-face interaction is confusion. There may also be confusion as to whom the corrective feedback is directed to and thus students elect not to respond.

Additional Findings

In the process of examining corrective feedback in online asynchronous and synchronous environments, additional observations not directly related to the research questions were made. Observations made include: a high percentage of errors in the asynchronous environment, instructor turns with errors, instructor self-corrections,

154

student self-corrections, use of technology to enhance corrective feedback, oral provision of corrective feedback, and grammatically oriented activities in the synchronous environment. Many of the observations made were unexpected and several are unique to online interaction.

Although the focus of this study is not learner errors, it is interesting to note that learner turns contained more errors in the asynchronous mode than in the synchronous mode of interaction. The percentage of learner turns with errors in the asynchronous mode of interaction was 54% and in the synchronous mode, the percentage was 44%. Before the study was conducted, it was hypothesized that the asynchronous turns would contain fewer errors because learners have more time to plan and write and have access to various types of aids. Learners can use resources such as their textbook, class notes, and a dictionary. In this particular study, it appears that the percentage of errors is not related to planning time, but rather turn length and complexity of language in the turns. In this study, learner turns in the asynchronous mode of interaction seem to be longer and more complex while turns in the synchronous mode of interaction appear to be shorter. This is corroborated by research in the field (Sotillo, 2000) which has found that language produced in the asynchronous mode is more syntactically complex than that produced in the synchronous environment. The length and complexity of utterance may be a factor that affects errors in the asynchronous mode of interaction in this study. Learners may have attempted longer and more complex sentences in the asynchronous mode of interaction and this might have lead to a higher percentage of errors.

155

The main focus of this study was corrective feedback and while examining

corrective feedback, instances of instructor turns containing errors were observed in the

data. Although these instructor turns constitute a minority of total turns, it is important to

discuss them and their possible effects. It appears that many of the instructor turns

containing errors comprised typographical errors. In example 15, the instructor is

attempting to correct the learner's spelling/typographic/orthographic error, but in doing

so, makes an error herself. These types of instructor errors were more common in the

synchronous interaction where the interaction is moving fast. In addition, it appears that

instructors notice their errors more often in the synchronous interaction and often self-

correct these errors (See example 16). Please note that in this example, the instructor's

turn contained two errors and only one was self corrected.

(15)   (Instructor 3 – Asynchornous)

        Student: *Le segiero que la profesora tome dos aspirinas.*
                        I suggest (misspelled) that the teacher take two aspirins.
        Instructor 3:   *Correcciones:*
                        Corrections:
        Instructor 3:   *2) Le sugieron*
                        2) I suggest (misspelled)

(16)   (Instructor 3 – Synchronous)

        Instructor 3:   *es salario para un profesor es muy BEUNO....*
                        the salary for a professor is very GOOD... ('the' and 'good' are
                        misspelled)
        Instructor 3:   *BUENO...*
                        GOOD…

Orthographic/typographic/spelling types of errors were the most common in

instructor turns. Nonetheless, provision of incorrect corrective feedback and omission of

corrective feedback were also found in the data (See Examples 17 and 18). The first

example provided contains two provisions of incorrect feedback by the instructor while

the second example provides positive feedback although the student turns contain several

errors. Language errors of this type were only present in the data obtained from one

instructor. It should also be noted that this instructor provided no corrective feedback in

the synchronous environment and all the feedback provided in the asynchronous

environment was provided in English or in a combination of English and Spanish. It

seems that the proficiency of the instructor herself affected the provision of corrective

feedback.

(17)   (Instructor 2 – Asynchornous)

     Student: *Prohibo que comio dos hamburguesas.*
                     I prohibit that you ate two hamburgers. (verb is conjugated in preterite instead of subjunctive)
     Student: *Yo insisto que tomo dos aspirina.*
                     I insist that I take two aspirins. (verb is in first person present instead of third person subjunctive)
     Instructor 3:   *P comer and tomar need to be in subj and also you need to put to whom you are suggesting….like le recomiendo que….toma….e coma…..*
                     P to eat and to take need to be in subj. and also you need to put to whom you are suggesting…like I recommend that …. takes…. and eats.... (the verb to take is in present instead of subjunctive and the word "e" is used instead of "y" for and)

(18)   (Instructor 2 – Asynchronous)

     Student: *Le segieno que vaya a la medico.*
                     I suggest (misspelled) that you go to the doctor (agreement error)
     Student: *Le prohibo que trabaja.*
                     I prohibit that you work (verb in present tense when subjunctive is required)
     Student: *Le pides que guarda cama.*
                     You ask that he or she stay in bed. (you instead of I ask)
     Student: *Le aconsejo que cuidarse.*

I recommend that to take care of oneself. (verb is not conjugated)

Instructor: *super job*

In the same way that instructors self corrected turns containing errors, learners

themselves often self corrected. The computer-mediated communication (CMC)

literature has found that in this environment, students notice the gap, notice the errors

because the language is written (Ortega, 1997; Warschauer, 1998). This was the case in

the synchronous mode of interaction in this study where students often composed a

message, sent the message to the whole group, and the student sent a correction to the

group (See example 19). These self-corrections were often denoted in some way, with an

asterisk, with a phrase such as 'oops', or with a public admission that a mistake had been

made.

(19)   (Instructor 1 – Asynchronous)

Student: *si, los veterinarios reciben tanto respeto come los medicos*
                Yes, veterinarians receive as much respect as medical doctors.
                ('as' is misspelled)
Student: ***como*
                **as

The use of special characters to denote self-corrections and feedback was

prevalent in the data. Both instructors and students used technological conventions to

enhance special aspects of turns. Earlier in this dissertation, the use of all caps to provide

corrective feedback or to provide a portion of corrective feedback was discussed. The

use of the learner's initials by the instructor to indicate the receiver of the corrective

feedback was also presented. These findings are unique to this study which examines

corrective feedback in online interactions where instructors and students used such

strategies to make their feedback or message obvious. Additional strategies found

include the use of quotes and parenthesis to provide metalinguistic feedback (See

Examples 20), the use of ellipses is an attempt to elicit the correct answer from the

learner or to avoid rewriting out the portion of the learner turn that was correct (See

Example 21).

(20)   (Instructor 3- Asynchronous)

        Student: *Yo siento muy mal y guarde cama.*
                        I feel very bad and I stay in bed. (to feel is missing reflexive
                        pronoun and to stay is conjugated in subjunctive instead of present)
        Instructor 3:   *-"Sentirse" es reflexvio y conjugaste el verbo "guardar"*
                        incorrectamente.
                        -"To feel" is reflexive and you conjugated the verb "to stay"
                        incorrectly.

(21)   (Instructor 3 – Asynchronous)

        Student: *Cuando compre una manción.*
                        When I buy a mansion.
        Instructor 3:   *Cuando compre una manción....¿ y luego qué?*
                        When I buy a mansion… then what?

        Other strategies used by instructors and students in the online environment

include extra letters for emphasis, emoticons, and chat conventions. During a

synchronous interaction, one instructor posed a question to the whole class, but the class

did not understand the question and out of frustration, the instructor used capital letters

and extra letters to emphasize the question a second time (See example 22). The outcome

of this strategy was successful, students answered the question correctly after the

instructor 'screamed out' and elongated the question. The use of emoticons was also

present in the data collected of this study. Of special interest are emoticons that enhance

corrective feedback. Examples include recasts followed by emoticons (See example 23).

Similarly, chat conventions were used to denote laughter in the interaction (See example

159

24). Learners also participated in the use of chat conventions in order to answer

questions. One particular learner answered the instructors question with the repetition of

one letter 'z' (See Example 25).

(22)   (Instructor 4- Synchornous)

       Instructor 4:   *como es tu carro?*
                    what is your car like?
       Student 1:   *es toyota*
                    it's a toyota
       Student 2:   *es honda civic*
                    it's a honda civic
       Student 3:   *mi carro es un JEEP*
                    my car is a JEEP
       Instructor 4:   *como ESSSSSSSSSSS tu carro?*
                    what ISSSSSSSSSSS your car like?

(23)   (Instructor 4 –Synchronous)

       Student: *yo soy muy cansado hoy*
                    i am very tired today. (use of wrong verb to be)
       Instructor: *yo estoy cansado tambien :-)*
                    i am also very tired :-)

(24)   (Instructor 4 – Synchronous)

       Student: *Todos los sabados, dormia todas dia*
                    Every Saturday, I would sleep all the days.
       Instructor 4:   *TODO EL DIA? JA JA JA PEREZOSA ;-)*
                    EVERY DAY? HA HA HA LAZY ;-)

(25)   (Instructor 2 – Synchronous)

       Instructor 2:   *que hiciste esta manana?*
                    what did you this morning?
       Student: *Zzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzz*

An interesting discovery was the use of English chat conventions embedded in the

Spanish interaction. Instructors used English chat language such as abbreviations of

words. The use of English chat language in this study should be considered carefully

since it was only used by one instructor and this particular instructor only provided

corrective feedback in English or in a combination of English and Spanish. In example

26, four types of English chat conventions are found.

(26)   (Instructor 2- Asynchronous)

  Instructor 2:   *cuz you are recomiendo to me your teacher.*
            cuz you are recommending to me your teacher
  Instructor 2:   *ur last sentence u dont need subj just use indic.*
            ur last sentence u dont need subj. just use indic.
  Instructor 2:   *ck comfortabale….*
            ck comfortable….
  Instructor 2:   *ck ur tense or mood?!*
            ck ur tense or mood?!

Despite the fact the researcher did not conduct formal observations for this study,

informal observations were made while the researcher was in the computer lab assisting

students with technical problems. One interesting observation was the provision of oral

corrective feedback. Even thought the instructions on all tasks were clear and the

instructors were aware that the researcher would examine corrective feedback provided

during the online interaction, nonetheless, one instructor provided corrective feedback

orally and on the chalkboard. This feedback was mostly general feedback directed at the

entire class. If the instructor observed several students making the same error, the

instructor left the chat room, went to the chalk board and began explaining the target-like

form.

Computer-mediated communication (CMC) activities used in language classes are

typically communicative in nature. Chat rooms are usually used in language classes for

discussions, jigsaw activities, information gap activities, all of which are communicative

in nature. Surprisingly, in this study, two instructors used the chat space to practice

grammatical features of the language (See Examples 27 and 28). These interactions took

place toward the end of the chat session. It may be that instructors ran out of questions to

pose in the chat room and decided to practice grammatical forms.

(27)   (Instructor 2- Synchronous)

Instructor 2:   *conjuga el verbo decir en el preterito.....*
                 conjugate the verb to say in the preterite ….
Student 1:   *dije*
                 i said
Student 1:   *dije dijiste*
                 i said, you said
Student 4:   *dije, dijiste, dijo, dijimos, dijieron*
                 i said, you said, he said, we said, they said

(28)   (Instructor 3 – Synchronous)

Instructor 3:   *quiero que escriban una oración en la cual usan el participio
                 como un adjetivop...*
                 i would like you to write a sentence in which you use the participle
                 as an adjective

Instructors and learners used a myriad of strategies to enhance the online

interaction. A number of these features were employed to enhance corrective feedback

while others were used to add emotions to the text based medium of interaction.

Surprising findings were also discovered in the data collected for this study. A closer

look at these additional, and sometimes surprising, findings should be undertaken.

Implications for second language acquisition research

This dissertation adds to the already existing bodies of research in the areas of

corrective feedback and computer-mediated communication (CMC). Most corrective

feedback studies have been carried out in a face-to-face context and most have been

162

carried out in a English as a Second language setting (Fanselow, 1977; Mackey, Gass et al., 2000; Oliver, 1995, 2000; Panova and Lyster, 2003) or in a French Immersion setting (Chaudron, 1977, 1986; Lyster, 1998; Lyster and Ranta, 1997).

Corrective feedback studies that have been conducted in an online environment have examined peer-to-peer interaction (Iwasaki and Oliver, 2003; Morris, 2002). CMC studies have only talked about feedback in these environments anecdotally and have not focused on corrective feedback. This study fills this gap in the research.

This study has contributed to the second language acquisition field information about corrective feedback provided by instructors to learners in online asynchronous and synchronous environments in Spanish as a foreign language classes. This study has established that corrective feedback is provided in asynchronous and synchronous environments and to what extent corrective feedback is present in both environments. It has verified the types and variations of corrective feedback found in online environments and which of these are most abundant in each environment. This study has determined that certain types of learner error lead to certain types of corrective feedback. And finally, this study has presented the distribution of learner response to various types of corrective feedback. This study found that corrective feedback types that offer an opportunity to negotiate form are more effective in eliciting a learner response. Consequently, it appears that metalinguistic feedback, clarification request, elicitation, and repetition types of corrective feedback are a potential tool for promoting language development in Spanish as a Foreign Language (SFL) classes.

Although very important contributions to the second language acquisition field have been made, questions of long-term effects of corrective feedback still remain unanswered. This study has only begun to scratch the surface and it cannot make any definite statements about the consequences of corrective feedback on the language acquisition process.

Pedagogical Implications

In addition to the implications for the field of second language acquisition, the findings of this study have pedagogical implications. In the asynchronous environment, results showed that learners overall did not respond to instructor postings. Instructions for bulletin board assignments should be very clear and specific. Instructors may need to require students to go back and respond to the instructor's posting. A three-part assignment can be devised where students post their original posting, instructors reply, and students respond. This type of assignment would lead to more learner responses in the asynchronous environment.

The percentage of corrective feedback provided in the synchronous mode of interaction was quite low. Nonetheless, if more corrective feedback is provided in the synchronous environment, the task may be converted into a grammatical accuracy instead of a communicative effectiveness task. If instructors want to maintain the communicative orientation of the activity and still provide corrective feedback, instructors may want to consider alternative ways of providing this feedback to learners. One alternative approach for providing corrective feedback is to print the chatscripts and

go through these either individually for each student or as a whole with individually selected chatscripts.

Given that the provision of explicit correction was dominant in the asynchronous mode of interaction, instructors may want to vary the types of corrective feedback provided in this environment. In the synchronous mode of interaction, recasts were the most common type of corrective feedback. This finding parallels results from other studies that found that teachers have a tendency to overuse recasts in face-to-face interaction (Lyster, 1998, Lyster and Ranta, 1997, Panova and Lyster, 2002). A variety of corrective feedback moves should also be utilized in the synchronous mode of interaction.

Pedagogical recommendations can also be made with respect to the relationship between corrective feedback type and learner response. Since there is a tendency for learner responses to result in repair when an instructor provides an opportunity to negotiate form, it is recommended that corrective feedback types that offer an opportunity to negotiate form should be used in online environments. This study found that explicit correction and recasts were the most common types of corrective feedback in the asynchronous and synchronous environments respectively. Instructors are encouraged to use clarification requests, metalinguistic feedback, elicitation, and repetition as viable options to provide corrective feedback to learner turns containing errors. These types of corrective feedback that afford the learner with the opportunity to negotiate form, may lead to more learner responses with repair in online interactions.

As mentioned above, this study cannot attest to the long term effects of corrective feedback provided by instructors to learners and learner response following corrective feedback in online interaction. Future research should test the long-term effects of corrective feedback. Long-term effects of corrective feedback on proficiency development can be examined. In addition, future research can examine the resilience of learner repair prompted from corrective feedback.

This particular study examined second semester Spanish classes, future research could examine other populations at higher or lower levels of proficiency. In addition, special populations such as heritage speakers could also be examined. This study examined instructor-learner interaction. Future research could consider a variety of interactions including: learner-learner, native speaker-non-native speaker, non-native speaker- non native speaker, heritage learner-non-native speaker, or heritage learner-native speaker.

One unintentional discovery in this study was that learner turns contained more errors in the asynchronous mode of interaction. This may be attributed to the language complexity in the learner turns in this environment, but this cannot be confirmed. Future studies can examine language complexity in the asynchronous discussion using measures like the Mean Length of Utterance (MLU) or the Type-Token Ratio (TTR). Another expected finding in the data of this study was peer corrective feedback. Peer corrective feedback was observed, although in small numbers, in this study. Nonetheless, the examination of peer feedback was beyond the scope of this study. Future research can

166

examine the distributions of peer corrective feedback and the effects of peer corrective feedback.

This study examined only learner responses to corrective feedback from the learner who received the corrective feedback. Since the online environments are public and all learners have access to the feedback provided in these environments, it might be interesting to observe how corrective feedback affects the other learners participating in the discussion.

Future research can examine the classification of corrective feedback types more closely and in more detail. This study found some instances of recasts with confirmation checks and recasts with clarification requests. For the purposes of this study, these were coded as recasts, but future research can examine these variations of recasts more closely and tease out the different categories within recasts.

The tasks were designed to elicit communicative effectiveness and grammatical accuracy. Other studies could examine the effect of task type on provision of corrective feedback. The effects of tasks such as jigsaw activities, information gaps, and Webquests on corrective feedback and learner response could be examined.

In addition, this study unearthed several unexpected findings that should be examined closely. Instructor errors should be examined in their own right as well the use of technological features used to enhance corrective feedback. These results were beyond the scope of this study but deserve a closer examination.

Conclusions

Previous studies have examined corrective feedback in face-to face interactions, and previous studies have also examined language produced in CMC environments. To the author's knowledge, no study had observed corrective feedback provided by instructors to students in online asynchronous and synchronous foreign language contexts. This investigation focused on this gap in the research. The results of this study demonstrate that instructors do provide corrective feedback in online asynchronous and synchronous environments, certain types of corrective feedback are more prevalent in each environment, particular kinds of learner error are followed by particular kinds of corrective feedback, and corrective feedback types more effective in eliciting repaired learner responses are those that provide the opportunity to negotiate form.

References

Asher, R. E., Ed. (1994). *The encyclopedia of language and linguistics*. New York, Pergamon press.

Ayoun, D. (2001). The role of negative and positive feedback in the second language acquisition of the passé composé and imparfait. *The modern language journal, 85*(2), 226-243.

Beauvois, M. H. (1992). Computer-assisted classroom discussion in the foreign language classroom: Conversation in slow motion. *Foreign Language Annals, 25*(5), 455-463.

Blake, R. (2000). Computer mediated communication: A window on L2 Spanish interlanguage. *Language Learning & Technology, 4*(1), 120-136.

Brandl, K. K. (2000). Foreign language TAs' perceptions of training components: Do we know how they like to be trained? *Modern Language Journal, 84*(3), 355-371.

Carroll, S. and M. Swain (1993). Explicit and implicit negative feedback. *Studies in Second Language Acquisition, 15*, 357-386.

Carroll, S., M. Swain, et al. (1992). The role of feedback in adult second language acquisition: Error correction and morphological generalizations. *Applied Psycholinguistics, 13*, 173-198.

Chaudron, C. (1977). A descriptive model of discourse in the corrective treatment of learners' errors. *Language Learning, 27*(1), 29-46.

Chaudron, C. (1986). Teachers' priorities in correcting learners' errors in French immersion classes. In R. R. Day (Ed.). *Talking to learn: Conversation in second language acquisition* (pp.64-84), Rowley, Newbury house publishers, Inc.

Chun, D. M. (1994). Using computer networking to facilitate the acquisition of interactive competence. *System, 22*(1), 17-31.

DeKeyser, R. M. (1993). The effect of error correction on L2 grammar knowledge and oral proficiency. *The modern language journal, 77*(4), 501-514.

Doughty, C. (1993). Fine-tuning of feedback by competent speakers to language learners. In J. E. Alatis (Ed.) *Georgetown University Round Table on Languages and Linguistics 1993*. (pp. 96-108). Washington, D.C., Georgetown University Press.

Doughty, C. and T. Pica (1986). "Information gap" tasks: Do they facilitate second language acquisition? *TESOL Quarterly, 20*(2), 305-325.

Doughty, C. and E. Varela (1998). Communicative focus on form. In C. Doughty and J. Williams (Eds.), *Focus on form in classroom second language acquisition..* (pp. 114-138). New York, Cambridge University Press.

Erben, T. (1999). Constucting learning in a virtual immersion bath: LOTE teacher education through audiographics. In R. Debski and M. Levy. Lisse (Eds.), *World CALL: Global perspectives on computer-assisted language learning.* (pp. 229-248). The Netherlands, Swets & Zeitlinger Publishers.

Fanselow, J. F. (1977). The treatment of error in oral work. *Foreign language annals, 10*, 583-593.

Fernández-García, M. and A. Martínez-Arbelaiz (2002). Negotiation of meaning in nonnative speaker-nonnative speaker synchronous discussions. *CALICO Journal, 19*(2), 278-294.

Fidalgo-Eick, M. (2001). *Synchronous on-line negotiation of meaning by intermediate learners of Spanish.* Unpublished doctoral dissertation, University of Iowa, Iowa City.

Gall, M. D., W. R. Borg, et al. (1996). *Educational research: An introduction.* New York: Longman.

Gass, S. and E. Varonis (1994). Input, interaction, and second language production. *Studies in Second Language Acquisition*, *16*, 283-302.

Hatch, E. (1978b). Discourse analysis and second language acquisition. In E. Hatch. Rowley (Ed.), *Second language acquisition: A book of readings* (pp. 401-435). Newbury House Publishers.

Kasper, G. (1985). Repair in foreign language teaching. *Studies in Second Language Acquisition*, *7*, 200-215.

Kelm, O. R. (1992). The use of synchronous computer networks in second language instruction: A preliminary report. ***Foreign Language Annals***, *25*(5), 441-453.

Kern, R. G. (1995). Restructuring classroom interaction with networked computers: Effects on quantity and characteristics of language production. *The Modern Language Journal*, *79*(4), 457-476.

Kern, R. G. (1998). Technology, social interaction, and FL literacy. In J. Muyskens (Ed.), *New ways of learning and teaching: Focus on foreign language education.* (pp. 57-92). Boston: Heinle and Heinle.

Krippendorff, K. (1980). *Content analysis: an introduction to its methodology.* Beverly Hills: Sage Publications.

Lee, L. (2002a). Enhancing learners' communication skills through synchronous electronic interaction and task-based instruction. *Foreign Language Annals*, *35*(1), 16-24.

Lee, L. (2002b). Synchronous online exchanges: a study of modification devices on non-native discourse, *System*, *30*, 275-288.

Leeman, J. (2003). Recasts and second language development: Beyond negative evidence. *Studies in Second Language Acquisition*, 25, 37-63.

Lightbown, P. M. and N. Spada (1990). Focus-on-form and corrective feedback in communicative language teaching. *Studies in Second Language Acquisition*, 12, 429-448.

Lightbown, P. M. and N. Spada (1999). *How languages are learned*. New York: Oxford University Press.

Long, M. (1991). Focus on form: A design feature in language teaching methodology. In K. De Bot, R. B. Ginsberg and C. Kramsch (Eds.), *Foreign language research in cross-cultural perspective*. (pp. 39-52). Philadelphia: John Benjamins Publishing Company.

Long, M. H. (1996). The role of the linguistic environment in second language acquisition. In W. C. Ritchie and T. K. Bhatia (Eds.), *Handbook of second language acquisition* (pp. 412-468). San Diego: Academic Press.

Long, M. H., S. Inagaki, et al. (1998). The role of implicit negative feedback in SLA: Models and recasts in Japanese and Spanish. *The modern language journal*, 82(3), 357-371.

Lyster, R. (1998). Negotiation of form, recasts, and explicit correction in relation to error types and learner repair in immersion classrooms. *Language Learning*, 48(2), 183-218.

Lyster, R. and L. Ranta (1997). Corrective feedback and learner uptake: Negotiation of form in communicative classrooms. Studies in Second Language Acquisition, 20: 37-66.

Mackey, A., S. Gass, et al. (2000). How do learners perceive interactional feedback? *Studies in Second Language Acquisition*, *22*, 471-497.

Mackey, A., R. Oliver, et al. (2003). Interactional input and the incorporation of feedback: An exploration of NS-NNS and NNS-NNS adult and child dyads. *Language Learning*, *53*(1), 35-66.

Mackey, A. and J. Philp (1998). Conversational interaction and second language development: Recasts, responses, and red herrings? *The modern language journal*, *82*(3), 339-356.

Morris, F. A. (2002). Negotiation moves and recasts in relation to error types and learner repair in the foreign language classroom. *Foreign language annals*, *35*(4), 395-404.

Negretti, R. (1999). Web-based activities and SLA: A conversation analysis research approach. Language Learning & Technology, *3*(1), 75-87.

Oliver, R. (1995). Negative feedback in child NS-NNS conversation. *Studies in Second Language Acquisition*, *17*, 459-481.

Oliver, R. (2000). Age differences in negotiation and feedback in classroom and pair work. *Language Learning*, *50*(1), 119-151.

O'Relly, L. V., J. Flaitz, et al. (2001). Two modes of correcting communicative tasks: recent findings. *Foreign language annals*, *34*(3), 246-257.

Ortega, L. (1997). Processes and outcomes in networked classroom interaction: Defining the research agenda for L2 computer-assisted classroom discussion. *Language Learning & Technology*, *1*(1), 82-93.

Panova, I. and R. Lyster (2003). Patterns of corrective feedback and uptake in an adult ESL classroom. *TESOL Quarterly*, *36*(4), 572-595.

Pellettieri, J. (2000). Negotiation in cyberspace: The role of chatting in the development of grammatical competence. Network-based language teaching: Concepts and practice. M. Warschauer and R. G. Kern. New York, Cambridge University Press**:** 59-86.

Pica, T. (1985). Variations in classroom interaction as a function of participation pattern and task. In J. Fine. Norwood (Ed.), *Second language discourse: A textbook of current research* (pp. 41-55). Ablex Publishing Corporation.

Pica, T. (1986). Making input comprehensible: Do interactional modifications help? *I. T. L. Review of Applied Linguistics, 72*, 1-25.

Pica, T. (1996). Do second language learners need negotiation? *International Review of Applied Linguistics*, *34*.

Pica, T. and C. Doughty (1985). The role of group work in classroom second language acquisition. *Studies in Second Language Acquisition*, *7*, 233-248.

Pica, T., R. Young, et al. (1987). The impact of interaction on comprehension. *TESOL Quarterly*, *21*(4), 737-758.

Pufahl, I., N. C. Rhodes, et al. (2000). Foreign language teaching: What the United States can learn from other countries. *Center for Applied Linguistics*. Retrieved on July 9, 2003, from http://www.cal.org/ericcll/countries.html

Shannon, D. M., D. J. Twale, et al. (1998). TA teaching effectiveness: The impact of training and teaching experience. *The Journal of Higher Education*, *69*(4), 440-466.

Smith, B. (2003a). Computer-mediated negotiated interaction: An expanded model. *The Modern Language Journal*, *87*(1), 38-57.

Smith, B. (2003b). The use of communication strategies in computer-mediated communication. *System*, *31*, 29-53.

Sotillo, S. M. (2000). Discourse functions and syntactic complexity in synchronous and asynchronous communication. *Language Learning & Technology*, *4*(1), 82-119.

Spada, N. and P. M. Lightbown (1993). Instruction and the development of questions in L2 classrooms. *Studies in Second Language Acquisition*, *15*, 205-224.

Sullivan, N. and E. Pratt (1996). A comparative study of two ESL writing environments: A computer-assisted classroom and a traditional oral classroom. *System*, *29*(4): 491-501.

Swain, M. (1985). Communicative competence: Some roles on comprehensible input and comprehensible output in its development. In S. Gass and C. Madden (Eds.), *Input in second language acquisition* (pp. . Rowley, MA: Newbury House.

Tashakkori, A. and C. Teddlie, Eds. (2003). *Handbook of mixed methods in social & behavioral research*. Thousand Oaks: Sage Publications.

Warschauer, M. (1996). Comparing face-to-face and electronic discussion in the second language classroom. *CALICO Journal*, 13(2 & 3), 7-26.

Warschauer, M. (1997). Computer-mediated collaborative learning: theory and practice. *The Modern Language Journal*, *81*(4), 470-481.

Warschauer, M. (1998). Interaction, negotiation, and computer-mediated learning. In M. Clay.(Ed.), *Practical applications of educational technology in language learning.* Lyon, France: National Institute of Applied Sciences.

Warschauer, M. and D. Healey (1998). Computer and language learning: An overview. *Language Teaching*, *31*, 51-71.

Weber, R. P. (1990). *Basic content analysis*. Newbury Park: Sage Publications.

White, L. (1991). Adverb placement in second language acquisition: some effects of positive and negative evidence in the classroom. *Second Language Research*, *7*(2), 133-161.

White, L., N. Spada, et al. (1991). Input enhancement and L2 question formation. *Applied Linguistics*, *12*(4), 416-432.

Yates, S. J. (1996). Oral and written linguistic aspects of computer conferencing: A corpus based study. In S. C. Herring.(Ed.) *Computer-mediated communication: Linguistic, social and cross-cultural perspectives* (pp. 47-63). Philadelphia: John Benjamins Publishing Company.

Appendixes

Memorandum

To: Instructor 1, Instructor 2, Instructor 3, Instructor 4 *

CC: TA coordinator, Chair of department

From: Martha E. Castañeda

Date: 5/15/04

Re: Dissertation Research

As some of you may already know, I will be conducting my dissertation research this summer. In case I have not had a chance to talk to you personally, I would first like to tell you my philosophy of research. I believe that research should include activities that are related to the language class, are fun for the students, and do not require tons of work from the instructors. For the study, I attempted to make fun activities that support and enhance your course content and I plan to provide you with all required materials.

Before planning out the details of the study, the first step I took was to obtain permission to carry out the research in the Spanish II classes from both the TA coordinator and the Chair of the department. I am happy to report that both are excited about the research and have granted me permission to work with all Spanish II classes taught this Summer C term.

The next step is to ensure that you are comfortable with carrying out the tasks in your classes. As I mentioned above, my aim is to provide you with all the required materials and assist you in any way I can. As part of the study, what I would ask of you is that you attend an orientation session where I would give you more details about the study (food and drinks provided). I would then ask you to conduct four 45-minute electronic discussions with your students using Blackboard. I will provide you and your students with an orientation of Blackboard and will provide you with guiding questions for conducting your electronic discussion. Summer courses can be long for both students and instructors and I believe that the electronic discussions will be an interesting and motivating addition to the curriculum.

I am looking forward to working with each and every one of you. I will come around to your offices next week to give you more details and to schedule the orientation. In the meantime, if you have any questions or if I can assist you in any way, please don't hesitate to contact me at 974-3563 or mecastan@mail.usf.edu.

*names of instructors, TA coordinator, and chair of department have been deleted

Appendix B: Instructor Background Questionnaire

Thank you for completing this questionnaire

1. Name: _____

2. Gender: M _____   F _____

3. Age: _____

4. Native Language _____

5. How long have you been teaching Spanish? _____

6. Do you speak or study other language/s other than Spanish and English? Yes ___ No___

    If yes, specify which language/s and how would you grade your ability in each

    language. For example: I can read in Italian; I can read and write in Portuguese; I can

    speak, but not fluently in Chinese; I can speak fluently in Japanese; etc.

    _____

    _____

    _____

7. Have you visited a Spanish speaking country? Yes _____ No_____

    If yes, which country? When? For how long?

    _____

    _____

    _____

8. How long have you been using computers? _____ (years)

9. How comfortable are you working with computers?

    _____ Very comfortable
    _____ Somewhat comfortable
    _____ Uncomfortable
    _____ Very uncomfortable

Appendix B (Continued)

10. What do you use computers for? Check as many as applicable:

_____ E-mail

_____ Word-processing programs (Microsoft Word, WordPerfect, etc.)

_____ Games

_____ Browsing the Internet (Internet Explorer, Netscape, etc.)

_____ Programming

_____ Online Chat (AOL, Yahoo, MSN Instant messenger, etc.)

_____ Electronic Bulletin/Discussion Boards

_____ Others, please specify: _____

11. Do you use electronic *bulletin/discussion boards* in the <u>classes you teach</u>?

Yes _____ No _____ If yes, how frequently? _____ (times per week)

12. Do you use electronic *bulletin/discussion boards* in the <u>classes you take</u>?

Yes _____ No _____ If yes, how frequently? _____ (times per week)

13. Do you use electronic *bulletin/discussion boards* for <u>personal use</u>?

Yes _____ No _____ If yes, how frequently? _____ (times per week)

14. Do you use *chat programs* (AOL, Yahoo, MSN Instant messenger, etc.) in the <u>classes you teach</u>?

Yes _____ No _____ If yes, how frequently? _____ (times per week)

15. Do you use *chat programs* (AOL, Yahoo, MSN Instant messenger, etc.) in the <u>classes you take</u>?

Yes _____ No _____ If yes, how frequently? _____ (times per week)

16. Do you use *chat programs* (AOL, Yahoo, MSN Instant messenger, etc.) for <u>personal use</u>?

Yes _____ No _____ If yes, how frequently? _____ (times per week)

This questionnaire was adapted from O'Relly (1999), p. 157 and Smith (2001), p.359

Thank you for completing this questionnaire

1. Name: _____

2. Gender: M _____ F _____

3. Age: _____

4. Major: _____

5. Classification:

   Undergraduate: _____   Graduate: _____   Other:_____

   (Specify year of study):_____   (Specify year of study):_____   (Specify):_____

6. Native Language _____

7. Do you speak or study other language/s? Yes _____ No_____

   If yes, specify which language/s and how would you grade your ability in each

   language. For example: I can read in Italian; I can read and write in Portuguese; I can

   speak, but not fluently in Chinese; I can speak fluently in Japanese; etc.

   _____

   _____

   _____

8. How long have you been studying Spanish? _____

9. Why are you studying Spanish? _____

10. Have you visited a Spanish speaking country? Yes _____ No_____

    If yes, which country? When? For how long?

    _____

    _____

    _____

Appendix C (Continued)

12. Do you have any contact with native speakers of Spanish outside the classroom?

   Yes _____ No_____ If yes, how frequently? Often _____ Occasionally ____ Rarely _____

13. How long have you been using computers? _____ (years)

14. What do you use computers for? Check as many as applicable:

   _____ E-mail
   _____ Word-processing (Microsoft Word, WordPerfect, etc.)
   _____ Games
   _____ Browsing the Internet (Internet Explorer, Netscape, etc.)
   _____ Programming
   _____ Online Chat (AOL, Yahoo, MSN Instant messenger, etc.)
   _____ Electronic Bulletin/Discussion Boards
   _____ Others, please specify: _____

14. How comfortable are you working with computers?

   _____ Very comfortable
   _____ Somewhat comfortable
   _____ Uncomfortable
   _____ Very uncomfortable

16. Do you use electronic *bulletin/discussion boards* in your classes?

   Yes _____ No _____ If yes, how frequently? _____ (times per week)

17. Do you use electronic *bulletin/discussion boards* for personal use?

   Yes _____ No _____ If yes, how frequently? _____ (times per week)

18. Do you use *chat programs* (AOL, Yahoo, MSN Instant messenger, etc.) in your classes?

   Yes _____ No _____ If yes, how frequently? _____ (times per week)

19. Do you use *chat programs* (AOL, Yahoo, MSN Instant messenger, etc.) for personal use?

   Yes _____ No _____ If yes, how frequently? _____ (times per week)

This questionnaire was adapted from O'Relly (1999), p. 157 and Smith (2001), p.359

Chapter 11
Vocabulary: Professions
Grammatical focus: Subjunctive
Below you will find the text I will give Instructors to guide discussion.

Instructions: Below you will find a list of questions related to Chapter11. Use these questions to guide either the bulletin board discussion or the chat room discussion with your class. These questions are a guide, you can use them in any particular order or you can add questions of your own. Make sure to provide students with **feedback** when appropriate. Provide students with **feedback in the chat discussion** (not orally or on the board).

Spanish	*English*
Bienvenidos, hoy vamos a hablar de las profesiones	Welcome, today we are going to talk about professions
Bomberos	*Firefighters*
¿Qué hacen los bomberos en un día típico?	What do firefighters do on a typical day?
¿Dónde trabajan los bomberos?	Where do firefighters work?
Si hay un fuego, ¿qué es importante que los bomberos lleguen temprano?	If there is a fire, is it important that the firefighters get there early?
¿Crees que los bomberos trabajan mucho o poco?	Do you believe that firefighters work a lot or little?
¿Crees que los bomberos reciben un buen o un mal sueldo?	Do you believe that firefighters receive a good or bad salary?
¿Crees que los bomberos tienen suficientes materiales para hacer su trabajo?	Do you believe that firefighters have enough materials in order to do their jobs?
¿Es importante que el gobierno pague los sueldos de los bomberos? o ¿Es mejor que las compañías privadas paguen los sueldos de los bomberos? ¿por qué?	Is it important that the government pay the salary of the firefighters? Or is it better that private companies pay the salaries of the firefighters? Why?
En tu opinión, ¿es importante que todas las personas sepan apagar fuegos en su casa?	In your opinion, is it important that everyone know how to put out a fire at home?
En tu opinión, ¿es importante que los bomberos sepan hablar español u otros idiomas comunes en la comunidad?	In your opinion, is it important that firefighters know how to speak Spanish or other languages that are common in the community?
Médicos	*Medical Doctors*
¿Dónde trabajan los médicos?	Where do doctors work?
¿Qué hacen los médicos en un día típico?	What does a doctor do on a typical day?
¿Crees que los médicos reciben un buen o un mal sueldo?	Do you believe that doctors receive a good or bad salary?

Appendix D (Continued)

¿Crees que los médicos trabajan mucho o poco?	Do you believe that doctors work much or little?
En tu opinión, ¿es importante que los médicos sepan hablar español u otros idiomas comunes en la comunidad?	In your opinion, is it important that doctors know how to speak Spanish or other languages common in the community?
En tu opinión, ¿crees que hay muchas demandas contra los médicos?	In your opinion, do you believe there are too many lawsuits against doctors?
Cocineros	*Cooks*
¿Qué hace un cocinero en un día típico?	What does a cook do on a typical day?
¿Crees que los cocineros reciben respeto de las personas que comen en los restaurantes?	Do you believe that cooks receive respect from people that eat at their restaurants?
En tu opinión, ¿Es importante que un cocinero estudie antes de trabajar en un restaurante?	In your opinion, is it important that a cook study before he or she works in a restaurant?
Veterinario	*Veterinary*
¿Qué hace un veterinario en un día típico?	What does a veterinarian do on a typical day?
¿Crees que los veterinarios reciben tanto respeto como los médicos?	Do you believe that veterinarians receive as much respect as medical doctors?
¿Crees que los veterinarios ganan mucho o poco dinero?	Do you believe that veterinarians earn much or little money?
Un veterinario tiene que asistir a la universidad un promedio de seis años en la universidad, cuatro años estudiando y dos o tres años de residencia. En tu opinión, ¿es importante que un veterinario estudie cuatro años en la universidad?	A veterinary has to study an average of six years at the university, four years studying and two or three years in residency. In your opinion, is it important that a veterinarian study four year in the university?
En tu opinión, ¿es necesario que un veterinario haga dos o tres años de residencia?	In your opinion, is it necessary that a veterinarian do two or three years of residency?
Subjunctive with verbs of denial and doubt (imaginary Claudia)	
Vamos a hablar de Claudia (una mujer imaginaria) ¿Crees que Claudia sea bombera?	We are going to talk about Claudia (an imaginary woman) Do you believe Claudia wants to be a firefighter?
¿Crees que ella trabaja igual que los otros hombres?	Do you relieve she Works as much as the men?
¿Dudas que ella tenga mucho trabajo?	Do you doubt that she will have much work?
¿Estás seguro que Claudia trabaja en esa oficina?	Are you sure that Claudia works in that office?
Subjunctive with verbs of denial and doubt (university life)	
En tu opinión, ¿Crees que la Universidad ofrece muchas clases?	In your opinion, do you believe the university offers many classes?

Appendix D (Continued)

¿Crees que la Universidad trabaja para los estudiantes?	Do you believe the university works for the students?
¿Dudas que la Universidad de Florida del Sur tenga más de 50 años?	Do you doubt that University of South Florida is more than 50 years old?
¿Estás seguro que la Universidad de Florida del Sur tiene más de 50 años?	Are you sure the university of South Florida is more than 50 years old?
Subjunctive with impersonal expressions	
¿Es cierto que la Universidad de Florida del Sur tiene un café en la biblioteca?	Is it true that the University of South Florida has a café in the library?
¿Es bueno que la universidad tenga un café en la biblioteca? ¿por qué sí o no?	Is it a good idea that the university has a café in the library? Why yes or why no??
¿Es común que las universidades tengan cafés en las bibliotecas?	Is it common that the universities have cafés in the libraries?
¿Es necesario que los estudiantes tomen café? ¿por qué sí o no?	Is it necessary that the students drink coffee? Why yes or why no?
¿Es necesario que la universidad venda café orgánico? ¿por qué sí o no?	Is it necessary that the university sell organic coffee? Why yes or why no?
¿Es verdad que el café gana mucho dinero? ¿por qué sí o no?	Is it true that the café earns quite a bit of of money? Why yes or why no?
¿Es difícil conseguir trabajo en el café? ¿por qué sí o no?	Is it difficult to find a job in the café? Why yes or why no?
Professions	
En tu opinión, ¿qué necesitas para obtener un puesto bueno? ¿necesitas los estudios universitarios? ¿necesitas experiencia práctica?	In your opinion, what do you need to get a good job? Do you need a university degree? Do you need practical experience?
¿Cuál es un buen sueldo?	What is a good salary?
¿Qué beneficios debe tener una empresa? ¿seguro médico? ¿plan de retiro?	What benefits should a company have? Medical insurance? Retirement plan?
¿Crees que los supervisores son justos?	Do you believe supervisors are just?
¿Crees que las empresas son justas con los empleados?	Do you believe companies are just with their employees?
¿Crees que todos los gerentes necesitan secretario/a?	Do you believe that managers need a secretary?
En tu opinión, ¿Es necesario que las personas se jubilen a los 65 años? ¿por qué sí o no?	In your opinion, is it necessary that people retire at 65 years of age? Why yes or why no?
¿Crees que las mayoría de las personas se jubilan a los 65 años?	Do you believe that the majority of people retire at 65 years of age?
Present Perfect	
¿Has trabajado en una empresa?	Have you worked in a company?
¿Has buscado un trabajo en el Internet? ¿en el periódico?	Have you looked for a job on the Internet? In the newspaper?

Appendix D (Continued)

¿Has visitado un país latino?	Have you visited a Latin American country?
¿Está abierto el café en la biblioteca todos los días?	Is the café in the library open every day?
¿Crees que el examen final para esta clase está terminado?	Do you believe the final exam for this class is finished?

Appendix E: Discussion Questions for Bulletin Board

Chapter 13
Vocabulary: Technology
Grammatical focus: Future

Instructions: Below you will find a list of questions related to Chapter11. Use these questions to guide either the bulletin board discussion or the chat room discussion with your class. These questions are a guide, you can use them in any particular order or you can add questions of your own. Make sure to provide students with **feedback** when appropriate. Provide students with **feedback in the bulletin board discussion**.

Situación 1	Situation 1
El futuro….Usa tu imaginación y escribe un párrafo describiendo la vida en el año 2050. ¿Qué tipo de tecnología habrá?, ¿Qué tipo de tecnología tendremos en las casas?, ¿Qué tipo de tecnología tendremos en el trabajo?, Etc., etc., etc.. ¿Qué tipo de ropa usaremos? ¿Qué tipo de comida comeremos?, ¿Cómo serán las casas?, ¿Cómo estudiarán los estudiantes?, Etc., etc., etc., Use your imagination and write a detailed paragraph describing what you think the future will be like and what type of technology we will have.	In the future…. Use your imagination and write a paragraph describing life in the year 2050. What type of technology will there be?, What type of technology will we have in our houses?, What type of technology will we have at work?, Etc., etc., etc.. What type of clothes will we use? What type of food will we eat?, How will our houses be?, How will students study?, Etc., etc., etc. Use your imagination and write a detailed paragraph describing what you think the future will be like and what type of technology we will have.
Situación 2	Situation 2
El futuro y tus deseos…., Usa tu imaginación y escribe un párrafo describiendo tus deseos para el futuro. Usa las palabras "Ojalá", "Tal vez", "Quizás" para describir tus deseos. Use your imagination and write a detailed paragraph describing your wishes for the future.	The future and your wishes…. Use your imagination and write a paragraph describing your wishes for the future. Use words like "Ojalá", "Maybe", "Hopefully" in order to describe your wishes. . Use your imagination and write a detailed paragraph describing your wishes for the future.

Appendix F: Coding Form

**Corrective Feedback Coding
Interaction Analysis Coding Form**

Instructor: _____
Type of Interaction: _____ Asynchronous _____ Synchronous
Date of Interaction: _____
Coder: _____

Column 1 Turn	*Column 2* Error Yes/No	*Column 3* Error Type	*Column 4* Corrective Feedback Yes/No	*Column 5* Corrective Feedback Type	*Column 6* Learner Response Yes/No	*Column 7* Learner Response Type

186

Corrective Feedback Coding Scheme
Interaction Analysis Codebook

Unit of Data Collection: The unit of analysis for this research study is the error treatment sequence. The error treatment sequence refers to the student initial turn containing an error, the instructor's response to the error, and the student reaction or response to the correction.

Error: An error is defined as an ill-formed language utterance, an unacceptable utterance in the target language. The various types of errors below will served as the a priori categories in the present study. It was also expected that new varieties of errors would be found due to the nature of interactions taking place in an asynchronous and synchronous environment, but this was not the case in this study.

E-01 Grammatical: a grammatical error constitutes the following types of errors: the lack of or misuse of articles, determiners, prepositions, pronouns, grammatical gender including noun/adjective agreements, verb tense, verb morphology, auxiliaries, subject/verb agreement, pluralization, negation, question formation, and word order.

E-02 Lexical: a lexical error includes inaccurate, imprecise, or inappropriate choices of lexical items such as nouns, verbs, adverbs, and adjectives. In addition, missing words due to a lack of vocabulary resources will also be considered a lexical error. Specific to the Spanish language, differences between ser and estar, conocer and saber, and por and para will also be considered lexical errors.

E-03 Orthographic Conventions: These types of errors include omissions or additions of accent and punctuation marks and letters unique to the Spanish alphabet. These include : á, é, í, ó, ú, ü, ñ, ¿, ¡.

E-04 Typographical and Spelling: A typographical error is one made while inputting text via a keyboard, the error is made despite the user knowing the spelling of the word. This usually results from the person's inexperience using a keyboard, from rushing, from not paying attention, or carelessness. A spelling error is one made when forming words with letters and the letters are not put in the acceptable order. In this study, it is impossible to know whether the learner made a typographical error or spelling error and therefore these will be put in the same category. It should also be noted that omission of specific orthographic marker such as accents and upside down question marks will not be considered typographical and spelling, these will be grouped in a category labeled orthographic conventions.

E-05 Unsolicited use of L1: use of the native language (L1) is not an error per se, but it is interesting to look at how instructors react to students' use of the unsolicited use of the

Appendix G (Continued)

L1. Literal translations that do not make sense in Spanish (example: "my bad" written as "mi mal") will also be considered a unsolicited use of L1. Proper nouns will not be marked as unsolicited use of L1.

E-06 <u>Multiple:</u> when more than one type of error occurs in a student turn (for example, lexical and grammatical) these will be coded as multiple. If a turn has several of one type of error, it will be coded that type and not multiple.

Corrective Feedback: Corrective feedback is defined as a response to a learner error made by the instructor that provides the learner with information about what is acceptable and unacceptable in the target language. Using Lyster and Ranta's (1997) findings of the various types of corrective feedback, the following a priori categories for corrective feedback were used in the present study. It was also expected that new varieties of corrective feedback would be found because of the nature of interactions taking place in an asynchronous and synchronous environment, but this was not the case in this study. Variations of existing categories were identified.

CF-01 <u>Explicit correction:</u> the explicit provision of the target-like form by the instructor. These corrections are often preceded by phrases such as "You mean," "Use this word," "You should say," etc. In electronic discussions, these explicit corrections may be preceded by phrases such as "Correction" or by employing all caps function to emphasize correction. Using *all caps* in chat rooms is widely accepted as 'screaming' within netiquette conventions.

CF-02 <u>Recasts:</u> the instructor's reformulation of all or part of a student's utterance excluding the error. Recasts provide the student with the target-like form and can come in various forms including repetition with change, repetition with change and emphasis. Recasts are implicit and are not preceded by phrases such as "You mean," "Use this word," "You should say," etc. Recasts also include translations in response to a student's use of the L1.

CF-03 <u>Opportunity to negotiate form:</u> will include metalinguistic feedback, clarification request, elicitation and repetition types of corrective feedback because these do not provide the target-like form to learners. They provide information about the error and leave the window open for negotiation. Previous research (Lyster and Ranta, 1997, Lyster, 1998) has categorized these corrective feedback types as negotiation of form, but this term is not clear and can lead to confusion. In this particular study, these corrective feedback types will be collapsed under the category *opportunity to negotiate form* to make the function of these corrective feedback types more salient.

CF-04 <u>Clarification requests:</u> indicating to the learner either that the utterance is not understood by the instructor or that the utterance is ill-formed in some way without providing the learner with the target-like form and that a repetition or a reformulation is

Appendix G (Continued)

required on the part of the student. This is typically done with questions such as "Pardon me?" "What do you mean by x?", "I don't understand" etc.

CF-05 <u>Metalinguistic feedback:</u> constitutes either comments, information, or questions that indicate to the learner that there is an error somewhere without explicitly providing the target-like form. These comments can be in the form of grammatical metalanguage such as asking if we use a certain tense in that sentence or can point to the nature of the error by stating to use a particular tense.

CF-06 <u>Elicitation:</u> instructor directly elicits the correct form from the learner. These elicitations can come in various forms: the instructor can allow the student to fill in the blank, can use questions to elicit the correct form, or can ask students to reformulate the utterance. Elicitation can also be preceded by some metalinguistic comment.

CF-07 <u>Repetition:</u> instructor repeats the student's erroneous utterance in isolation.

Learner Response: Response is defined as the student's immediate response in some way to the instructor's intention to draw attention to some aspect of the student's original written utterance. Following Lyster and Ranta's (1997) findings of response, the following a priori categories will be used in the present study.

R-01 <u>Results in repair:</u> the error on which the feedback focused is repaired by the learner.

R-02 <u>Needs repair:</u> the error on which the feedback focused is not repaired by the learner.

About the Author

Martha E. Castañeda was born in Honduras where she completed her elementary education before moving to the United States. In the United States, Ms. Castañeda completed her high school education and obtained a Bachelor's degree in Spanish from the University of North Florida. After obtaining her Bachelor's degree, Ms. Castañeda taught high school Spanish and it was in this capacity that she became interested in education. Ms. Castañeda continued her education and obtained a Master's degree in Spanish linguistics from the University of Florida. She worked as a visiting instructor at the University of Central Florida where she became interested in the use of technology to enhance language learning. This interest led to Ms. Castañeda enrolling in the Second Language Acquisition and Instructional Technology (SLAIT) Ph.D. program at the University of South Florida. While in the Ph.D. program, Ms. Castañeda was very active. She taught Spanish classes, ESOL classes, Methods classes, supervised interns, worked as the SLAIT program assistant, presented at numerous conferences, and published several papers. Ms. Castañeda has accepted a tenure-track position at DePaul University.