The Negotiation Model in Asynchronous Computer-mediated Communication (CMC): Negotiation in Task-based Email Exchanges

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ABSTRACT
Based on recent studies, computer-mediated communication (CMC) has been considered a tool to aid in language learning on account of its distinctive interactional features. However, most studies have referred to synchronous CMC and neglected to investigate how asynchronous CMC contributes to language learning. Asynchronous CMC possesses features distinguishable from synchronous CMC (e.g., more accurate, complex, formal, and longer utterances than those in synchronous interactions). The discourse structure in such interactions should be different from that in synchronous interactions, and it is necessary to investigate how such features can facilitate second language acquisition. This study investigates task-based email interactions among 24 native speaker–non native speaker (NS-NNS) dyads with respect to the negotiation structure and strategies followed in asynchronous CMC. The findings underscore the potential of syntactic development, the necessity of instruction in effective feedback strategies, and the distinguishable negotiation structure of asynchronous CMC.

KEYWORDS
Computer-mediated Communication, Negotiation of Meaning, Email, Asynchronous CMC, Interactional Features

INTRODUCTION
Computer-mediated communication (CMC) has become one of the primary modes of communication and has unique interactional features as compared to those in traditional modes of communication. CMC is similar to written discourse (e.g., a letter) in that since it is text-based communication, nonverbal cues are unavailable. It is also similar to conversation in terms of the immediacy of responses.

Previous studies on CMC indicate that it fosters a positive environment for language learning in a variety of ways: (a) quantity of interaction (Braine & Yorosu,
While many of these studies emphasize learners’ productions in or attitude toward CMC as compared with face-to-face interaction, the differences between synchronous and asynchronous CMC have been neglected (see, however, Sotillo, 2000). Although synchronous and asynchronous CMC are both text-based, significant differences exist between them. Synchronous CMC (e.g., chat) is more similar to face-to-face interaction because of its instantaneity. Sotillo (2000) indicates that synchronous CMC, like face-to-face interaction, contains more informal speech and various discourse functions (e.g., requests, responses, apologies, greetings, complaints, and reprimands). Such interactional differences between the two modes imply that each provides distinctive language learning opportunities.

Asynchronous CMC gives second language (L2) learners more time to understand their partners’ utterances and to plan, produce, and edit their own. Planning time is claimed to be crucial for language learners (Crooks, 1998; Skehan, 1998; Wigglesworth, 1997; Wendel, 1997; Ortega, 1999). Ortega (1999), for example, suggests that planning provides learners with increased opportunities for focus on form, which has been claimed to promote second language acquisition (SLA) (Long & Robinson, 1998; Doughty & Varela, 1998). In fact, Sotillo (2000) states that asynchronous CMC promotes the production of more subordinate and embedded subordinate clauses, more formal speech, and more accurate productions than synchronous CMC. Sotillo’s findings support Ortega’s (1999) claim that learners engaging in asynchronous interaction have more time for planning and more opportunities to monitor their writing and to edit their spelling and grammar.

Although asynchronous CMC has been indicated as being different from synchronous CMC with respect to discourse functions, speech styles, complexity, formality, and accuracy, how it promotes language learning has not been clearly addressed. This study examines the interactional features of asynchronous CMC with respect to negotiation structure (i.e., trigger, signal, and response) and negotiation as a context for modified input, feedback, and modified output. Analysis of interactional features should help reveal how asynchronous CMC contributes to SLA differently from synchronous CMC.

**PREVIOUS RESEARCH**

**Variations in Negotiation Structure**

Interactions and the negotiation of meaning are believed to provide a positive environment for language learning in terms of (a) comprehensible input (e.g., Chiang & Dunkel, 1992; Gass & Varonis, 1985, 1994; Long, 1983a, 1983b, 1996; Pica, Doughty, & Young, 1986; Pica, Young, & Doughty, 1987; Varonis & Gass, 1998; Curtis & Roskams, 1999; Davis & Thiede, 2000), (b) student centeredness (Chun, 1994; Kern, 1995; Sullivan & Pratt, 1996; Warschauer, 1996), (c) equal opportunity for all learners (Warschauer, 1998), (d) complexity of sentence structure (Beauvois, 1992; Kelm, 1992; Kern, 1995; Warschauer, 1996), (e) awareness of sociolinguistic aspects of language (Chapman, 1996; Chun, 1994), and (f) reflective interaction (Lamy & Goodfellow, 1999).
1985), (b) modified input and opportunities for modifying output (e.g., Hatch, Flashner, & Hunt, 1986; Lyster & Ranta, 1997; Sato, 1986; Tarone & Liu, 1995; Van den Branden, 1997; Shehadah, 1999), and (c) opportunities to access target language (TL) form and meaning (Long, 1990; Rutherford & Sharwood Smith, 1985; Schmidt, 1990; Sharwood Smith, 1991; Doughty & Williams, 1998).

Varonis and Gass (1985) describe the sequence of the negotiation of meaning as follows (see also Doughty, 2000):

Trigger → signal (indicator) → response → reaction to response (optional)

The negotiation sequence begins with a trigger (i.e., any unclear or incomprehensible utterance. Following this, an interlocutor signals the other with questions or comments on the preceding trigger. Such signals are usually “clarification requests” or “confirmation checks.” The other interlocutor then responds by repeating the message or providing the modified version (e.g., by adjusting its syntax, changing its words, or modifying its form and meaning).

Recent SLA studies have investigated the various types of negotiation such as NS-NNS classroom interactions (Pica, 1987; Markee, 1995; Musumeci 1996; Foster, 1998), NNS-NNS classroom interactions (Varonis & Gass, 1985; Pica, Lincoln-Porter, Paninos, & Linnel, 1996; Shehadah, 1999; Pica & Garcia-Mayo, 2000; Mackey, Oliver, & Leeman, 2003), and in various task-based interactions (Doughty & Pica, 1986; Long, 1989; Pica, Kanagy, & Falodun, 1993). These studies indicate that the context of the interaction, such as its setting and the relationship between the interlocutors, considerably affects the structure of the negotiation.

**The Negotiation Model of Synchronous CMC**

Recent studies have examined the negotiation process in synchronous CMC and have suggested a new negotiation structure and strategies different from those in the negotiation model based on traditional face-to-face interaction.

The most salient feature of the negotiation structure of synchronous CMC is the presence of some unrelated turns between the trigger and signal (indicator) and/or the signal and response due to the slight delay between exchanges (Kitade, 2000; Smith, 2003). Smith (2003) also affirms that, in addition to the regular negotiation routine, the confirmation and reconfirmation phases called the reaction to the response (RR) are commonly used in Internet chat to clearly indicate understanding.

Another study suggests that there are fewer variations in the signal type in synchronous CMC than in face-to-face interaction. Varonis and Gass (1985) identify four signal (indicator) types in face-to-face interaction: echo, explicit statement of nonunderstanding, lack of verbal responses, and inappropriate response. Fernández-García & Martínez-Arbelaitz (2002) report only a few instances of the echo and no inappropriate responses in synchronous CMC, most negotiations being carried out using explicit statements of nonunderstanding. This lack of an implicit signal may be explained by the unavailability of nonverbal cues in CMC.
Another salient feature of negotiation in synchronous CMC is that most negotiations are completed with responses to the signals, that is, most signals (feedback) promote the response. Smith (2003) indicates that 94% of all signals are followed by responses. This high response rate implies that learners actually provide modified output and that interlocutors receive modified input. Although complete negotiation routines are the ideal, whether such a feature is also observed in asynchronous CMC, with its longer intervals between messages, needs to be determined.

Further, two more distinguishable features of negotiation in synchronous CMC take advantage of its text-based features. First, the signal phrases commonly contain quotation marks to highlight unknown words or trouble sources (Kitade, 2000). Second, the trigger is not always the meaning of the word; orthography (e.g., spelling and Kanji characters for L2 learners of Japanese) are also targets of the negotiation (Blake, 2000; Kitade, 2000).

Finally, previous studies on face-to-face interaction (Pica et al., 1993) and Internet chat (Blake, 2000; Smith, 2003) that have examined the types of triggers in negotiation indicate that most negotiations are lexical in nature; negotiation over syntactic triggers is very limited. Experimental studies on the effects of negotiation on language learners’ output (Van den Branden, 1997) also indicate that negotiation has a significant impact on students’ lexical development, but not on their development of syntactic complexity or grammatical correctness. Negotiation, therefore, is claimed to promote lexical acquisition, but not for syntactic development at least in face-to-face and synchronous CMC interactions. Asynchronous CMC should promote longer and more complicated utterances in text-based interactions, in which the trigger can easily be traced, and encourage a wider variation in the trigger types than those observed in face-to-face interaction and synchronous CMC.

The findings reported in the literature reveal that CMC has its own unique negotiation model and strategies, but most research has focused on synchronous CMC (e.g., chat) not asynchronous CMC (e.g., email). In order to gain a more complete understanding of the benefits of CMC for L2 learners in general, the interactional features (e.g., negotiation routines, types of triggers, signals and responses, discourse structure, etc.) of asynchronous CMC should be investigated. Analysis of the negotiation structure in asynchronous CMC should shed light on the question of how negotiation of meaning is carried out in asynchronous CMC. Especially important in this regard are: (a) the discourse structure of the negotiation of meaning, (b) trigger types (e.g., lexical, syntactic, content, and pragmatic), and (c) negotiation strategies (e.g., types of indicators [negative feedback], responses, and reactions to responses).

METHOD

Participants

The email interactions of 24 NS-NNS dyads formed the data for this study. The 24 NNS participants were learners of Japanese enrolled in the two low-intermediate
Japanese classes at a college in the US. Information on their personal characteristics and background knowledge of Japanese and computers is provided in the Appendix A. Before starting the study, NNS participants underwent some exercises to become accustomed to writing emails in Japanese. The NS participants were 24 volunteer college students in Japan.

The Task

A jigsaw task was selected to compare the results of CMC studies with those of studies on face-to-face and synchronous CMC interactions. Previous studies on negotiation (Doughty & Pica, 1986; Pica et al., 1993) suggest that jigsaw or two-way information gap tasks can simulate negotiated interaction better than opinion exchanges or one-way information gap tasks because the former require an equal exchange of information among all interlocutors to complete the task. (Doughty & Pica, 1986; Long, 1989; Pica et al. 1993). The study on chat interaction among Spanish learners (Blake, 2000) also supports this contention.

Procedure

All NNSs were paired with their NS key-pals. The dyads engaged in weekly, task-based email exchanges for 5 weeks (see schedule in Appendix B). “Making a travel plan” was the topic of the jigsaw task because the topic had been covered in the second-year Japanese class curriculum and was appropriate for the level of Japanese of the NNSs. Participants were asked to discuss their preferences for the trip and choose a travel plan for visiting Japan. They were given radically different personal preferences and had to discuss and select the most satisfying travel package. The NNSs were presented with the task in class by the researcher. They were instructed to exchange emails with their partner to decide the following items: (a) trip dates, (b) destination, (c) accommodation arrangements, and (d) activities at the destination.

The emails were sent to a mailing list—a Yahoo! Group (see http://www.yahoo.com for details) created for each pair. The list enabled participants to simultaneously send emails to their own partners as well as to the researcher. The emails were stored at the Yahoo! Group website, and mailing list members had access to all the previous mail.

Each pair discussed and decided their travel preferences and selected the travel package that best satisfied their joint preferences from advertisements prepared in advance by the researcher (see advertisements in Appendix C). The travel plans were accessible on the web and included details such as price, location, and pictures of the hotel. Participants could read either the English or Japanese versions or both. In the last session, all participants had to write a summary of their plan in their native language.

After the 5-week-long email exchange, the NS and NNS participants answered separate questionnaires designed to obtain background information about them and their opinions on email exchange for language learning. Student responses to relevant questionnaire items are included in the sections below.
Analysis

The data were analyzed, following the discourse approach of Schiffrin (1994), to identify and illustrate the interactional features of asynchronous CMC such as negotiation routines as well as the structure and functions of communication. In addition, the ethnography of communication framework (Hymes, 1974) was adopted to examine asynchronous CMC as a newly developed community in which the interactions represent the norms created in this community. The number of emails involving negotiated interactions was determined from the email scripts. The negotiation model described in Varonis and Gass (1985) was used to identify negotiation routines.

RESULTS

Discourse Structure of Negotiation in the Emails

Abandonment of Negotiation

One of the characteristics of the discourse structure of negotiations in emails is the abandonment of negotiations, which may be distinctive to asynchronous CMC. There was a reasonable number of instances of triggers and signals in the email data, but only 50.0% of signals received responses (see Table 1). That is, half of the potential negotiations were abandoned, which is a relatively low response rate compared with the 93% reported by Smit (2003).

Table 1
Response Rate for Signals

<table>
<thead>
<tr>
<th>Number of signals</th>
<th>Number of responses</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>28</td>
<td>14</td>
<td>50%</td>
</tr>
</tbody>
</table>

Table 2 shows that 71.4% of NSs’ signals were ignored by NNSs, while 28.5% of the NNSs’ signals were disregarded by NSs. There are two possible explanations for the high rate of abandonment of negotiation by NNSs: one is their failure to identify signals or forgetting to reply; the other that they were incapable of providing responses in the target language (TL). The NNSs’ limited knowledge of the TL and the complicated Kanji input process involved in writing the emails may have resulted in the high rate of abandonment of signals.

Table 2
Provider of Signals and Abandoned Signals by Group

<table>
<thead>
<tr>
<th></th>
<th>NS</th>
<th>NNS</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total number of signals</td>
<td>14</td>
<td>14</td>
<td>28</td>
</tr>
<tr>
<td>Abandoned signals</td>
<td>10</td>
<td>4</td>
<td>14</td>
</tr>
<tr>
<td>% of abandoned signals</td>
<td>71.4%</td>
<td>28.5%</td>
<td>50.0%</td>
</tr>
</tbody>
</table>
Additionally, the long intervals between messages reduced the pressure on the NNSs to reply, allowing them to easily forget or ignore signals. Ehrlich, Avey, & Yorio (1988) suggested two types of abandonment:

1. explicit negotiation abandonment (telling their partner that “I am giving up”), and
2. implicit negotiation abandonment (moving on to a new topic).

All negotiations in the email exchange data were implicitly terminated. The absence of explicit negotiations may imply that NNSs were not under pressure to explicitly state their inability to respond probably because of the long intervals between messages.

NSs’ responses on the questionnaire indicated that some of them were disturbed by the fact that their NNS partners did not reply to their confirmation checks or requests for rephrasing. The following two comments demonstrate this point: “I had hard time figuring out if my NNS partner understood what I said.” and “When I did not understand some parts of what the NNS wrote, I asked him, but I did not receive a response.”

The fact that asynchronous CMC reduces the pressure to respond to the negotiation signal minimizes opportunities for negotiation and also creates a discomforting interaction environment. Instructors should explicitly encourage NNS participants in asynchronous CMC to make an effort to respond to the signals from their partners.

**Negotiation Routines in Asynchronous CMC**

Two distinctive features of negotiation routines, the location of signals and responses in the message and a low instance of reactions to responses, were observed in the data.

**The Location of Signals and Responses in Messages**

Unlike those in synchronous interactions, each turn (message) in asynchronous CMC is relatively long and contains multiple topics. Day, Chenoweth, Chun, and Luppescu (1984) observe that feedback in an NS-NNS face-to-face interaction is often provided at a transition point in order to prevent it from interfering with the main topic of the interaction.

Participants in the asynchronous interactions were not responsive to a transition point in their partner’s turn; instead, they seemed conscious of the location of signals and responses in their own emails. They strategically provided signals and responses at the beginning or end of the message to avoid interference with the main topic of discussion. By separating the negotiation-related tokens, interlocutors were able to continue discussing their main topic without the interference of unrelated topics, as illustrated in excerpt 1 (<T> = transition, <S> = signal, and <R> = response.)
Excerpt 1
(The excerpts have been rewritten in romanized characters; the original emails were written in Japanese characters.)

NS to NNS
Konnichiwa. Kotoshi no natsu wa 6gatsu 11nichi kara hatsuka made Nyūyō ku ni sunde iro tomodachi o hōmon suru tsumori desu. Watashi wa furui tera ka Tōkyō no yō na tokai e ikitai to omotte imasu. K san wa Tōkyō itta koto aru n desu yo ne? Kyōto wa dō desu ka? Tōkyō yori mo shizuka de kirei desu yo. Nihon no bunka mo manabu koto ga dekimasu.
Arubaito wa shite nai desu. Demo kongakki wa 6kurasu totte iru node taihen desu. A

NNS to NS
Ohayōgozaimasu. Ogenki desu ka. Kono wa nan desu ka.<S>
A san wa totemo isogashii desu ne. 8gatsu 11 nichi kara 17 nichi made dō desu ka. Tōkyō wa ikimasen deshita. Watashi wa ikitai desu. Watashi no natsugakki wa haraimasu kara.<T> Watashi no yosan wa 16,000en yori shita. Yasumi no totemo omoshiroi desu ne! watashi wa ureshii desu. Watashi wa kaimono ga suki desu. Dō eu ka, okanega ikura imasu ka.<R>

[Hi. I am thinking of visiting my friend staying in New York this summer from June, 11th to 20th. I would like to go to (see) old temples or a city like Tokyo.<T> You have been to Tokyo, haven’t you, K?. How about Kyoto? (It is) more quiet and beautiful than Tokyo. You can also learn Japanese culture.
I don’t have a part-time job. But this semester is tough because I am taking six classes. A.]

NNS to NS
Ohayōgozaimasu. Ogenki desu ka. Kono wa nan desu ka.<S>
A san wa totemo isogashii desu ne. 8gatsu 11 nichi kara 17 nichi made dō desu ka. Tōkyō wa ikimasen deshita. Watashi wa ikitai desu. Watashi no natsugakki wa haraimasu kara.<T> Watashi no yosan wa 16,000en yori shita. Yasumi no totemo omoshiroi desu ne! watashi wa ureshii desu. Watashi wa kaimono ga suki desu. Dō eu ka, okanega ikura imasu ka.<R>

[Good morning. How are you? What is this (I would like to go to (see) old temples or a city like Tokyo.) ?<S>
You are very busy, aren’t you, A?
How about from August 11th to 17th? I did not go to Tokyo. I want to go (there). My budget is under 16,000 yen because I will pay for my summer session.<T> The holiday is very fun! I am happy. I like shopping. How about it? How much money do I need?]
Hi. I am fine. (I would like to go to (see) old temples or a city like Tokyo.) means that I want to go to see Tokyo or old temples. <R>
As for the schedule, August 11th to 17th is good for me. If K has never been to Tokyo, let’s decide on Tokyo. I want to stay at a hotel rather than Japanese style inn because I want to sleep on a bed instead of futon (Japanese style flat beds). What does this (because I will pay for my summer session) mean? <S>

As seen in the third message in Excerpt 1, the response and signal are inserted at the beginning and end of the message, respectively resulting in the simplified structure of the message shown in Figure 1. The main topic is left in the middle of the email without being interrupted by either the signal or response.

Figure 1
The Strategy for Inserting Multiple Topics in One Message

<table>
<thead>
<tr>
<th>Greeting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Response 1</td>
</tr>
<tr>
<td>Main topic</td>
</tr>
<tr>
<td>Signal 2</td>
</tr>
</tbody>
</table>

Few Instances of Reactions to Responses
Another salient feature of asynchronous CMC is that negotiations seldom elicit RRs, the optional final step in the negotiation structure. There was only one instance of an RR in the data. However, synchronous CMC negotiations elicit more RRs than face-to-face interactions. Smith (2003) reports that 82% of the responses in the negotiation routines are followed by reactions, often even accompanied by confirmation and reconfirmation phrases. The low incidence of RRs in asynchronous CMC is, again, possibly due to the long intervals between messages. Such confirmation phrases, which are often added as remarks to end the negotiation in synchronous CMC, seem to be considered unnecessary in asynchronous CMC.

Trigger Types
Triggers have been categorized as lexical/semantic, syntactic/structural, discourse, content or task related, or pragmatic triggers (Toyoda & Harrison, 2002; Smith, 2003). Most triggers in the negotiations that occur in face-to-face interactions (Pica et al., 1993) and synchronous CMC (Blake, 2000; Smith, 2003) are lexical; there are very few or no instances of syntactic triggers in synchronous interactions. Blake (2000) states that the number of unsatisfied syntactical negotiations may be due to the lack of opportunities available to L2 learners to improve their grammar through incidental negotiations.

However, compared to the use of triggers in synchronous interactions, asynchronous CMC promotes the use of more complex sentences (Sotillo, 2000) and
may encourage negotiations with more complex triggers than lexical triggers. As shown in Table 3, analysis of the data in the study presented here indicates that the students in asynchronous CMC sessions employed fairly long and relatively complex triggers stemming from syntactic problems. Of the total of 28 triggers in the data, 12 (42.9%) were syntactic in nature, and 14 (50.0%) were lexical in nature.

Table 3
Types of Triggers Used in Negotiations

<table>
<thead>
<tr>
<th>Trigger/signal</th>
<th>Trigger/signal response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lexical</td>
<td>14 (*8)</td>
</tr>
<tr>
<td>Syntactic</td>
<td>12</td>
</tr>
<tr>
<td>Discourse</td>
<td>0</td>
</tr>
<tr>
<td>Content</td>
<td>0</td>
</tr>
<tr>
<td>Mixed</td>
<td>2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>28</strong></td>
</tr>
<tr>
<td></td>
<td><strong>9</strong> (*7)</td>
</tr>
<tr>
<td></td>
<td><strong>5</strong></td>
</tr>
<tr>
<td></td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*The triggers containing orthography problems (Kanji) are included in the lexical category.

Studies on NS-NNS synchronous CMC (Toyoda & Harrison, 2002) show a much lower number of syntactic triggers (excluding abbreviated sentences produced by NSs) as compared with lexical triggers. The fact that almost half of the triggers in the present study were syntactic suggests that asynchronous CMC has an advantage in terms of the grammatical development of the learners’ interlanguage systems. The email samples in excerpt 2 illustrate how students indicated the use of triggers.

Excerpt 2

NNS to NS
R san ohayō gozaimasu. Genki desu ka?

[Hi, R. Good morning. How are you?
I am thinking of going to Japan this year. *I work for a part-time since September, 2000. *Where in Japan (shall we go ) for summer vacation? *I am planning to go to Kyoto for 2 weeks.}
*From July 7th to 11th. The plan 12 is a Japanese inn. 28,800 yen *every night. *I have no plan for making a reservation.*<T> Is it good? Or Bad? R, please write me an e-mail. =)

NS to NNS
K san no puran totemo ii to omoimasu. Kyōto wa totemo kirei na tokoro na node tanoshimi desu ne! desu ga hitotsu shitsumon shite mo ii desu ka?

“Yoyaku o yotei suru ga arimasen.” to iu bunshō wa dō iu imi desu ka?<S>
K san wa pizza yasan de arubaito o shite iru n desu ne. Watashi wa pizza daisuki desu. Korekara mo ganbatte kudasai.
Mata mēru kudasai. Sayōnara.

[I think K’s plan is very good. I look forward to it because Kyoto is a very beautiful place! But, may I ask you a question? What does this sentence “*I have no plan for making a reservation*” mean?<S>
K, you are working for a part-time at a pizza restaurant. I love pizza.
Good luck.
Please e-mail me again. Good bye.]

NNS to NS
R san ohayō. *Kyō wa genki ga warui desu =) Kinō no ban wa kaze ga tsu- metaku *to tsuyoku narimashita.

“Yotei o suru ga arimasen.” Gomen ne. watashi no nihongo ga warui desu ne. Imi wa puran o tsukutte nai. ima puran o tsukurimasu.<R>

[Good morning, R. *the weather is not good today =). The wind became strong and cold last night.

“*I have no plan for making a reservation*. I am sorry. My Japanese is bad, isn’t it? I mean I haven’t made a plan. I am going to make a plan now.<R>
I *live in a Japanese inn in Kyoto. The Japanese inn in the plan 12 in Kyoto is 15,000 yen *every night. Is the *money okay? Do you like this plan? Where is Mt. Fuji in Kyoto? Haven’t you seen it? We will go shopping and go to a coffee shop and eat and then go to a hot spring in Kyoto together. What are you(we) going to do in Kyoto? Good bye. Please write me. It’s Ken =)"

Participants explicitly indicated the source of trouble in the signal and responded by copying and pasting the trigger in quotation marks. They had to restate the source of trouble since they generally forgot what the problem was by the time they received the response.

Syntactic negotiations occurred almost as frequently in the data as the lexical
ones for three reasons. First, as mentioned above, asynchronous CMC promotes more complex and longer sentences than synchronous CMC. Therefore, more syntactic trigger sources were available for negotiation. Second, the interlocutors could simply copy and paste the text within quotation marks to explicitly indicate the source of trouble. Thus, tracking words and long sentences in the text-based interactions was easier than it would have been in face-to-face interactions. Third, as shown in Table 4, non-target-like lexical problems rarely interfered with NSs’ ability to understand messages, whereas syntactic problems were much more likely to cause conversational breakdowns. Even though the data contained many non-target-like lexical expressions, syntactic problems were more than three times as likely to cause communication difficulties than lexical problems.

<table>
<thead>
<tr>
<th>Source of trouble</th>
<th>Number reported</th>
</tr>
</thead>
<tbody>
<tr>
<td>Incorrect use of Kanji</td>
<td>1</td>
</tr>
<tr>
<td>Incorrect use of vocabulary</td>
<td>2</td>
</tr>
<tr>
<td>Incorrect grammar</td>
<td>7</td>
</tr>
<tr>
<td>No response to questions</td>
<td>7</td>
</tr>
<tr>
<td>No way to tell if my partner understands what is said</td>
<td>7</td>
</tr>
<tr>
<td>Others</td>
<td>7</td>
</tr>
</tbody>
</table>

Table 4
What NS Participants Found Most Difficult in Email Exchanges with NNS Participants

Further, out of the total of nine instances in which the NSs provided feedback to the NNSs’ syntactic problems, the NNSs responded only twice (22.2%). Although the NNSs had opportunities to modify their output in subsequent emails, they did not take advantage of their opportunities. This finding suggests that negotiation of meaning by itself may not be sufficient to promote language learning. It may well be necessary to explicitly instruct learners to respond to NSs’ feedback to create beneficial interactions for them.

The results of the questionnaire corroborate the finding that NSs were unconcerned about the non-target-like lexical items if they could infer what the NNSs were trying to communicate (see Table 5). When the NSs did not understand a part of the NNSs’ emails, the second most frequently reported action was to ignore that part.

The following comment made by an NS further confirms this point: “I got the meaning from the context, based on my own interpretation. But I could easily understand all the problematic parts.” Because messages in asynchronous CMC are relatively long, they more often provide contextual cues before and/or after the problem area that enable interlocutors to infer the meaning of the problematic expression.
Table 5
What Participants Did When They Discovered Something They Did Not Understand in Their Partners’ Emails

<table>
<thead>
<tr>
<th>Action taken by participants</th>
<th>NS</th>
<th>NNS</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>I asked my partner for the meaning.</td>
<td>9</td>
<td>15</td>
<td>24</td>
</tr>
<tr>
<td>Ignored: I would feel bad for my partner if I asked for the meaning.</td>
<td>2</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Ignored: I didn’t mind the fact that I didn’t understand part of the mail.</td>
<td>6</td>
<td>2</td>
<td>8</td>
</tr>
<tr>
<td>Ignored: I didn’t know how to ask for the meaning.</td>
<td>3</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>Ignored: I felt embarrassed to ask my partner for the meaning.</td>
<td>0</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Ignored: I had asked for the meaning before, but my partner ignored my request.</td>
<td>2</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Others</td>
<td>10</td>
<td>3</td>
<td>13</td>
</tr>
</tbody>
</table>

**Signal (Indicator/Feedback) Types**

Signal type played a significant role in determining whether the negotiation successfully provided the NNS with the opportunity to receive and produce modified input. Varonis and Gass (1985) classify signals (indicators) as: echo, explicit statement of nonunderstanding, no verbal response, and inappropriate response. The unavailability of the paralinguistic features of face-to-face interaction (e.g., intonation and nonverbal cues) restricts the variation in signals in synchronous CMC. In their study on synchronous CMC, Fernández-García and Martínez-Arbelaitz (2000) describe a variation in signal types identified by Varonis and Gass but note very few instances of echo signals and no inappropriate responses.

Rost and Ross (1991) consider signals as strategies and classify signals in negotiation routines as global, local, or inferential. Global strategies indicate nonunderstanding without specifically identifying the trigger such as clarification requests without the trigger (e.g., “What?”) or statements of nonunderstanding. Local strategies explicitly indicate the trigger or its precise location in the preceding discourse (e.g., “What is ‘...’?”). Inferential strategies indicate nonunderstanding by means of a confirmation check, when the signal provider tests hypotheses of the meaning conveyed by the trigger.

Local strategies are further categorized into the following four types: (a) echoing alone, (b) echoing in a question (e.g., “What is ‘X’?”), (c) elements mixed with echoing (indication of nonunderstanding and a request for permission to ask questions or a request to rephrase the trigger), and (d) indicating the precise location of the trigger.

Table 6 lists the number and percentages of signal strategy types in the data of the current study. Local strategies comprised 89.3% of all the signal strategy types, and echoing in a question and elements mixed with echoing represented the vast majority of the local strategies.
Table 6
Signal Types and Response Rates

<table>
<thead>
<tr>
<th>Signal strategy type</th>
<th>Number of signals (%)</th>
<th>Number of responses to signals (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Global strategies</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>Local strategies</td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. Echoing alone</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>b. Echoing in a question</td>
<td>11 (39.3%)</td>
<td>5 (45.4%)</td>
</tr>
<tr>
<td>c. Elements mixed with echoing</td>
<td>13 (46.4%)</td>
<td>9 (69.2%)</td>
</tr>
<tr>
<td>d. Indicating the location of the trigger (in the previous email)</td>
<td>1 (3.6%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>Total local strategies</td>
<td>25 (89.3%)</td>
<td></td>
</tr>
<tr>
<td>Inferential strategies</td>
<td>3 (10.7%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>Total</td>
<td>28 (100%)</td>
<td>14 (50.0%)</td>
</tr>
</tbody>
</table>

Smith (2003) states that 18% of the strategies used in his synchronous CMC study were global; however, no instances of global strategies were identified in the data of this asynchronous CMC study. The difference between the two is possibly due to the difference in interactional features. Again, the longer intervals between the emails may have prevented interlocutors from identifying the source of the trigger. Further, the fact that each message contained a greater number of words imposes a greater burden on the interlocutors to detect the trigger source from among many possibilities in the previous emails.

**Effective Signals**

Unlike the data in synchronous CMC reported by Fernández-García and Martínez-Arbelaitz (2002), the email data in this study contained no incidences of using echoes alone as a signal. Instead, echoes were supplemented by strategies such as indications of nonunderstanding, permission to ask a question, and requests for rephrasing. Mixed strategies were preferred in this asynchronous CMC study and elicited more responses than other signal strategies (69.2%) (see Table 6 above). It seems more efficient in asynchronous CMC to provide discourse markers before and after the echoing to indicate a change in the topic of a message. The use of discourse markers is helpful because in the context of a single message often containing multiple topics, such devices introduce a signal for negotiation and serve as explicit indicators of nonunderstanding (e.g., “I don’t understand what
you wrote in the last mail.”), permission to ask a question (e.g., “Can I ask you a question?”), or a request to rephrase the trigger (e.g., “Can you explain what you meant?”). The messages in excerpt 3 exhibit a combination of an echo, an explicit statement of nonunderstanding, and a request for rephrasing.

Excerpt 3

NNS to NS
Konnichiwa. Nihon no tenki wa dō desu ka. Hawai no tenki wa chotto hen ne.*atsui to samui to atsui samui. *Mainichi wa chigau! *Hen na ne! Tanjōbī *wa omedetō! Nihongo no jugyō wa muzukashii! Demo gambarimasu! Shigoto wa dō desu ka? Chokin shite hayaku hawai ni kite kudasai! Fuyuyasumi wa dō desu ka! Li na *Urayamashi! *Boidfurendo ga arimasu ka? Watashi wa nai! 😊 Ja mata ne!

Tasuku: *hoteru ni tomaritai to ryokan ni tomaritai n desu ka? *Yonjū-en<T> o motte ikimasu. Watashi kirei na hoteru ni tomaritai n desu! 😊

[Hi. How is the weather in Japan? The weather in Hawaii is a bit strange. *Hot and cold and hot cold. *It’s different everyday! It’s strange, isn’t it! Happy birthday! The Japanese class is hard! But I will try hard! How is your job? Save money and please come to Hawaii soon! How is your winter break? That’s good. I envy you! *Do you have a boyfriend? I don’t have anyone! I Well, see you!

Task: *Do you want to stay at a hotel or Japanese inn? I will bring 40 yen. *Wrong Kanji<T>. I want to stay at a pretty hotel!]}

NS to NNS
Konnichiwa.

…
Shitsumon: soshite zenkai no mēru de “yonjū-en” to arimashita ga 40en no koto desu ka? 40en de ryokō wa ikenai yo. Kondo no mēru de kuwashiku oshiete kudasai, <S> Mahalo

[Hi.

…
Question: And there was (you wrote) “40 yen*Wrong Kanji*” in the last mail. Do you mean 40 yen? You can’t travel with 40 yen. Please tell me more in the next mail. <S> Mahalo]

NNS to NS
Genki desu ka?
Watashi wa genki desu kedo kata ga chotto itai desu. Fuyu *toki nihon ni itta koto ga arimasu.*Samui katta! Ie de mēru o shimasu.
Tasuku: watashi wa 8/20-8/31 wa ii desu yo. Tōkyō to Mt. Fuji ni ikō! Puran 5 ga ii to omotte imasu. M wa dono puran ga *hoshii desu ka? Takusan oishii tabemono ga tabetai n desu! 400,000en wa ii desu ka? <R> Ja jugyō ga owarimasu kara mata ne!
How are you?
I am fine, but I have a pain in the shoulder. I have been to Japan during the winter time. It was cold! I will (writing) e-mail at home.
Task: 8/20-8/31 is good for me. Let’s go to Tokyo and Mt. Fuji! I am thinking that plan 5 is good. Which plan do you *want, Mai? I want to eat a lot of delicious foods! Is 400,000 yen good?<R> Well, see you because the class is over.]

In Excerpt 3, the NS provided multiple signal strategies to make the signal salient. At first, she explicitly indicated that she was introducing the question by writing “Question:” on a new line. She also asked permission to ask a question: “May I ask you a question?” Following this, the NS repeated the source of trouble in quotation marks: “yonjuu ¥” and explicitly stated why it was inappropriate. Finally, the NS requested the NNS to answer her question precisely in the next email.

In face-to-face or synchronous CMC interactions, participants do not need to use multiple signal strategies. In fact, they typically use simple indications of non-understanding, such as rising intonation or simple questions in the form of “What is …?” The features of asynchronous CMC (e.g., formality, complexity of expression, and the occurrence of multiple topics in one message) require participants to provide more indicators of questions being asked and as mitigators to soften the face-threatening act (Goffman, 1974) when indicating the source of trouble. In fact, such multiple-strategy signals are more successful than simple signals in eliciting responses in email interactions.

Ineffective Signals

As shown in Table 5 above, half the potential signals were ignored by interlocutors, and no responses were obtained. Although all signals can potentially lead to successful negotiation, certain types seem to easily prompt the abandonment of negotiation. The signals most often ignored in this study were: (a) signals without an echo, (b) signals with an echo but with no reference to the trigger source, and (c) confirmation checks providing the corrected version of the problematic utterance (i.e., an inferential strategy).

Without quotation marks or an explicit statement of some kind to indicate the location of the source of trouble, modification requests in asynchronous CMC are not sufficiently clear to be identified as signals. Once more, the unavailability of nonverbal cues, the long interval between emails, and the presence of relatively long sentences in messages hamper interlocutors’ ability to identify the source of difficulty. The long interval between messages prevents interlocutors from remembering what they wrote in their previous email. Further, because emails contain longer and more informative sentences, it is often difficult to identify the location of the trigger in the previous email. Therefore, to obtain responses, signals in asynchronous CMC should echo the trigger and indicate its original location. Such multiple strategies appear essential to function as signals in asyn-
chronous CMC and may well be unique to this medium. Over the course of the project described here, the participants gradually became accustomed to using multiple strategies. If we are to promote effective language learning in asynchronous CMC, we will need to discourage L2 learners from using ineffective signals and encourage them to incorporate effective strategies for them to achieve successful negotiations.

**Response Types**

Analysis of the types of responses in asynchronous CMC indicate the presence of distinctive patterns similar to those in synchronous interactions. Smith (2003) categorizes the types of responses in synchronous CMC as: (a) minimal responses, (b) simply repeating the trigger with or without syntactic modification, (c) stating an inability to respond, and (d) rephrasing or elaborating (expansion of) the problematic element. In his synchronous CMC study, Smith reports a high incidence of rephrasing/elaborating responses.

Table 7 lists the number and percentage of each response type in the current study. The figures in Table 7 show that 11 out of 14 (78.5%) of the responses were of the rephrasing or elaborating type. Further, 8 out of the 11 responses (72.7%) were made by the NSs and provided the NNSs with beneficial knowledge of the TL that they could use to develop their interlanguage system.

Table 7

| Response type                        | Number of responses by NNSs | Number of responses by NSs | Total (%)
|--------------------------------------|----------------------------|---------------------------|-----------
| Minimal response                     | 0                          | 0                         | 0 (0%)    |
| *Repeating trigger with lexical modification | 1                          | 2                         | 3 (21.5%) |
| Inability to respond                 | 0                          | 0                         | 0 (0%)    |
| Rephrasing or elaborating            | 3                          | 8                         | 11 (78.5%)|
| Total                                | 4                          | 10                        | 14 (100.0%)|

*Responses that simply provide Hiragana for Kanji are categorized as repeating the trigger with lexical modification.

The responses in the asynchronous CMC data seemed longer and more informative than those in synchronous CMC or face-to-face interactions. In particular, the responses of the NSs provided lexical modification and rephrasing as well as examples of ideal usage (see excerpt 4).
Excerpt 4
NS to NNS

[Hi, K. I am fine. I don’t have much money because I am going to Hong Kong this summer. Because of this, anyplace under 20,000 yen is good. It’s evening in Japan. I am going to work now. Please have fun shopping.]

NNS to NS
Konnichiwa. S san.
Watashi wa genki desu. Ogenki desu ka. “Ika” nan desu ka.<S>

[Hi, S. I am fine. How are you? What is “under (in Kanji)”?<S> Please save money. It seems to be fun. Where do you work for part time? I worked at a drugstore called Longs last night. I am very sleepy. Well, see you.]

NS to NNS
Ryokōsaki wa K san ga mae otera ni ikitai to itte mashita yo ne? sō suru to yahari Kyōto deshō ka.

[Hi, K. I had a rough time since I have caught a cold. But I am well now. “Under (in Kanji) is for example, “under 10” means the numbers below 10. Also, 10 is included. To make it short, It means 10, 9, 8….Do you understand (for me)? If you have anything you don’t understand besides this, please ask me without any hesitation.<R>
As for the travel destination, K, you said that you want to go to see temples before, didn’t you? Then, (shall we decide on) Kyoto?]
In Excerpt 4, the NS responds with careful modifications to the NNS’s signal. The NS first provides the meaning of the word “ika,” and then an example of its usage. Finally, the NS asks the NNS whether s/he understands the response with a confirmation check, “Do you understand?” Further, the NS encourages the NNS to ask more questions to mitigate the face-threatening situation. Such rich modifications to details should clearly serve as helpful recourses for NNSs to learn the TL. The NS’s response is made possible by the fact that participants in email interactions have more time to compose utterances than in face-to-face interactions and synchronous CMC. Accordingly, they can provide longer and more informative responses without interfering with the main topic of discussion.

DISCUSSION

This study investigated how participants conducted negotiation routines and the kind of discourse strategies they employed to shape the routines in asynchronous CMC. The results showed that these routines are distinguishable from those in synchronous CMC and face-to-face interactions. The distinctive features of asynchronous CMC found in the data can be attributed to its interactional features. Participants used innovative strategies that took advantage of three major features of asynchronous CMC: (a) extra time for comprehending, planning, and producing the messages, (b) the text-based nature of the medium, and (c) the unavailability of nonverbal cues.

The time interval between the email messages had both a positive and negative effect on the L2-learning environment. While participants had sufficient time to comprehend, plan, and produce messages, the pressure to reply to signals was also reduced, and, thus, the participants easily ignored or forgot them. Therefore, in order to obtain their partner’s attention to facilitate responses, participants used more complicated and explicit signals as compared to those observed in synchronous interactions. The text-based features of CMC also permitted more complex, extended, formal, and explicit signals.

One of the salient features of the negotiation structure in synchronous CMC not observed in the asynchronous data of this study is the final RR turn. This finding suggests that RR is a unique feature of synchronous CMC. However, researchers investigating negotiation routines in asynchronous bulletin boards should examine this aspect as well.

The combination of asynchrony and text-based characteristics permits participants to provide salient and beneficial triggers, signals, and responses. NS responses to NNS triggers can provide very high-quality input to learners (e.g., rephrasing, explanations, and examples of usage) due to the availability of sufficient time and the text-based nature of the interactions. The results from the questionnaire confirm that NNS participants perceived the greater amount of time for planning and comprehending as an advantage of email interactions (see Table 8).

Participants’ comments also indicated that the flexibility in time permitted by the email interactions was an advantage. Participants stated that the email system allowed them to “interact without constraints,” “interact according to my conve-
nience,” “interact without disturbing others, because they can read and respond when they have time,” and “have some time to think before responding.”

Table 8
The Perceived Advantages of Email Exchanges by NNS

<table>
<thead>
<tr>
<th>Type of advantage</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>More planning time to respond</td>
<td>19</td>
</tr>
<tr>
<td>Less intimidating to interact</td>
<td>15</td>
</tr>
<tr>
<td>Reading is easier than listening</td>
<td>13</td>
</tr>
<tr>
<td>More time to understand the other person’s statement</td>
<td>17</td>
</tr>
<tr>
<td>Other</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>65</td>
</tr>
</tbody>
</table>

Finally, the unavailability of nonverbal cues affected the negotiation routines in asynchronous CMC. Facial expressions and minimal responses such as “What?” and “Huh?” do not function as signals in asynchronous CMC because such signals do not explicitly indicate the source of the trigger. Participants also seemed to consider the lack of facial expressions as a major disadvantage of CMC. Table 9 summarizes the participants’ answers to the question, “When you don’t understand what your partner says, in which of the following situations do you feel most comfortable asking for the meaning?”

Table 9
Preferred Media for Negotiations

<table>
<thead>
<tr>
<th></th>
<th>Face to face (%)</th>
<th>Telephone (%)</th>
<th>Internet chat (%)</th>
<th>Email (%)</th>
<th>Undecided (%)</th>
<th>More than one medium (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NNS (n = 24)</td>
<td>12 (50.0%)</td>
<td>0 (0%)</td>
<td>2 (8.3%)</td>
<td>7 (29.2%)</td>
<td>0 (0%)</td>
<td>3 (12.5%)</td>
</tr>
<tr>
<td>NS (n = 24)</td>
<td>14 (58.3%)</td>
<td>0 (0%)</td>
<td>6 (25.0%)</td>
<td>4 (16.7%)</td>
<td>0 (0%)</td>
<td>4 (16.7%)</td>
</tr>
<tr>
<td>Total (N = 48)</td>
<td>26 (54.2%)</td>
<td>0 (0%)</td>
<td>8 (16.7%)</td>
<td>17 (35.4%)</td>
<td>4 (8.3%)</td>
<td>7 (14.6%)</td>
</tr>
</tbody>
</table>

The availability of nonverbal cues was the main reason for face-to-face interaction being favored (see other reasons participants gave for their preferences in Appendix D). Interestingly, email interactions were preferred over telephone conversations or Internet chat, making it the most favored among the various modes of interaction that lack nonverbal cues. Although having participated in an email exchange may be responsible for this trend, it could also be explained by the availability of more time between messages as discussed above (see Table 8). In addition, the lack of the partner’s physical presence may also be considered a positive aspect of CMC, as indicated in Table 8 and also in the following com-
ment: “I can express what I really want to say in an e-mail because I do not see my partner’s face.”

In general, adequate time for planning and comprehending, the flexible time for participating in an email session, the text basis of asynchronous CMC, and the physical absence of the communicative partner provide L2 learners with a learning environment quite different from face-to-face and synchronous interactions.

CONCLUSION

The results of this study suggest the necessity of explicit instruction to promote successful negotiation in asynchronous CMC in order to facilitate language learning. Novice participants in asynchronous CMC are unaccustomed to the innovative strategies demonstrated in the study. They need to be instructed in the use of effective signal types and to be made aware of the importance of responding to signals. Syntactic triggers, especially, may be used more often in asynchronous than in synchronous CMC and face-to-face interactions, and the learners should take advantage of this opportunity for the syntactic development of their interlanguage system.

Once participants are accustomed to the negotiation routines in asynchronous CMC, the instances of complete negotiation should increase. Future studies should collect longitudinal data to illustrate the process by which participants in asynchronous CMC become capable of employing its negotiation routines, what Shieffelin and Ochs (1986) call becoming a competent member of the CMC community.

Unlike learners in L2 environments, those in foreign language environments often face the problem of a lack of access to NS models (input) for linguistic information in their daily social interaction (Gass, 1990; Pica & Garcia-Mayo, 2000). CMC enables foreign language learners to engage in authentic interactions in the L2, but synchronous CMC can present a number of logistical obstacles (e.g., time differences) and technical problems. For L2 learners, asynchronous CMC is more accessible than synchronous CMC in terms of time flexibility.

Although the data reported here were taken over a relatively short period, analysis revealed how the distinguishable interactional features of asynchronous CMC underlie distinctive negotiation structures and strategies. Other studies should be conducted to examine CMC interactions and identify their interactional features at different proficiency levels of the learners and their partners in different modes of interaction.

NOTE

1 The example below from Pica (1993) illustrates a negotiation of meaning sequence.

NS: Okay, with a big chimney. [Trigger]
NNS: What is a chimney? [Signal]
NS: A chimney is where the smoke comes out of. [Response]
NNS: OK. [Reaction]
REFERENCES


### APPENDIX A

#### NNS Participants’ Personal Characteristics (n = 24)

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Number (percentage)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age</strong></td>
<td></td>
</tr>
<tr>
<td>18-22</td>
<td>21 (87.5%)</td>
</tr>
<tr>
<td>23-30</td>
<td>1 (4.2%)</td>
</tr>
<tr>
<td>31-40</td>
<td>2 (8.3%)</td>
</tr>
<tr>
<td>above 40</td>
<td>0 (0%)</td>
</tr>
<tr>
<td><strong>Native language</strong></td>
<td></td>
</tr>
<tr>
<td>English</td>
<td>21 (87.5%)</td>
</tr>
<tr>
<td>Chinese</td>
<td>2 (8.3%)</td>
</tr>
<tr>
<td>Korean</td>
<td>1 (4.2%)</td>
</tr>
<tr>
<td><strong>Academic Status</strong></td>
<td></td>
</tr>
<tr>
<td>freshman</td>
<td>2 (8.3%)</td>
</tr>
<tr>
<td>sophomore</td>
<td>11 (45.8%)</td>
</tr>
<tr>
<td>junior</td>
<td>7 (29.2%)</td>
</tr>
<tr>
<td>senior</td>
<td>3 (12.5%)</td>
</tr>
<tr>
<td>returning student</td>
<td>1 (4.2%)</td>
</tr>
<tr>
<td><strong>Background in study of Japanese</strong></td>
<td></td>
</tr>
<tr>
<td>1.5-2 years</td>
<td>14 (58.3%)</td>
</tr>
<tr>
<td>more than 2 years</td>
<td>*10 (41.7%)</td>
</tr>
</tbody>
</table>

*Many students had taken Japanese at high school before entering the college. However, their Japanese proficiency is not beyond intermediate.*

#### NNS Participants’ Computer Skills (n =24)

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Number (percentage)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Own computer at home</strong></td>
<td>23 (95.8%)</td>
</tr>
<tr>
<td><strong>Usage of computer</strong></td>
<td></td>
</tr>
<tr>
<td>word processing</td>
<td>23 (95.8%)</td>
</tr>
<tr>
<td>email</td>
<td>23 (95.8%)</td>
</tr>
<tr>
<td>WWW searching</td>
<td>21 (87.5%)</td>
</tr>
<tr>
<td>chat or video conferencing</td>
<td>14 (58.3%)</td>
</tr>
<tr>
<td>games</td>
<td>13 (54.2%)</td>
</tr>
<tr>
<td>other</td>
<td>5 (20.8%)</td>
</tr>
<tr>
<td><strong>Frequency of computer use</strong></td>
<td></td>
</tr>
<tr>
<td>almost everyday</td>
<td>18 (75.0%)</td>
</tr>
<tr>
<td>2-3 times a week</td>
<td>3 (12.5%)</td>
</tr>
<tr>
<td>4-5 times a week</td>
<td>3 (12.5%)</td>
</tr>
<tr>
<td>less than once a week</td>
<td>0 (0%)</td>
</tr>
<tr>
<td><strong>Experience using Japanese on the computer</strong></td>
<td></td>
</tr>
<tr>
<td>(before experiment)</td>
<td>9 (37.5%)</td>
</tr>
</tbody>
</table>
APPENDIX B

Schedule for 5 week email exchange task

<table>
<thead>
<tr>
<th>Session</th>
<th>Content and task for the session</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Start discussing the date and the destination for your travel plan.</td>
</tr>
<tr>
<td>2</td>
<td>Start discussing the accommodation and budget for your travel plan.</td>
</tr>
<tr>
<td>3</td>
<td>Continue discussing above and decide the date, destination,</td>
</tr>
<tr>
<td></td>
<td>accommodation, and budget.</td>
</tr>
<tr>
<td>4</td>
<td>Look at the travel plan ads on the web and discuss which travel plan</td>
</tr>
<tr>
<td></td>
<td>is the best for you and your partner.</td>
</tr>
<tr>
<td>5</td>
<td>Decide the best travel plan with your partner and turn in the</td>
</tr>
<tr>
<td></td>
<td>summary sheet. Answer the questionnaire.</td>
</tr>
</tbody>
</table>

APPENDIX C

Travel package on the web
You and your partner will go for a trip this summer. After discussing with your partner, choose the most appropriate travel plan for you and your partner.

Hokkaido

Good seafood! Nice climate in summer! Spacious land!

¥15,000  ¥7,500  ¥28,000  ¥15,000
Tokyo and Mount Fuji

Tokyo city tour and relaxing hot springs with splendid mountain view!

¥15,000  ¥7,500  ¥28,000  ¥15,000

Kyoto

Traditional Japanese foods and beautiful temples!

¥15,000  ¥7,500  ¥28,000  ¥15,000
## APPENDIX D

Reasons participants gave for their preferences of media in negotiation of meaning

<table>
<thead>
<tr>
<th>Preferred medium</th>
<th>Reasons</th>
</tr>
</thead>
</table>
| Face to face     | Instantaneous response  
|                  | “So they can tell me right away.”  
|                  | “Easy and fast to understand. Get response quickly.”  
|                  | “Don’t gotta wait long for responses.”  
|                  | “Because there’s a quick answer to my misunderstanding.”  
|                  | “It’s easier.”  
|                  | The availability of nonverbal cues and faces  
|                  | “It’s better that way because you can also read their expression.”  
|                  | “It’s easier because you can use hand gestures.”  
|                  | “Gestures helps to understand.”  
|                  | “Never know what the other is thinking without seeing his/her face.”  
|                  | Others  
|                  | “I feel more comfortable trying to express what I am saying person to person.”  
|                  | “I understand better if the person can explain to me fully what I am not understanding.”  
|                  | “Easier to clarify any problems.” “Easier to explain and ask questions.”  
|                  | “I can’t write in Kanji. So face-to-face will be easier to understand.”  
| Telephone        | “Easier to comprehend.”  
| Internet chat    | “Instantaneous response.” “Fast and don’t have to face him/her.”  
| Email            | More time for planning and understanding  
|                  | “It gives me time to think of what to write.”  
|                  | “More time to respond.”  
|                  | “Gives me more time to phrase the question.”  
|                  | “I can take time to formulate a response that might make more sense in Japanese.”  
|                  | Others  
|                  | “Not as embarrassing.” “I feel easier.” “It’s more convenient.”  
|                  | “Trouble with hearing words connecters.”  
|                  | “Slow the conversation down in face-to-face interactions.”  
| Undecided        | “Doesn’t matter.” “It’s embarrassing anyway.”  |
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