

NEGOTIATION OF MEANING AND CORRECTIVE FEEDBACK IN JAPANESE/ENGLISH eTANDEM

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This paper presents a comparative analysis of corrective feedback provided by participants in an eTandem interaction between university students in Japan and Australia who were learning each other's language. Corrective feedback provided to tandem partners during interaction via text-based Synchronous Computer Mediated Communication (SCMC) is compared to corrective feedback provided to tandem partners post-chat utilizing logs of the chat interaction. Results show that implicit corrective feedback on NNS errors occurred in the text-based SCMC interaction but not frequently. On the other hand, negotiation of meaning occurred most often to overcome communication problems during chat exchange rather than in direct relation to errors. This is a crucial element for L2 development since the learner finds himself/herself in the sort of context that allows for recognition of developmental gaps. Further, explicit corrective feedback utilizing conversation logs and exchanged by email achieved high rates of correction both in English and Japanese sessions. The strategy of sending post-chat corrective feedback is shown to be an effective eTandem language learning strategy providing learners with opportunities to focus on form in their L2.

INTRODUCTION

Advancements in communication technology have created opportunities for foreign language learners to access more authentic communication than is available in classroom interaction. The Internet now makes instant communication possible across vast distances for minimal cost. Synchronous computer-mediated communication tools (SCMC) allow learners to practice real-time communication online with native speakers of their target language. These possibilities have led to a rich and growing field of research into the application of such technology for second language learning. Previous research has explored intercultural communication and has analysed learner communications from an interactionist perspective. Text-based SCMC has received a lot of attention because logs of participant interactions can be accessed easily. Log data has proved to be an invaluable resource providing researchers with insights into learner interlanguage development. However, little attention has been paid to the use of logs for language learners to reflect on form. This paper looks at telecollaboration in the form of eTandem conducted between Japanese/English tandem partners. In addition to exploring negotiation and corrective feedback provided during tandem exchanges via text-based SCMC, this paper also examines the novel strategy of corrective feedback using logs which are sent post-chat by email. Research questions we attempt to answer in the study are:

1. What kinds of negotiations occur during synchronous English and Japanese chat sessions? How do the amount and types of negotiations compare to those in previous research?
2. Does corrective feedback on Non-Native Speaker (NNS) errors occur during synchronous English and Japanese chat sessions and in subsequent asynchronous email correction? If so, what types of error (e.g., lexical grammatical, pragmatic, idiomatic, typographical, other) receive most/least corrective feedback from the tandem partner in the tutor role?
3. Are there any quantitative and/or qualitative differences between synchronous and asynchronous corrective feedback in NS-NNS interaction (e.g., chat versus email feedback)?

What follows is first a brief overview of research to date on telecollaboration and language learner interactions via synchronous text-based CMC. The literature review then covers the unique affordances of text-based CMC for language learning. Previous research on corrective feedback in synchronous and asynchronous CMC is detailed, followed by a description of the tandem project conducted between Kanda University of International Studies (KUIS) and University of Western Sydney (UWS). The remainder of the paper details the methodology, results, discussion and conclusion, and finally recommendations for further research.

LITERATURE REVIEW

As interest in telecollaboration has grown, many studies have appeared which focus on intercultural aspects of communication and developing intercultural competence (Belz, 2003; O'Dowd, 2003, 2007, Ware & Kramsch, 2005). Other studies have taken an interactionist perspective analyzing participant interactions in terms of Long and Robinson's (1998) interaction hypothesis, which hypothesizes that negotiation of meaning will lead to interlanguage development (Blake, 2000; Blake & Zyzik 2003; Kötter, 2003; Smith, 2003, 2005; Sotillo, 2000). Recently, however, it has been argued that there is a need for a focus on language form in research on telecollaboration (Ware & Cañado, 2007), as fewer studies have looked into corrective feedback and focus on form in telecollaboration (Iwasaki & Oliver, 2003; Lee, 2006; Sotillo, 2005; Ware & O'Dowd, 2008). This study aims to add to this growing field by analyzing and contrasting synchronous and asynchronous feedback types provided during an eTandem exchange between learners of Japanese and learners of English.

Text-based SCMC

Text-based SCMC is an umbrella term covering a host of technologies that allow for almost instant transfer of text messages between users on different computers. These technologies include Internet Relay Chat, which requires that users connect via a server; network based programs that allow users to communicate across a local computer network; instant messenger programs allowing users to connect across the Internet; chat rooms in which multiple users can meet online; and learner interactions in virtual online environments (MOOS) in which users can not only chat but also change textual descriptions of rooms and objects. Text-based SCMC has several features that may make it an especially useful media for language learning. These features are outlined in the next section.

Unique Affordances of Text-based SCMC for Language Learning

Researchers have argued that text-based SCMC has unique potential as a language-learning tool. Features of text-based SCMC that may be beneficial to language learning are: the real-time nature of the communicative interaction, the textual nature of output, and chat logs. In contrast to asynchronous forms of textual communication such as email and bulletin boards, with text-based SCMC there is a need for quick replies to maintain the flow of conversation. In this way text-based SCMC is similar to spoken communication. In fact, SCMC is the "most interactive end of the CMC spectrum" (Paramskas, 1999, p. 17). Learners are forced to produce quick output in order to maintain their interlocutor's interest. In addition, as in spoken communication, language learners often need to modify their output in order to be properly understood by their interlocutor. Research has shown that like face-to-face (F2F) communication, communication via text-based CMC can result in varied amounts of negotiation of meaning both between NNS/NNS pairs (Blake, 2000; Pellettieri, 2000; Smith, 2003, 2005) and NS/NNS pairs (Iwasaki & Oliver, 2003; Kötter, 2001, 2003, Lee, 2006; O'Rourke, 2005; Tudini, 2003). One consistent finding of investigations of negotiation of meaning in text-based CMC is that lexical negotiations are far more common than grammatical negotiations (Blake, 2000; Lee, 2006; Pellettieri 2000; Tudini, 2003; Smith 2003), and negotiations focus more on overall meaning than on structure (O'Rourke 2005).

Although text-based SCMC is in some ways similar to spoken communication, there is also evidence to suggest that because of its textual nature, text-based SCMC has more potential for learners to notice gaps in interlanguage than does spoken communication. Discourse analysis of text-based SCMC has indicated it is a hybrid form of communication that has both some features of spoken language and some features of written language (Kern, 1995; Pellettieri 2000). It has also been shown that learners perceive communication via text-based SCMC to be a hybrid form (Kötter, 2003). The hybrid nature of text-based SCMC may combine the language learning benefits of the spoken and written forms of communication. It is possible that learners benefit not only from negotiation of meaning, which occurs in F2F conversation, but also from an increased potential for noticing of form that occurs with the written medium (O'Rourke, 2005).

In text-based SCMC learners are able to see the language that they just produced in the chat window, which gives increased opportunities for immediate self-correction. Two studies provide evidence for increased noticing in text-based SCMC. Lai and Zhao (2006) conducted a study comparing noticing of linguistic errors by L2 learners communicating face to face and by Internet chat and found that the learners who communicated by Internet chat were able to recall more instances of noticing than those who communicated F2F. Shekary and Tahirin (2006) looked at interactions between pairs of Persian learners of English online and found that the ratio of Language Related Episodes (LREs) was higher than in previous studies for F2F communication. They also investigated learning of noticed forms through post-tests targeting the forms focused on in the LREs. They found that more than three quarters of LREs were remembered in posttests 1-5 days after the interactions and around 57% were remembered in posttests three weeks after the interactions. Their study provides evidence that noticing in text-based SCMC may lead to acquisition.

Researchers have even reported that text-based SCMC can lead to increased L2 oral proficiency. A study by Payne and Whitney (2002) found a significant difference between the oral proficiency of a group that spent two of four hours of classroom time per week in a chat room, and a control group who did not have the chat time. The chat room group demonstrated greater gains in oral proficiency than the control group. They claim that in text-based SCMC L2 learners gain greater benefit from slower language processing while using similar cognitive processing as in face-to-face communication. Slower interaction has an effect of reducing the burden on working memory, which enables the learner to utilise more attentional resources on L2 lexicon and forms while maintaining the same interaction.

Another aspect of text-based synchronous CMC with special potential for language learning is that users can save and print a log of their conversation. Such logs have been used extensively by language researchers to analyse learner interactions both from the interactionist and sociocultural perspectives. Although the use of logs as a primary source of data has recently been criticized for missing some aspects of learner self-repair (Smith, 2008) and for only offering a limited picture of learner experience (O'Rourke, 2008), logs remain the primary data source for many telcollaborative studies.

However, little attention has been paid to how learners can use conversation logs as a language-learning tool. Schwienhorst (2003) found that learners in his eTandem project did not consult logs of their interactions even though they had access to such logs "partly because there was no task that required them to do so" (p. 438), and also because logs were an unfamiliar tool. He writes that logs could offer great benefits to language learners but "are too far removed from the learners' autonomous behaviour to be taken up" (p. 440). Schwienhorst goes on to say: "This is a tool that presents huge opportunities as a future learning resource, but which is not used by learners of their own account" (p. 440). In addition, Sotillo (2005) states that "L2 learners could also benefit from carefully examining chat logs" (p. 491). Although researchers have noted the great potential of logs as language learning tools, no research to date has examined strategies for using logs. Our research begins to explore this area by investigating how learners provide eTandem partners with corrective feedback using logs as a source of their partners' language production.

Types of Corrective Feedback

Corrective feedback in Second Language Acquisition (SLA) is a corrective response to a language learner's non-targetlike production (Li, 2010). Corrective feedback has the potential to draw language learner attention to non-targetlike aspects of language output. Corrective feedback is generally divided into explicit and implicit types. Explicit corrective feedback gives an overt indication that a learner's output is wrong. Implicit corrective feedback on the other hand encourages learners to modify their output without overtly indicating that a mistake has been made. Implicit corrective feedback can take the form of recasts and negotiation strategies. Recasts are a reformulation of a learner's erroneous output into a targetlike form, for example:

A: He like soccer.

B: He likes soccer.

Negotiation strategies on the other hand draw learner attention to a mistake in output without providing a correct targetlike form. Four types of implicit corrective feedback can be grouped together under the category of negotiation strategies (Oliver, 1995):

1. clarification requests
2. repetition
3. confirmation
4. comprehension checks

Clarification requests encourage the language learner to rephrase their output. For example "I don't understand" or "What do you mean?" Repetition occurs when the interlocutor repeats a learner's erroneous output, for example:

A: He go to school?

B: Go to school?

Confirmation is when interlocutors check to see if their understanding of a learner's statement is correct. For example:

A: Tennis is enjoyment.

B: So you like playing tennis?

Comprehension checks are used to check if the interlocutor understood. For example, "Do you understand?"

Corrective Feedback and SLA

Corrective feedback is thought to be effective because it provides language learners with negative evidence. While some researchers (Krashen, 1981; Schwartz, 1993; Truscott 2007) maintain that all that is needed for second language learning is positive evidence or examples of correctly formed language; other researchers believe that negative evidence or examples of incorrectly formed language is necessary for second language learning. Theoretical support for the role of negative evidence in SLA comes from the Interaction Hypothesis (Gass & Mackey, 2007) and the Noticing Hypothesis (Schmidt, 1990).

The Interaction Hypothesis maintains that corrective feedback resulting from negotiation of meaning is important for SLA. Negotiation of meaning is triggered when a breakdown in communication occurs in conversation leading to a modified utterance either from the L2 learner or their interlocutor. Either the learner needs to change what is said (i.e., modified output) in order to be understood by the native speaker or the NS needs to simplify speech (i.e., modified input) in order to be understood by the NNS. Both

modified input and modified output may lead to noticing of gaps in learner interlanguage. Such noticing may improve chances of subsequent acquisition of the noticed form. White (1987) argues that it is the “incomprehensible input” which promotes second language acquisition because such input creates opportunities for a language learner when he/she notices the gap between his/her current state of interlanguage and the target language. Further, Swain’s Output Hypothesis (1985, 1993, 1995) claims that L2 input itself is not sufficient for language acquisition:

Second language output may trigger certain cognitive processes necessary for second language learning. Negotiation of meaning is able to help this process because by becoming consciously aware of one’s own production, output can serve the metalinguistic function of helping to internalize linguistic form. (1995, p. 128)

Researchers have found strong empirical evidence to support the hypothesis that oral communication is beneficial to learner language development because it fosters negotiation of meaning (e.g., Gass & Mackey, 2007). Corrective feedback, including that arising from negotiation of meaning, provides opportunities for language learners to focus on specific linguistic forms and thus may lead to incidental, implicit language learning, which has been shown to be effective in increasing communicative competence (Long, 1996). Farrar (1992) reported that, in L1 acquisition, children’s linguistic errors receive corrective recast at a rate of 22%. Oliver (1995) found that in L2 face-to-face conversation between NS and NNS children (8-13 years old), NNS children received a total of 61% negative feedback on NNS errors: 22% of implicit negative feedback involving recast and 39% of other corrections such as clarification requests and confirmation checks.

Schmidt’s Noticing Hypothesis (1990) further claims that “noticing” of linguistic form by adult learners is especially important for language acquisition to occur. This claim is based on his own experience of learning Portuguese and on his analysis of his own language development with a native speaker researcher (Schmidt & Frota, 1986), where they found that Schmidt was able to produce linguistic items which were both included in input he received AND noticed by him in the output of people around him, (i.e., he was able to produce a form only after he noticed that people were using it, although these linguistic forms might have been actually taught in Schmidt’s language class previously). Schmidt therefore claims that corrective feedback is able to play an important role in promoting “noticing” in adult L2 learning. Schmidt has gone so far as to postulate that noticing may be necessary for converting input into uptake in second language learning. Corrective feedback is one way to foster such noticing.

The effectiveness of corrective feedback for second language acquisition has been confirmed in a recent meta-analysis by Li (2010). Li’s meta-analysis of 33 studies, both published and unpublished, which examined the effects of corrective feedback found a “medium overall effect for corrective feedback and the effect was maintained over time” (p. 309). Other research has shown that explicit corrective feedback is more effective than implicit corrective feedback (Ellis, 2006; Varnosfadrani & Basturkmen, 2009) Given these findings it is important to explore ways in which language learners can be exposed to both implicit and explicit corrective feedback in order to foster their L2 development.

Corrective Feedback and Text-based SCMC

Several studies have examined corrective feedback in text-based SCMC by looking at what types of errors receive corrective feedback and the type of corrective feedback delivered. Different participants and contexts have produced varied results. Iwasaki and Oliver (2003) examined implicit corrective feedback in NS/NNS interactions in Japanese. They reported around 22% of the NS responses to NNS non-targetlike turns contained corrective feedback. Of those non-targetlike turns that received corrective feedback more than a quarter resulted in modified output from the learner to a targetlike or closer to targetlike form. Morris (2005) looked at interactions between juvenile learners of Spanish completing a jigsaw task. He found no instances of explicit corrective feedback. Around 56% of learner errors received

implicit corrective feedback, and over 60% of learner errors receiving corrective feedback were repaired by the learner. Recasts made up only 5% of error corrections and the rest were negotiation strategies. Lee (2006) examined interactions between teachers of Spanish and learners of Spanish engaged in open-ended question and goal oriented activities. She found very high rates of corrective feedback on learner errors (73.2%) and a high rate of learner uptake (50%). Finally, Sotillo (2005) examined corrective feedback provided by both NS and NNS graduate students who were enrolled in a teaching certification course. The graduate students engaged in communicative and problem solving activities via [Yahoo! Messenger](#) with NNS learners. In Sotillo's study the overall correction rate of learner errors was 33%. Direct corrective feedback was quite high at 44% of all corrections, while 56% of corrective feedback was indirect. Of all correction episodes 37% resulted in successful uptake.

Corrective Feedback in Asynchronous CMC

Ware and O'Dowd (2008) examined asynchronous corrective feedback provided by peers in partnerships between learners of Spanish in the USA and learners of English in Spain and Chile. The pairings were divided into two treatment groups. One treatment group was dubbed *e-tutoring* and was required to provide weekly corrective feedback to their partner. The other treatment group was called *e-partnering* and was not required to provide corrective feedback. The study found much greater provision of corrective feedback provided by the e-tutoring partners than by those in the e-partnering condition. For the e-tutoring pairs overall 14.7% of total words were involved in LREs whereas for the e-partnering pairs a mere 0.003% of words were involved in LREs.

Although some studies have examined implicit corrective feedback in text-based SCMC (Iwasaki & Oliver, 2003; Lee, 2006; Morris, 2005; Sotillo, 2005), and other studies have looked at explicit corrective feedback in asynchronous CMC (Ware and O'Dowd, 2008; Zourou, 2008); no study to date has compared peer corrective feedback in text-based SCMC to asynchronous peer corrective feedback based on chat logs. This paper represents an exploratory study in this area.

SETTING

eTandem

The type of telecollaboration chosen for this project was eTandem (Cziko, 2004). Tandem language learning is a form of collaborative learning in which a pair of language learners team up to tutor their L1 and learn their partner's L2. The novice/expert language relationship of tandem can also be accomplished between non-native speakers provided that each partner in the L2 tutoring role has a much better command of the L2 than the partner in the learner role (see Lewis & Walker, 2003, for detailed explanations of tandem language learning).

Participants

The tandem partnerships for this project were made up of 21 students from a first-year general English class at Kanda University of International Studies (KUIS) in Chiba, Japan and 21 students from a second-year Japanese class at the University of Western Sydney (UWS) in Sydney, Australia. Two second-year English students from KUIS also volunteered to participate along with four third-year Japanese students from UWS in order to match the number of participants when some students were unable to participate. The L2 ability of the KUIS students was generally higher than the L2 ability of the UWS students, as all the KUIS students had studied English for six years in high school before the project, whereas the majority of the UWS participants were in their third semester of Japanese study at university and had not studied Japanese in high school. The participants from KUIS were all Japanese and ranged in ages from 18-21. The UWS participants on the other hand had a much greater range of ages and cultural backgrounds. Seven of the UWS participants were aged 17-20, six of them were 21-24, six were 25-29,

one was over 30, and five chose not to reveal their age. More than half of the UWS class was made up of either international students (ten individuals) or ethnic migrants to Australia who identified themselves as such (four individuals). The remainder of the class identified themselves as Australians.

Project Organization and Data

The project operated within a narrow time window due to differences between the timing of semester one at KUIS and UWS. The two semesters overlapped by just six weeks. This gave the participants about two weeks to prepare for, arrange a meeting time, and carry out each of the three chat sessions.

The tandem language learning sessions were conducted over the Internet using the freely available software, [MSN Messenger](#). MSN Messenger was chosen due to its ready availability, ease of use and popularity among young adults in Japan and Australia. MSN Messenger allows for text-based instant messaging, voice calls, and video conferencing as well as transfer of computer files over the Internet. Participants in this project, however, were only shown how to use the messaging function and were asked to use this function for their conversations. Japanese L2 participants practised word processing in Japanese prior to the tandem sessions, although most of them already knew how to type characters and sentences in Japanese.

The tandem pairs were first asked to write a short introduction about themselves outlining their name, age, interests and ambitions. Pairs were then assigned by the organizers in an attempt to match learners of similar ages and interests. The first session was conducted in the class time of the KUIS participants, while the UWS participants volunteered to gather in a computer laboratory outside of their class time. Unfortunately, a few UWS students were unable to attend the first session meaning that some triads had to be formed of two KUIS students with one UWS student for the first session only.

The second two sessions were arranged through email by tandem pairs outside of class time. Students were instructed to chat for half of the time in Japanese and for half of the time in English in an effort to encourage bilingualism, and were told to spend at least 30 minutes chatting in each language. For the first tandem session students were asked to chat about themselves and to find out some general information about their partner. In the second session students were asked to find out about their partner's university life, and for the final session students were asked to find out about their partner's culture. In the final session, we also encouraged them to talk about current, controversial issues if they felt confident to do so in their L2.

Participants were also instructed to send some language corrections to their partner based on a review of the chat logs via email after chat sessions 2 and 3. A copy of the instructions given to students is included in [Appendix A](#). However some students ignored the instruction to send corrective feedback. A total of 13 email corrections for English were sent by UWS students for the second session out of a total of 23 tandem meetings, and a total of 12 email corrections were sent out of a total of 21 tandem meetings in the third session. A few students also sent e-mail corrections for the first session. On the other hand, a total of 11 e-mail corrections for Japanese were sent by KUIS students for the second sessions out of a total of 22¹ tandem meetings while a total of 12 e-mail corrections were sent out of a total of 21 tandem meetings in the third session. For this study we chose the 11 tandem pairs for data analysis who met the same partner across all three chat sessions. Therefore, the relevant data in our study are (a) 33 synchronous MSN logs in English and Japanese (i.e., 11 pairs x 3 sessions) and (b) asynchronous e-mail corrective feedback on 21 English chat logs and 17 on Japanese chat logs.

In order to illustrate some of the characteristics of text chat and intercultural exchanges, an excerpt from English session 2 and an excerpt from Japanese session 3 by a pair, Leo² and his Japanese partner Mayumi, is reproduced in [Appendix Ba](#) and [Bb](#) respectively. The native speaker's feedback via e-mail on the partner's English/Japanese use is also provided in the right column. In the English session the pair is talking about Mother's Day, while they are conversing on the issue of whaling in the Japanese session.

METHODOLOGY

Analysis of Chat Logs

In order to answer the research questions listed in the introduction, we analysed the chat logs both qualitatively and quantitatively. To find the overall proportion of turns devoted to negotiation of meaning we utilized Varonis and Gass' model of negotiation of meaning (1985), which has also been followed in other studies (Blake, 2000; Lee, 2006; O'Rourke, 2005; Smith, 2003). We identified instances of negotiation of meaning consisting of up to four consecutive turns as shown in Table 1.

Table 1. *A Model of Negotiation of Meaning* (after Gass & Varonis, 1985)

Trigger		Resolution	
T	S	R	RR
Utterance involving problem(s)	Signal	Response	Reaction to response
Speaker	Hearer	Speaker	Hearer

An example of trigger, signal, response and reaction to response from our Japanese data with English translation is provided in Chat Excerpt 1. In this example, M (native speaker of Japanese) and L (learner of Japanese) were talking about regional differences between Tokyo and Osaka in Japan.

Chat Excerpt 1. An Example of Negotiation of Meaning from a Japanese Chat Session

	Text exchange in Japanese and Romanised transliteration	English translation
<i>Trigger</i>	M: あと は なまり とか。それ くらいかな？ (Ato-wa namari toka. Sore kurai kana?)	Another difference is <i>namari</i> . Maybe that's all.
<i>Signal</i>	L: なまり？ どういう いみ？ (Namari? Dooiu imi?)	<i>Namari</i> ? what does it mean?
<i>Response</i>	M: なまり = dialect or different accent (Namari=dialect or different accent)	<i>Namari</i> = dialect or different accent
<i>Reaction to Response</i>	L: ほうげん。 (Hoogen.)	Dialect

According to this model, a negotiation of meaning typically commences when the Hearer encounters an incomprehensible or ambiguous utterance (Trigger). Triggers may or may not be related to linguistic errors. When such a communication problem occurs, it may be indicated by the Hearer (Signal). Signals are a form of implicit corrective feedback also known as negotiation strategies and can take the form of clarification requests (What do you mean?), confirmation checks (Do you mean X?), comprehension checks (Do you understand?) and repetition.

A signal may lead to a response from the Speaker. The response can take the form of modified output in which the Speaker makes an utterance with the same meaning and different form, or an explanation in which the speaker explains the meaning. When the Speaker has knowledge of the Hearer's L1, as in tandem language learning, the response can also involve code-switching. Finally, the "reaction to response" of the Hearer indicates if the Hearer has understood the Response. For example "I understand." In the example given in [Chat Excerpt 1](#), as Speaker, M's use of the word "namari" triggered a negotiation of meaning. The Hearer repeated the word signalling a communication problem and requested an explanation of the word explicitly (clarification request). Then the Speaker code-switched and gave a meaning of the Japanese word *namari* in English, "dialect or different accent." Finally, the Hearer acknowledged that communication problem was solved and indicated understanding by giving the word *hoogen* ("dialect"), which is a synonym of *namari*.

In the context of NS/NNS interaction, both signals and responses can include **recasts** in which linguistic error in the speaker's utterance is corrected while the meaning is preserved. An example of recast from our data is given in Chat Excerpt 2 from an English chat session:

Chat Excerpt 2. An Example of a Recast from a NS to a NNS in an English Chat Session

Negotiation Parts	Chat log
<i>Trigger</i>	NNS: we didnt intend to bully him.
	NNS: because he looked so duty.
<i>Signal (Recast)</i>	NS: dirty?
<i>Response (Uptake)</i>	NNS: yes, dirty

Note that in text-based SCMC a negotiation sequence can be interrupted by some unexpected turns due to the delay between the time of posting a message and the time receiving the response. Sometimes participants will move on to a new topic before a negotiation is resolved by either modified input or modified output.

In our study, instances of negotiation of meaning are coded according to who initiated the instance: (a) Native Speaker (NS) initiated and (b) Non-native speaker (NNS) initiated. For NS initiated negotiations, we further divided instances according to whether or not the source of negotiation relates to NNS errors. Also, we counted the number of turns used for negotiation of meaning and involving Trigger-Signal-Response-Reaction to Response.

In order to classify errors receiving implicit corrective feedback during negotiation of meaning the system utilized by Iwasaki and Oliver (2003) was chosen for our analysis. Each of the NNS turns was rated either target like (TL) or not target-like (NTL) first, then NTL forms were further subdivided into typographical errors, lexical errors or grammatical errors. In addition to Iwasaki and Oliver's classification of errors, we added two more error types: pragmatic and idiomatic errors. Lexical errors for the English portion of the chats include incorrect word choice, incorrect word form, and collocation errors. Grammar errors include subject-verb agreement, tense, articles and singular-plural problems in English and the use of inappropriate case-marking particles, problems of verb/adjective conjugation and connections in Japanese. For English, spelling mistakes were classified as typographical errors, however, abbreviations and acronyms that are commonly accepted as part of the chat and instant messaging genres such as "TTYL" (Talk To You Later) were not counted as typographical errors. Pragmatic errors involve interpretive errors. One example of such error was found in our data in relation to Japanese nominal ellipsis where an English speaker may use a pronoun instead. In this example from a conversation about pets, a NNS of Japanese responded by giving his own name instead of his pet's name to the NS's question "名前は何ですか?" *namae-wa nan desu ka* (name-TOP what copula Question (lit. "What is (the)

name?"). Finally, idiomatic error or unnatural usage concerns the expressions that may be grammatical but may not be accepted in the target language, as idiomatic expressions should be used instead. An example from one of the Japanese sessions is an expression of *ikani arimasu ka* (literal translation: "How are you?"): this expression is not accepted but instead a NS would say *genki desu ka* (lit translation: "Are you well?"). Where a turn contained more than one type of error or multiple errors of the same type all NTL forms were counted separately.

NS responses to NNS errors were classified as either ignoring or providing corrective feedback (CF). CF was further subdivided into recasts and negotiation strategies. A response was counted as negotiation strategy if it was a clarification request, for example "What do you mean?"; a confirmation check, for example, "Do you mean X?"; a comprehension check "Do you understand?"; or a repetition of erroneous output. In an effort to assess the extent to which students were successfully able to adopt the role of language "tutor," the chat logs were examined and classified into successful and unsuccessful negotiation episodes. A negotiation episode was considered successful if the tandem partner in the role of learner produced modified output or acknowledged a correction. If there was no evidence of the learner having noticed the corrective feedback or modified input then the negotiation episode was classified as unsuccessful. Examples of successful and unsuccessful negotiations from the English portions of the exchanges follow in Chat Excerpts 3 and 4:

Chat Excerpt 3. An Example of a Successful Negotiation in an English Chat Session

Negotiation Parts	Chat log
<i>Trigger</i>	NS: Though beef is very popular. So is lamb. NS: so it is the terrible problem about enviroment.
<i>Signal</i>	NNS: please tell me the meaning of LAMB
<i>Response</i>	NS: Lamb. It's a baby Sheep.
<i>Reaction to Response</i>	NNS: oh thanks a lot!! NNS: i like lamb!! of couse eating NS: No problem! NS: Do you like lamb? I know not many people like it because of the strong taste and smell.
<i>Evidence of uptake indicating successful negotiation</i>	NNS: but in japan, lamb isn't so strong smells & taste. NNS: so, i like lamb very much !!

In the above example of a successful negotiation the NS indicated that she did not understand a word used by her tandem partner (lamb). The partner was quick to offer an English explanation of the word and the partner in the role of L2 learner promptly acknowledged the modified input "oh thanks a lot!!" The L2 learner used the new vocabulary item three times after receiving the explanation, which is evidence of uptake. Some researchers hypothesize that uptake may lead to acquisition (Ellis, Basturkmen, & Loewen, 2001).

Chat Excerpt 4. An Example of an Unsuccessful Negotiation in an English Chat Session

Negotiation Breakdown	Chat log
<i>Trigger</i>	NS: I'm 19...do you like to snowboard?
<i>Signal</i>	NNS: I've never played. Is it fan? NS: yes it is a lot of FUN

<i>No response</i>	NS: I want to do it this winter. how often do you go snowboarding?
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In the example of unsuccessful negotiation above the native speaker has deliberately recast a typographical error and has used capitalization to emphasize the corrective feedback (“FUN”). However, the NNS continued the conversation without either acknowledging the correction or using the corrected form in subsequent turns. It is impossible to tell from the log whether or not the NNS even noticed the corrective feedback. Due to the lack of either acknowledgement or modified output such negotiations are classified as unsuccessful.

Analysis of E-mail Corrective Feedback

Tandem partners were asked to review chat logs after sessions two and three and to correct their partners L2 errors. Corrective feedback based on the logs was all explicit corrective feedback as tandem partners were aware that the e-mails were sent for the purpose of correction. The same coding system used to classify error type for synchronous corrective feedback is used. E-mail corrective feedback is categorized as correct reformulation, incorrect reformulation and partial correct reformulation. We also noted if an error was ignored and whether or not a metalinguistic explanation was given with the correction. Examples of each corrective feedback category from corrections provided by UWS partners to their Japanese partners are given in the example below.

E-mail Excerpt 1. Examples of E-mail Corrective Feedback on English Errors

Corrective Feedback Category	L2 Learner Output	Tutor-role Participant Corrective Feedback	Notes
Correct Reformulation	They are 3 years older me	3 years older than me	
Incorrect Reformulation	really, cuz this whole world is being strange lately..	has being	
Partial Correct Reformulation	Japan doesn't have like Australian day	Japan doesn't have like Australian national day.	Indefinite article “a” is missing from correction along with the comparison with Australia
Metalinguistic Explanation	so in australia, is group very important?	you need a determiner ‘the group’ or you can make it non specific and use plural ‘are groups very important’	

RESULTS

Data Summary for Synchronous CMC (i.e., Chat)

Our data is summarized in Tables 2a and b below. It is comprised of 2000 turns in English sessions and 1613 turns in Japanese sessions. Turns were counted as each message produced when a participant pressed the “enter” key to send their message to the chat window. Unlike in face-to-face conversation in which a listener hears a message as it is produced, with text-based SCMC there is a delay between typing and sending a message. Faster typists may be able to send several messages while their interlocutor is still typing. Thus slow typists may need to choose between two or three different conversation threads for their response. In English sessions more turns were taken by NSs than NNs 1104 (55.2%) and 896 (44.8%)

respectively while in Japanese sessions NNSs took slightly more turns than NSs: 850 (52.7%) to 763 (47.3%).

Table 2. *Data Summary for Synchronous eTandem (Chat)*

a. *Turn Counts of English-Japanese Tandem Learning*

Session	Total No. of NS turns	Total No. of NNS turns	Total No. of turns
English	1104 (55.2%)	896 (44.8%)	2000 (100%)
Japanese	763 (47.3%)	850 (52.7%)	1613 (100%)

Table 2b presents a breakdown of NNS turns. In English sessions 500 (55.8%) turns were target-like (TL), and 376 turns (41.96%) were non target-like (NTL), in just 20 (2.23%) of NNS turns in English parts of sessions code-switching took place. In the Japanese sessions, there were total of 850 NNS turns which are composed of 457 TL turns (53.8%) and 329 NTL turns (38.7%). Within 329 NTL turns, 391 errors were identified. Further, there were 64 turns (7.5%) where NNSs code-switched to English when they were supposed to converse in Japanese.

b. *Breakdown of NNS Turns*

Session	No. of Targetlike turns	No. of Non-targetlike turns and non-targetlike items	Code-switched turns ^a	Total
English	500 (55.8%)	Turns 376 (41.96%) Items 634	20 (2.23%)	896
Japanese	457 (53.8%)	Turns 329 (38.7%) Items 391	64 (7.5%)	850

^aCode-switched turns mean changing the language to Japanese in English sessions and to English in Japanese sessions.

The ratio of English:Japanese turns in our data is 1.24:1. This is a more balanced ratio than reported in previous studies of eTandem such as O'Rourke (2005), which reported a ratio of 5.3:1 of English to German among tandem learners. Task-type may be an important factor here as in O'Rourke's study participants engaged in a writing/reformulation task, while in our study participants engaged in free conversation around suggested topics. It may be easier for participants to maintain a balance of tandem languages in relatively free conversation than when there is pressure to produce a written product. The writing/reformulation task may pressure learners into using the stronger L2.

Data Summary for Asynchronous CMC (i.e., E-mail Feedback)

A data summary for ACMC is given in Tables 3a and b where e-mail feedback was given on 21 English chat logs and 17 Japanese chat logs. For the English chat logs there were a total of 1471 turns of which 662 were NNS turns. There were a total of 301 NTL turns containing 541 errors. The Japanese logs comprised 1048 turns of which 552 turns belonged to NNSs: there were 315 TL turns, 198 NTL turns and 39 code-switched turns. Japanese chat logs involved 237 erroneous items.

Table 3. *Data Summary for Asynchronous eTandem (E-mail)*a. *Turn Counts of English-Japanese in the Chat Logs*

Session	Total No. of NS turns	Total No. of NNS turns	Total No. of turns
English	809 (55.0%)	662 (45.0%)	1471 (100%)
Japanese	496 (47.3%)	552 (52.7%)	1048 (100%)

b. *Breakdown of NNS Turns*

Session	No. of Targetlike turns	No. of Non-targetlike turns and non-targetlike items	Code-switched turns	Total
English	341 (51.5%)	Turns 301 (45.5%) Items 541	20 (3.0%)	662
Japanese	315 (57.1%)	Turns 198 (35.9%) Items 237	39 (7.1%)	552

In the following sections, we present our data analysis on corrective feedback on NNS errors, in eTandem chat sessions, followed by an analysis of negotiation of meaning unrelated to NNS errors. Finally, we give an analysis of e-mail corrective feedback.

Corrective Feedback on NNS Errors in Chat

Previous studies reported that corrective feedback was provided in online chat, although its extent was less frequent than in F2F conversation (Iwasaki & Oliver 2003). In our analysis, the number of turns related to NNS errors are counted according to whether the turn involves negotiation of meaning or not. Turns of negotiation involve “trigger,” “signal,” “response,” and “reaction to response” (Gass & Varonis, 1985), as explained earlier. Turns of negotiation of meaning are further divided into two categories, namely whether the negotiation turns are related or unrelated to errors. Table 4 summarises eTandem turns according to whether the turns are devoted to negotiation of meaning.

In English parts of tandem sessions a mere 12 turns or 0.6% of turns were spent on negotiating language errors. More time was spent negotiating communication difficulties that did not arise from language errors (6.6%). In Japanese sessions 20% of turns were used for Negotiation of Meaning (NoM) of which 3.3 % were related to errors and 16.7 % were unrelated to errors.³ Therefore, both in English and Japanese sessions the total number of turns spent on negotiation was much higher for communication difficulties unrelated to language errors.

Table 4. *Turn Counts on Negotiation of Meaning*

Session	No. of negotiation turns on errors	No. of negotiation turns unrelated to NNS language errors	No. of turns which do not involve negotiation	Total turns
English	12 (0.6%)	132 (6.6%)	1856 (92.8%)	2000 (100%)
Japanese	54 (3.3%)	269 (16.7%)	1290 (80.0%)	1613 (100%)

Rates of negotiation are noticeably higher in the Japanese language parts of tandem sessions than in the English parts. It is likely that this is a result of the different L2 ability levels of the tandems, as the L2 of the English learners in Japan was more advanced than the L2 of the Japanese learners in Australia.

Tables 5a and b display NS reactions to NNS NTL forms in English and Japanese sessions respectively. Only few instances of corrective feedback on errors were observed: just five out of 636 errors in English portions of chat sessions and 16 out of 391 errors in Japanese portions of chat sessions received corrective feedback from NSs. In our data less than 0.8 % and only 4.1% of the errors in English and Japanese portions of chat sessions respectively received corrective feedback such as confirmation checks and clarification requests. There was no single instance of recast in our Japanese data.

Table 5a. *Percentage of NS Reaction to NNS NTL Forms in English Sessions*

Type of NTL forms	Corrective feedback (CF) frequency	CF (%)	Ignore frequency	Ignore (%)	Total frequency	Total (%)
Typographical	3	2.4	120	97.6	123	100
Lexical	1	0.9	110	99.1	111	100
Grammatical	1	0.25	401	99.75	402	100
Pragmatic	0	0	0	0	0	100
Idiomatic	0	0	0	0	0	100
Other	0	0	0	0	0	100
Total	5	0.8	631	99.2%	636	100

Table 5b. *Percentage of NS Reactions to NNS NTL Forms in Japanese Sessions*

Type of NTL forms	Corrective feedback (CF) frequency	CF (%)	Ignore frequency	Ignore (%)	Total frequency	Total (%)
Typographical	8	4.9	155	95.1	163	100
Lexical	2	2.9	67	97.1	69	100
Grammatical	3	1.9	151	98.1	154	100
Pragmatic	1	50	1	50	2	100
Idiomatic	1	50	1	50	2	100
Other	1	100	0	0	1	100
Total	16 ^a	4.1	375	95.9	391	100

^aOf 16 instances, 13 involve implicit corrective feedback and 3 are explicit correction.

Next we will detail NNS responses to NS signals on errors as summarized in Table 6. In English sections of tandem sessions just five language errors received corrective feedback. Two of these efforts at corrective feedback on typographical errors appear to have been ignored by the NNS. Two other instances of corrective feedback, one on a lexical error and one a grammatical, error were acknowledged by the NNS, but did not lead to modified output, while the only instance of corrective feedback leading to modified output from the NNS was for a typographical error. In Japanese sessions, among the 16 instances of NS signals for NNS errors, three instances were ignored by the NNS while 13 instances were responded to by either modified output, acknowledgement or both. Although the frequency of NS corrective feedback is small, most feedback led to successful negotiation outcomes by NNSs (13/16 instances, i.e., 81.3%). Thus we can say that corrective feedback was effective when it was provided for

NNS errors. There were also three instances where NNSs corrected their own errors without NS corrective feedback, but they are not included in the count.

Table 6. *NNS Responses to NS Corrective Feedback*

Session	Frequency and Category of NNS Responses to NS Corrective Feedback	Ignore	Total No. of NS Non-targetlike triggers
English	3 (60%) - Acknowledgement 2 - Modified output/self-correction 1	2 (40%)	5 (100%)
Japanese	13 ^a (81.3%) - Modified output/self-correction 7 - Acknowledgement 8	3 (18.8%)	16 (100%)

^aIn the Japanese sessions, there were two instances where NNSs responded with both modified output and acknowledgement to NS signals.

Negotiation of Meaning Unrelated to Errors

Next we will detail negotiation of meaning unrelated to L2 learner errors. Although such negotiations do not fit the definition of corrective feedback given by Li (2010) because they do not respond to errors in learner output, we feel it is important to include negotiation of meaning unrelated to learner errors in this analysis as modified input arising from this type of negotiation can also make learners aware of gaps in interlanguage (White, 1987). At least one researcher (Lee, 2006) has counted negotiation strategies employed by NNSs as a form of implicit corrective feedback.

An examination of the data shows that a number of negotiations of meaning unrelated to errors occurred. These were related to communication problems or lexical items unknown to the hearer. One example of a communication problem in an English session follows:

Chat Excerpt 5. An Example of Negotiation of Meaning Unrelated to NNS Error in an English Session

NNS:	How was your GW holiday?
NS:	what's GW?
NNS:	GW is Golden Week. Isn't there GW in Australia?
NS:	i thought that's what you meant. We don't have GW in Australia...unfortunately

In this example the NNS has used a common Romanized abbreviation (GW) for a string of Japanese national holidays called *Golden Week*. The NS of English was unfamiliar with the Japanese abbreviation and gave a signal in the form of a clarification request. The NNS responded by explaining the abbreviation, which the NS acknowledged understanding.

Another example from a Japanese session is related to the issue of time difference between Japan and Australia where a pair needed to find out whether the time in question is Japan time or Australia time as in Chat Excerpt 6.

Chat Excerpt 6. An Example of Negotiation of Meaning Unrelated to NNS Error in a Japanese session
(The pair is organising the time for the next chat)

NNS:	8 3 0 でしょう？	(830 <i>deshoo</i> ? “Is 8:30 OK?”)
NS:	8 : 3 0 はにほんじかん？	(8:30 <i>wa Nihon jikan</i> ? “Is 8:30 Japan time?”)
NNS:	日本時間	(<i>Nihon jikan</i> “Japan time”)
NNS:	そう	(<i>soo</i> “yes”)
NS:	ok ありがとう	(<i>ok arigato</i> “ok thanks”)

Table 7 below displays results of NoM according to type of negotiation. Frequency counts are given for both NS-initiated and NNS-initiated instances. In English sessions, there are 33 instances of which 15 and 18 instances were initiated by NSs and NNSs respectively where clarification requests was the most frequent negotiation strategy type.

In Japanese sessions, we identified that nearly double the frequency of negotiation of meaning instances were initiated by NNSs (21 instances initiated by NSs versus 38 instances-initiated by NNSs). Regarding the type of negotiation, NSs used clarification requests and confirmation checks most frequently (7 times each) followed by comprehension checks (4 times), while NNSs used confirmation checks most frequently (26 times) followed by clarification requests (9 times). It is important to point out that the success rates of negotiation of meaning are very high (Tables 7 and 8): 86.6 % with NS-initiated and 88.9% of NNS-initiated negotiation of meanings in the English portion of chat sessions and 95.2 % with NS-initiated and 89.5 % with NNS-initiated negotiation of meaning in Japanese portion of chat sessions.

Table 7. *Negotiation of Meaning Unrelated to NNS Errors*

Session		Clarification request	Confirmation check	Comprehension check	Other	Total
English	NS-initiated NoM	10	2	1	2	15
	NNS-initiated NoM	13	4	1	0	18
	Total	23	6	2	2	33

Japanese	NS-initiated NoM	7	7	4	3	21
	NNS-initiated NoM	9	26	2	1	38
	Total	16	33	6	4	59

Table 8. *Outcomes of Negotiation of Meaning*

Session		Successfully negotiated	Unsuccessfully negotiated	Total instances
English	NS-initiated NoM	13 (86.6%)	2 (13.3%)	15 (100%)
	NNS-initiated NoM	16 (88.9%)	2 (11.1%)	18 (100%)
	Total	29 (87.9%)	4 (12.2%)	33 (100%)

Japanese	NS-initiated NoM	20 (95.2%)	1 (4.8%)	21 (100%)
	NNS-initiated NoM	34 (89.5%)	4 (10.5%)	38 (100%)
	Total	54 (91.5%)	5 (8.5%)	59 (100%)

Detailed analysis on successful instances of negotiation of meaning initiated by NNSs is shown in Table 9 where we can see that “explanation” in the target language is the most frequently provided response by NSs.

Table 9. NS Responses to NNS Signals of Communication Problems

Session	English	Japanese
Successful Outcomes	Explanations in English (11)	Explanations in Japanese (16)
	Code-switch (translation into Japanese) (3)	Code-switching (explanation or translation in English) (14)
	Reformulation (1)	Metalinguistic explanation (1)
	Acknowledgement (2)	Acknowledgement (2)
	Ignore (1)	Ignore (no chance to reply because no time) (1)
	(18 in total)	(34 in total)
Unsuccessful Outcomes	NNS did not react to NS response so success of negotiation is undetermined (2)	Explanation in Japanese (4) ^a
	(2 in total)	(4 in total)

^aTwo cases are related to proper nouns (*waraji matsuri* (“Waraji festival”) and *Morujibu* (“Moldives”)) and one case is related to a Japanese movie which were popular three years ago. The last case constitutes an example of topic change before L2 Japanese speaker answers a question by NS Japanese speaker.

We noted earlier that, in online chat, corrective feedback on errors was scarce especially in English sessions. However, our analysis shows that overall, online chat provided reasonable opportunities for NoM. In particular, NNSs took the initiative to signal communication problems in order to resolve them. This indicates that NNSs were actively involved in eTandem and NSs provided important information to resolve communication problems with NNSs. Some negotiations were ambiguous as to whether or not the NNS understood, as the NNS did not provide modified output or acknowledgement. Such negotiations were classed as unsuccessful.

E-mail Corrective Feedback

Participants in this eTandem project were requested to review the L1 portion of their transcripts and to send e-mail corrective feedback on errors within a week after sessions two and three. Table 10a shows a breakdown of NS e-mail corrective feedback on NNS errors for the English parts of chats. Table 10b shows e-mail corrective feedback for Japanese sessions. Note that all metalinguistic feedback for the Japanese sessions was followed by correct reformulation. However, for the English sessions there were four instances of metalinguistic explanation unaccompanied by reformulation.

An example of an e-mail correction for Japanese is shown in e-mail Excerpt 2 where the first sentence of the NS correction provides correct reformulation of the NNS’s Japanese and the second two sentences provide metalinguistic explanation in English.

E-mail Excerpt 2. Correction to a NNS Sentence

NNS Mistake

“わたしはかんぎをよむのがよくへたです。” (*Watashi-wa kang-i-o yomuno-ga yoku heta desu*).

NS Correction

わたしはかんじをよむのがにがてです。You made a spelling mistake. And if you want to say “‘Im poor at ...”, then you should use this collocation, “にがてです”.

Results of e-mail corrective feedback are summarized in Tables 10a and 10b:

Table 10a. *English E-mail Corrective Feedback on NNS Errors by NSs*

Error Type	Error Count	Ignore	Metalinguistic Explanation	Correct Reformulation	Incorrect Reformulation	Partial Correct Reformulation
Typographical	105 (100%)	35 (33.3%)	0	70 (66.6%)	0	0
Lexical	93 (100%)	43 (46.2%)	2 (2.1%)	48 (51.6%)	1 (1.1%)	0
Grammar	342 (100%)	127 (37.1%)	25 (7.3%)	201 (58.8%)	8 (2.3%)	3 (0.9%)
Pragmatic	0	0	0	0	0	0
Idiomatic	1 (100%)	1 (100%)	0	0	0	0
Total	541 (100%)	206 (38.1%)	27 (5.0%)	319 (59%)	9 (1.7%)	3 (0.6%)

Table 10b. *Japanese E-mail Corrective Feedback on NNS Errors by NSs*

Error Type	Error Count	Ignore	Correct Reformulation Followed by Metalinguistic Explanation	Correct Reformulation	Incorrect Reformulation	Partial Correct Reformulation	Other ^a
Typographical	94 (100%)	32 (34.0%)	6 (6.4%)	56 (59.6%)	0	0	0
Lexical	40 (100%)	15 (37.5%)	5 (12.5%)	19 (47.5%)	0	1 (2.5%)	0
Grammar	99 (100%)	33 (33.3%)	12 (12.1%)	51 (51.5%)	1 (1.0%)	0	2 (2.0%)
Pragmatic	2 (100%)	0	0	1 (50.0%)	0	0	1 (50.0%)
Idiomatic	2 (100%)	1 (50.0%)	0	0	0	0	1 (50.0%)
Total	237 (100%)	81 (34.2%)	23 (9.7%)	127 (53.6%)	1 (0.4%)	1 (0.4%)	4 (1.7%)

^aInstances of “other” include a NS’s indication that she could not understand the NNS’s sentence signalled orthographically (i.e., “?”) and by highlighting the sentence in red to show that the sentence has some problem.

In both English and Japanese sessions overall NSs provided some form of error feedback to almost two thirds of the NNS errors. 65.8 % of errors in Japanese received corrections (i.e., only 34.2% of errors were ignored), while 61.9% of errors in English received correction.

It is interesting to note that the English chat feedback included 11 corrections to unnatural sounding though not grammatically incorrect phrases as follow:

1. Used a more common non-count form of a noun that can be both count and non-count
2. Changed verb tenses to a more appropriate tense (2)
3. Added an adverb of quantity
4. Omitted an unnecessary word
5. Inserted a modal verb (2)
6. Changed an adverb to a comparative
7. Advised the NNS not address people in the third person
8. Changed a subordinate clause to a single word
9. Inserted an adjectival phrase

E-mail feedback on Japanese errors contained 16 instances of NS corrective feedback unrelated to errors (which hence are not included in Table 6 above). They are:

1. Changed polite expressions to casual ones (6)
2. Improved expressions such as particle omission (8)
3. Changed NNS expression to more idiomatic one (1)
4. Misunderstanding by the NS, thus wrong correction (1)

It should also be noted that there were large individual differences in rates of e-mail corrective feedback between tandem pairs. Some partners attempted to correct nearly all of their partner's errors while other partners selected just a few errors for corrective feedback. Two Japanese participants in the tutor role also corrected their own errors in the e-mail feedback, probably in an effort to provide a better model for their chat partner.

The amount of e-mail corrective feedback in both Japanese and English sessions is in stark contrast with the text-based SCMC corrective feedback where only 4.1% of Japanese errors and 0.8% of English errors received correction. Perhaps 30 minutes of chat was not long enough to provide corrective feedback when a particular topic was given to the participants to converse within a limited time, as participants needed to focus primarily on communication. In addition, it is possible that participants felt that error correction would disturb the conversation flow. Finally, it may be that participants' awareness that they would send corrective feedback after a chat session freed them to focus more on meaning than on their partners' form during synchronous sessions.

DISCUSSION AND CONCLUSION

We have presented qualitative and quantitative analyses of negotiation of meaning in chat transcripts involving two languages, English and Japanese. The eleven partnerships that completed all three chat sessions were used as the corpus for data analysis for SCMC (33 chat logs each for English and Japanese sessions for a total of 66) and 38 chatlogs (21 English and 17 Japanese) for data analysis for ACMC. It can be seen from the data that many partnerships took advantage of the possibilities of text-based SCMC

for focusing on form. Unfortunately, some pairs missed part of this opportunity by failing to send e-mail corrections to their partner.

On the basis of an exhaustive analysis of this data the three research questions posed in the introductory section may now be answered as follows:

Question 1 asks whether negotiation of meaning occurs in our chat sessions and how the types and amounts of negotiation compare to previous studies. Our data shows that negotiation of meaning did occur in synchronous chat sessions in both English and Japanese. 7.2% and 20 % of the total turns in English and Japanese sessions respectively turned out to be used for negotiation of meaning. It is useful to compare these overall rates of negotiation to other tellocollaborative studies that have reported on total turns devoted to negotiation.

Studies which have had NNS/NNS learners engage in more structured tasks have resulted in higher rates of negotiation than found in our data. Smith's (2003) study which had learners engage in jigsaw and decision making tasks resulted in around 30% of turns devoted to negotiation of meaning. Similarly Pellettieri's (2000) study which had learners engage in open discussion and jigsaw tasks reported an overall negotiation rate of 34%. On the other hand Tudini's (2003) study which examined Italian L2 learner interactions with Italian native speakers in chat rooms yielded an overall negotiation rate of just 9%. In Tudini's study "Students were simply asked to chat with NSs with a view to evaluating the live chat as a possible teaching and learning tool" (p. 148). It is apparent that task type can have a strong effect on overall rates of negotiation.

Tellocollaboration can have many benefits apart from language learning such as increased intercultural awareness (Belz, 2003; O'Dowd, 2007; Ware & Kramsch, 2005) and positive effects on motivation (Kötter, 2003; Leahy, 2001). However, for those teachers wishing to expose their learners to language learning benefits arising from negotiation of meaning, structured tasks such as jigsaw are likely to foster more negotiation than free conversation or discussions around simple topics.

An imbalance in the rate of NoM between the two L2s of the tandem pairings in our study is evident (7.2% of English session turns and 20% of Japanese session turns). This imbalance is most likely due to the different L2 ability levels of the tandem partners. From the perspective of tandem language learning in which it is often very difficult to match learners of similar L2 ability, careful choice of different tasks for each target language might mitigate an imbalance of negotiation arising from asymmetrical L2 abilities. To give a somewhat extreme example; if one class of tandem participants has beginner L2 ability while the other class has advanced L2 ability, simple tasks such as finding out basic information about your partner's daily life may result in ample negotiation for the weaker L2, whereas more complex tasks such as debating a controversial topic or jointly preparing a presentation may be necessary to give rise to sufficient levels of negotiation in the stronger L2.

Regarding types of NoM, our data suggest that NoM to overcome communication difficulties was much more frequent than NoM related to errors. It is possible that this occurrence arises from a reluctance by participants to take on a didactic role. Participants may be more comfortable asking for help in their L2 when they don't understand than they are in pointing out their partner's L2 language errors. Kötter (2003) put forward similar reasoning for a lack of recasts and repeats in his corpus of interactions between North American learners of German and German learners of English. He states that one reason learners were reluctant to correct their partners was that they did not want to appear "more knowledgeable or more proficient than the other participants in a conversation" (p. 158).

Question 2 relates to corrective feedback. According to our analysis, corrective feedback was provided at a very low rate in synchronous eTandem learning: just 0.8% of total errors in English sessions and 4.1 % of total errors in Japanese sessions. Hence, it is not possible to establish "what types of error (e.g., lexical grammatical, pragmatic, idiomatic, typographical, other) receive most/least negative feedback from the

NS?” Indeed, only 16 errors received six different types of corrective feedback in the Japanese sessions. Yet the correction percentage turns out not to be a valid measurement for the purpose of comparing corrective feedback across error types for this study. Thus idiomatic errors received 50% of corrective feedback, which looks like a good result. However, the raw number of occurrences of idiomatic errors is two, with only one of those errors receiving corrective feedback.

The overall ratio of corrective feedback in this study is notably lower than that of other studies that have counted L2 learner errors and partner corrections in CMC to calculate a ratio of corrective feedback on errors. A comparison with other studies indicates that age, educational background, and social relationship between participants may be important factors mediating the type and amount of corrective feedback provided. In Lee’s (2006) study NS Spanish teachers were paired with NNS Spanish learners and 73% of learner errors received corrective feedback. Similarly, in Sotillo’s (2005) study pairing graduate students in a teaching course with L2 learners, NNS graduate students provided corrective feedback on 48% of learner errors while NS graduate students provided feedback on 29% of learner errors. It is likely that perceived role of learner/teacher in these studies led to more corrective feedback being provided. Language teachers are also likely to be more confident and comfortable providing corrective feedback.

Iwasaki and Oliver’s (2003) study looked at chat in Japanese with similar chat pairings to our study. Australian university students learning Japanese as a second language were paired with Japanese, adult native speakers in Japan. In their study around 14% of NNS non-targetlike forms received implicit corrective feedback from Japanese NSs. This is also much higher than in our study. It is possible that the NS in this study perceived themselves to be in more of a tutor role than participants in our eTandem. Task type may also be a factor. However, Iwasaki and Oliver do not make explicit the exact instructions that they gave to participants and whether or not their participants were encouraged to provide corrective feedback, saying just that “Both NNSs and NSs had the instructions for “chatting” on a handout and this was written in their native language” (p. 64).

It is important to note that the relationship between learners in eTandem is quite different to that of the experimental studies outlined above. In eTandem the power relationship between learners is equal as tandem partners are expected to spend equal amounts of time in language learner and language expert roles (Brammerts, 2003). Zourou (2009) points out that the symmetrical power relationship of eTandem tends to lead to less corrective feedback than studies like those above which have an asymmetrical power relationship of NS/NNS or teacher/learner.

The almost total absence of explicit corrective feedback during text-based SCMC in our study is consistent with previous studies. Only three instances of explicit corrective feedback were found in our corpus. Morris (2005) also found no instances of explicit feedback amongst young learners of Spanish. Similarly, Iwasaki and Oliver (2003) did not report any explicit corrective feedback in their study and Lee (2006) found very few instances explicit corrective feedback (2.5%). Interestingly in Sotillo’s (2005) study NS tutors gave very little explicit corrective feedback (3%) whereas NNS tutors provided a good deal of explicit corrective feedback (34%). There are two possible reasons for the generally low rates of explicit feedback in text-based SCMC. One factor may be that participants do not wish to interrupt the flow of conversation by giving explicit corrective feedback. Another reason may be cultural. Sotillo speculated that perhaps “NS partners were following politeness forms of American culture that discourage the correction of regional or foreign language use patterns” (p. 486). Aspects of Australian, Japanese and the other varied cultures of participants from UWS may also have influenced the provision of corrective feedback. However, a detailed survey of participant attitudes to providing corrective feedback would be needed to shed light on this factor.

Question 3 compares synchronous and asynchronous corrective feedback. Striking differences in type and amount of corrective feedback between synchronous and asynchronous eTandem modes are apparent.

NNS non-targetlike turns receiving corrective feedback from tandem partners in the synchronous and asynchronous modes were 0.8% to 60.4% respectively in English sessions and 4.1% to 65.8 % in Japanese sessions. Thus our analysis indicates that tandem partners tended not to provide corrective feedback in online sessions, whereas post-chat corrective feedback on synchronous textual output resulted in quite high rates of correction.

In the asynchronous mode (i.e., e-mail) NSs provided metalinguistic explanations in addition to reformulation of ungrammatical items/forms. The rate of metalinguistic explanation was about 5% of total corrective feedback for learners of English and about 10% of total corrective feedback for learners of Japanese. Ware and O'Dowd (2008) also noted that in their asynchronous telecollaborative pairings of American learners of Spanish and Spanish learners of English, Spanish partners provided much more metalinguistic commentary in corrections (60.1%) than did the American partners (5.5%). Ware and O'Dowd stated that the "Spanish students' greater familiarity with metalinguistic terminology may be related to their participation in foreign language classes throughout elementary and secondary education" (p. 51). It is possible that the same factor may have contributed to Japanese partners providing nearly double the metalinguistic explanations than their counterparts in Australia in our study. Japanese learners of English must take English language classes all through junior high school and high school and these classes have a strong grammar-translation focus. In Australia on the other hand, foreign language classes are not a curricular priority (Mueller, 2003). In addition, it is possible that the Japanese participants knew more about their L1 grammar than Australian participants as a result of their elementary and high school education. In Australian education, Dulay and Burt (1973) overstepped their findings of "natural sequences" in children's acquisition of ESL and made claims about the uselessness of grammar teaching. This led Australian education authorities to remove grammar from curricula (Dyson, 1996). As a result, the teaching of traditional English grammar in Australian schools disappeared in the 1960s and 1970s (Mulder & Thomas, 2009), and has only made a comeback in recent years with traditional grammar to be taught as part of the national English curriculum starting in 2011 (Ferrari, 2009, 2010).

One special advantage of providing corrective feedback in the asynchronous mode for tandem partners in the L2 tutor role is that they have more time to identify and explain their partner's L2 errors, while partners in the L2 learner role also have plenty of time to consider corrections to their output. E-mail corrective feedback may promote language awareness not only for the NNSs but also for NSs about their own mother tongue. Otsu (2005) hypothesizes that understanding one's mother tongue structures and functions may play an important role in analyzing and using second language.

Another advantage that asynchronous corrective feedback based on chat logs seems to have over feedback provided during text-based SCMC is that ASCMC feedback provided a more balanced correction ratio across different error types. As was noted in the literature review several studies have shown that lexical errors receive more corrective feedback than grammatical errors in text-based SCMC (Blake, 2000; Lee, 2006; Pellettieri 2000; Tudini, 2003; Smith 2003). The asynchronous corrective feedback in our study, however, showed a fairly well-balanced ratio of feedback across different error types. Japanese participants receiving asynchronous corrective feedback on their English benefited from corrections on 67% of typographical errors, 54% of lexical errors and 63% of grammatical errors. Participants in Australia received e-mail corrective feedback on around 60% of Japanese typographical errors, 63% of lexical errors and 67% of grammatical errors.

Our study was not free of problems, however. For instance, the overall rate of participation in sending feedback by e-mail was just over 50% of all participants (23 corrective feedback e-mails to 44 transcripts in English sessions and 23 corrective feedback e-mails to 43 transcripts in Japanese sessions). Given the significance we attribute here to corrective feedback provided by reviewing chat logs, more research is needed into ways of ensuring that learners take advantage of chat logs when they have the opportunity.

RECOMMENDATIONS FOR FURTHER RESEARCH

One interesting strand for further research is to investigate how task type can affect the balance of languages between eTandem pairings with uneven L2 abilities. It is evident that choice of task may play a role in the balance of languages used in eTandem. Research revealing how task type affects L2 ratio in eTandem for pairings with asymmetrical L2 ability would be of great benefit to teachers in planning future eTandem projects.

Research is also needed to assess the efficacy of post-chat e-mail corrective feedback. While the provision of such feedback seems to present a great opportunity for learners to reflect on errors and gaps in their output, learners may not necessarily take advantage of this opportunity. As L2 writing teachers know, corrective feedback often ends up gathering dust on a shelf after receiving only a perfunctory glance from learners. Just as it appears to be necessary to push learners to give corrective feedback in telecollaboration (Ware & O'Dowd, 2008), it may also be necessary to push learners to reflect deliberately on corrective feedback. Longitudinal studies are also needed to investigate if post-chat corrective feedback based on chat-logs which are reviewed by students actually facilitates long-term changes in interlanguage.

In conclusion, a combination of learner interaction via synchronous text-based CMC combined with post-chat corrective feedback seems to be a CALL learning strategy with great potential for improving both L2 communicative competence and accuracy. It may offer “the best of both worlds” combining the benefits of negotiation of meaning and resultant implicit corrective feedback in the synchronous mode with explicit corrective feedback in the asynchronous mode. This learning strategy certainly merits further investigation.

APPENDIX A

Tandem Language Learning Project

Last Wednesday you finished your first chat session with your tandem language learning partner in Australia. You will need to complete two more chat sessions with your partner as part of your coursework this semester.

What should I do?

For each chat you will need to go through the following steps:

1. Prepare discussion questions to ask your partner.
2. Use e-mail to organize a meeting time with your partner.
3. Chat for at least 30 minutes in English and 30 minutes in Japanese. (If you chat for longer that's good!)
4. Save your chat transcript as a Word document.
5. Use your chat transcript to send some language corrections to your partner within a week so that both you and your partner have a chance to revise and improve their English/Japanese before the next session.
6. Write a reflection on your tandem language learning experience and make a plan to improve your next tandem language learning session.

What should I hand in?

After each chat session you will need to e-mail the following to your teacher:

1. A copy of your discussion questions.
2. A copy of your chat saved in a Word document.
3. E-mail a copy of your language suggestions and corrections to your partner as well as to Jack.
4. E-mail your reflections and plan to your teacher.
5. It is up to you to organize a chat time with your partner. Make sure to finish your chat and e-mail all of your documents to your teacher by the following deadlines.

Chat 1 documents: **Friday, May 11**

Chat 2 documents: **Friday, May 25**

Chat Topics

For chat two you should find out some more information about your chat partner. You should prepare questions in English about your partner's background and life. You might ask about his or her family, friends, favorite pastimes, daily routine, future dreams, best memory, worst memory, growing up etc.

For chat three you should discuss culture. You will need to prepare questions in English to ask about Australian culture. You might ask about festivals, popular sports, popular music, ceremonies, holidays etc. You should also be ready to answer your partner's questions about Japanese culture.

APPENDIX B

a. A chat log excerpt from English session 3 with Leo (L= native speaker) and Mayumi (M= learner of English) with language corrections via e-mail

Turn No.	Typist	Chat log	L's feedback on M's use of English via e-mail
1	M:	hi!	
2	L:	Hi M	
3	M:	how are you?	
4	L:	great thanks, so do you know what topics you want to talk about	
5	M:	yeah,	
6	M:	i prepeare	
7	L:	today is cultural right	
8	L:	?	
9	M:	cultural right?	
10	M:	for example?	
11	L:	well i think we have to discuss australian and japanese culture	
12	L:	so it could be anything	
13	L:	music, food, holidays	
14	M:	ok.	
15	L:	etc	

16	M:	do you know the mother's day?	'Do you know what mothers day is?' or 'Have you heard of mother's day?'
17	L:	yeah we have it today	
18	L:	how about in japan?	
19	M:	yes! is there in australia?	Make sure you don't miss the 'subject'. Is there (mothers day) in Australia?
20	L:	yes today	
21	M:	today is the mother's day,	When talking about special days like Christmas, Easter or Mothers day, we don't need a determiner (the)
22	L:	im at my mothers house now	
23	M:	i thought it's only japanese culture.	Remember tense. Because this is past you need to write 'it was' rather than 'it's'. Also a useful phrase to remember is; (something) is a part of Japanese culture.
24	L:	no they have it in europe, england, japan, america and even korea	
25	L:	but in korea i think its parents day	
26	M:	oh,really?	
27	M:	thats great!	

b. A chat log excerpt from Japanese session 3 with Leo (L=learner of Japanese) and Mayumi (M=Native Speaker) with language corrections via e-mail

Turn No.	Typist	Chat log (Romanized transliteration & English translation)	M's feedback on L's use of Japanese via e-mail
1	M:	オーストラリアではくじらのにくをたべない のですか？ (<i>Oosutoraria-dewa kujira-no niku-o tabenaino desu ka?</i>) “Don't you eat whale in Australia?”	
2	L:	問題は日本とノルウェーしかたべないよ (<i>Mondai-wa nihon-go noruwee-shika tabenai yo</i>) “The problem is that no one but Japan and Norway eats [whale].”	
3	L:	アメリカとかオーストラリアはほげいをやめ てほし (<i>Amerika toka Oosutoraia-wa hogee-o yamete hoshi</i>) “America and Australia want to stop whaling”.	やめてほしい
4	M:	でも日本でもすーぱーとかでくじらのにく をうってるのみたことないよ (<i>Demo nihon-demo suupaa toka-de kujira-no niku-o utteruno mitakoto nai yo</i>) “But in Japan I have never seen whale meat sold at supermarkets and places like that.”	

5	L:	けど日本人はくじらのにくをまだたべたい (<i>Kedo nihonjin-wa kujira-no niku-o mada tabetai</i>) “But Japanese still want to eat whale.”	くじらのにくをまだたべたがっている (食べたがっている)
6	M:	むかし せかいで ほげいがきんしされたよね (<i>mukashi sekai-de hogee-ga kinshi sareta yo ne</i>) “A long time ago, whaling was banned in the world.”	
7	L:	その時オーストラリアもほげいしたよ (<i>sono toki Oosutoraria-mo hogee shita yo</i>) “At that time, Australia was also engaged in whaling.”	
8	M:	くじらにくの せんもんてんみたいのはすこ しあるよ (<i>kujira niku-no senmonten mitai no-wa sukoshi aru yo</i>) “There are a few shops that specialize in [the sale of] whale meat.”	
9	L:	けどにくたべてない けどにくはたべてない (<i>kedo niku tabete nai kedo niku-wa tabete nai</i>) “But (we) didn’t eat meat, but didn’t eat meat.”	けどにくはたべてない
10	L:	くじらのあぶらをつかいました (<i>kujira-no abura-o tsukaimashita</i>) “We used whale oil.”	
11	M:	ほげいして どうしたの? がいこくにうった の?? (<i>hogee shite doo shita no? Gaikoku-ni utta no??</i>) “So what did you do after catching whale? Did you sell it to foreign countries?”	
12	M:	なんのために あぶらをつかったの? (<i>nan-no tame-ni abura-o tsukatta no?</i>) “What did you use [whale] oil for?”	
13	L:	あぶらの lamp (<i>abura-no lamp</i>) “Oil lamps.”	
14	M:	いま ほげいしているくにが すくないから、 くじらが ふえすぎているってきいたよ (<i>ima hogee shite iru kuni-ga sukunai kara kujira-ga fuesugite irutte kiita yo</i>) “I heard that the number of whales is increasing excessively because there aren’t many countries which practice whaling.”	
15	M:	ああ あぶらのランプね (<i>aa abura-no ranpu ne</i>) “Ohh oil lamp.”	

16	L:	そうよ (<i>soo yo</i>) “That’s right.”	
17	M:	なんで ほげいをやめてほしいの？ (<i>nan-de hogee-o yamete hoshii no?</i>) “Why do you want [people] to stop whaling?”	
18	M:	くじらがすきな の？？ (<i>Kujira-ga sukina no?</i>) “Is it because you like whales?”	
19	L:	だから私の意見は一年で日本じ n (<i>dakara watashi no iken-wa ichinen-de nihonjin</i>) “So my opinion is in one year Japanese”	
20	L:	は 1 0 0 0 とか 2 0 0 0 くじらをつかまてもいい (<i>wa 1000 toka 2000 kujira-o tsukamaete mo ii</i>) “are OK to catch 1000 or 2000 whales.”	1 0 0 0 とか 2 0 0 0 匹くじらをつかまえてもいいと思う 私の意見は～～です。or 私は～～だと思ふ。

NOTES

1. There is one more English session than Japanese (23 vs. 22) because in one session the pair chatted in English but ran out of time for chatting in Japanese. They agreed to meet again to chat in Japanese, but were unable to do so.
2. Both Leo and Mayumi are fictitious names.
3. Examples of NoM unrelated to errors can be found in [Excerpts 5](#) and [6](#).

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