

THE ROLE OF OFFLINE METALANGUAGE TALK IN ASYNCHRONOUS COMPUTER-MEDIATED COMMUNICATION

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In order to demonstrate how learners utilize the text-based asynchronous attributes of the Bulletin Board System, this study explored Japanese-as-a-second-language learners' metalanguage episodes (Swain & Lapkin, 1995, 1998) in offline verbal peer speech and online asynchronous discussions with their Japanese key pals. The findings suggest the crucial role of offline collaborative dialogue, the interactional modes in which the episodes occur, and the unique discourse structure of metalanguage episodes concerning online and offline interactions. A high score on the posttest also suggests the high retention of linguistic knowledge constructed through offline peer dialogue. In the offline mode, the learners were able to collaboratively construct knowledge with peers in the stipulated time, while simultaneously focusing on task content in the online interaction. The retrospective interviews and questionnaires reveal the factors that could affect the benefits of the asynchronous computer-mediated communication medium for language learning.

INTRODUCTION

Asynchronous computer-mediated communication (ACMC) enables language learners to actively engage in interactions with a wider range of interlocutors because the interactions are both place-independent and time-independent. In addition to the accessibility for learners' engagement in real online communities, the unique interactional features of ACMC are considered to facilitate second language (L2) learning. By reexamining the potential of text-based interactions and the time interval between messages within a sociocultural perspective, this study attempts to investigate learners' behaviors in ACMC activities beyond the period of online interaction.

Text-Mediated Interactive Features

Studies of both SCMC (Synchronous CMC) and ACMC indicate the significant potential of text-based interaction within a sociocultural perspective, based on the work of Vygotsky (1978). Warschauer (1997) employs this framework in computer-mediated communication (CMC) to stress the role of text-mediation and the context for collaborative learning. From a sociocultural viewpoint, language is one of the semiotic tools that mediate both higher mental functioning and actions. Considering such cognitive and self-regulative functions of language, text is viewed as a "thinking device," since the writer or reader is able to describe and reflect upon its immediate interpretation and extract new meanings on the basis of its written representation (Lotman, 1988). Chang-Wells and Wells (1992) observe children's engagement in writing activities and indicate that text-based activity fosters the development of "literate thinking." Through this engagement, children are required to explicitly posit their arguments, keep their arguments consistent with their own position, consider alternatives and justify them, and carefully evaluate the consequences of their stance. Text-based communication allows learners to store, edit, reevaluate, revise, and perform such activities that may enhance their reflective process.

Additionally, CMC's interactive dimension promotes a collaborative context for learning. Vygotsky (1978) claims that in the process of higher cognitive development in an individual, knowledge is first constructed through social interaction and then internalized through private speech. According to this view, learning occurs in collaborative dialogues where learners, with their partners' assistance, are able to bridge the "zone of proximal development" (ZPD)—the gap between the level of development that learners are capable of independently attaining and the level that they can achieve with guidance or

collaborative assistance. Second language acquisition (SLA) studies based on a sociocultural perspective (e.g., Lantolf, 2000; Lantolf & Appel, 1994) agree with the significant role played by collaboration in expert-novice and peer interactions in the L2 learning context. By combining the text-based nature of communication with interactive attributes, CMC may enhance collaborative activities. Kitade (2000) and Darhower (2002) examined the text-based chat interactions of L2 learners in a discussion task. They indicate that the learners in online groups work collaboratively by providing guidance to each other and strategize ways in which to achieve intersubjectivity. Studies in telecollaboration (Belz & Kinginger, 2002; Kinginger, 2000) also suggest that the pragmatic competence of French and German L2 learners develops through collaborative e-mail and chat exchanges with their French/German partners. ACMC provides opportunities for collaborative learning to some extent; however, the potential of collaborative learning in this context is more complex, given the time interval between messages.

Time Interval as a Controversial Factor in L2 Learning

The time interval between the interactions in ACMC is a controversial aspect in L2 learning. It prevents learners from receiving immediate feedback, which is a key element in collaborative learning. Studies on novice-expert dialogue describe how experts guide novices in task completion by adjusting the task difficulty (Radziszewska & Rogoff, 1991; Wertsch, Minick, & Arns, 1984). Rogoff and Gardner (1984) state that scaffolded assistance enables learners to grasp new task components that novices would be unable to complete without assistance. From this perspective, in order to address the needs of novices, feedback should be provided through dialogue. Describing the procedure of effective assistance in the Zone of Proximal Development (ZPD), Aljaafreh and Lantolf (1994) state, "First, intervention should be *graduated*. Help provided by a more experienced member in a joint activity is designed to discover the novice's ZPD in order to offer the appropriate level of assistance and to encourage the learner to function at his or her potential level of ability... Second, help should be *contingent*, meaning that it should be offered only when it is needed, and withdrawn as soon as the novice shows signs of self-control and the ability to function independently" (p. 468).

Unlike synchronous interaction, exchanges in ACMC often have significant time delays between messages, reducing the opportunity of providing adjusted assistance. Kitade (2006) suggests that half of the initiation moves (i.e., requests for solving linguistic problems) in e-mail exchanges between learners of the Japanese language and Japanese students are ignored. Stockwell (2004) indicates that in L2 contexts, learners of Japanese in Australia rarely surmount conversational breakdown with their online Japanese partners. Lamy and Goodfellow (1999) and Kitade (2006) suggest that the time intervals between messages in asynchronous conferences and e-mail exchanges may decrease the coherence of the discourse and lessen the pressure on participants to negotiate the meaning of written communication.

On the other hand, the positive aspect of ACMC is that its asynchronous nature offers abundant time, which amplifies the abovementioned advantages of text-mediation. Lapadat (2002) emphasizes the similarities between the benefits of ACMC and those of conventional writing by stating that "online participants can and do take time to think, to polish what they say, and edit. Participants in asynchronous conferences produce less in total quantity (e.g., number of words), but their contributions to the discussion tend to be carefully crafted, adapted to the audience, dense with meaning, coherent, and complete" (p. 8). In order to assess the status of the interlocutors' knowledge and to frame their messages, participants in ACMC need to consider the perspectives and metalinguistic sensibilities of others. Lamy and Goodfellow (1999) propose that asynchronous conferences are particularly appropriate for "reflective conversations," in which the learners discuss metalinguistic and L2 learning issues, because of the time flexibility and access to previous texts.

In sum, the asynchronous nature of interaction may reduce opportunities for scaffolding in the context of collaborative learning; however, it may enhance the reflective process. An and Frick (2006) examine college students' perceptions of ACMC and report that its biggest advantage in the L2 learning context is

the ample time available to the participants to reflect upon and develop ideas. At the same time, they also regard as a shortcoming the lack of immediate feedback.

The Collaborative Context in APMC In-Class Activity

In order to amplify the benefits of APMC and to compensate for its shortcomings, it is necessary to examine an APMC in-class activity, paying close attention to the learners' total engagement, rather than limiting the attention to their online interaction. Learners engaging in APMC in-class activities can undertake two types of activities: online interactions and offline interactions with peers, referring to the online texts they are attempting to write or comprehend.

According to Wells (1999), combining the advantages of spoken and text-based communication helps expedite a child's learning process. The collaborative activity of "talk about text," where speech and text function interdependently within an activity, enables learners not only to engage in reflective thinking with text-based communication but also to receive assistance from their partners in the collaborative context. By observing children's talk in activities involving reading and composing texts, Wells (1999) discovers that the talk about text activity is successful in providing direct assistance to students when they are restricted by their individual knowledge. The offline peer interaction during APMC activities emerges in the writing process and may have some functions in common with those in the collaborative talk-about-text activity.

Studies on L2 writing activities also explore the potential of collaborative talk about written text during the following activities: revision (de Guerrero & Villamil, 2000; Villamil & de Guerrero, 1998), joint writing of a story (Swain & Lapkin, 1998), and joint reflection with native speakers regarding the revised text (Swain & Lapkin, 2002; Tocalli-Beller & Swain, 2005). Peer collaboration during writing or revision has been recognized as an effective technique for enhancing the writing skills of L2 learners (Cumming, in press; Villamil & de Guerrero, 1998). Several studies discussed below claim that peer dialogue plays a crucial role in L2 learning, particularly when it involves metalanguage talk during writing activities.

Collaborative Dialogue as a Medium for Observing Learning in an APMC Activity

As discussed above, dialogic interactions can play a significant role in student learning. Expanding on Vygotsky's original claim about expert-novice dialogic interactions, some studies examine the scaffolding behavior in peer interactions and illustrate how learners are capable of assisting each other in bridging their ZPDs (Brooks & Donato, 1994; Donato, 1994; Ohta, 1995; Platt & Brooks, 1994). These studies employ descriptive analyses to illustrate the learners' behaviors on a moment-to-moment basis and the changes that take place during collaborative dialogue.

Vygotsky (1978) perceives learners' mental processes to be dynamic phenomena. Underlining Vygotsky's claim, Wertsch (1985, 1991) suggests that a microgenetic analysis is required to observe the development of such dynamic phenomena. De Guerrero and Villamil (2000) describe a microgenetic approach as "one in which moment-to-moment changes in participants' behavior were noted and examined" (p. 54). In their investigation of peer talk among intermediate ESL learners during the revision of writing, they show that learners provide each other with knowledge about language, and that the opportunity to exteriorize their thoughts allows students to reinforce and reconstruct their knowledge of the target language.

Studies by Swain and others (Swain, 2000; Swain, 2006; Swain, Brooks, & Tacalli-Beller, 2002; Swain & Lapkin, 1998) propose that the observation of peer dialogue reveals learners' mental processes. Swain and Lapkin (1998) suggest that verbalization in a collaborative context not only enacts the thoughts constituting the mental process but also makes them observable, since "in a joint problem-solving activity, what normally remains hidden in individually internalized thought may manifest itself in dialogue" (Swain & Lapkin, 1998, p. 321).

In order to address the question of how learners solve their linguistic problems and the extent to which scaffolding may impact the knowledge of individual learners, Swain and Lapkin (1995, 1998) highlight the importance of metalinguistic episodes in dialogues. They refer to the episodes as "language related episodes (LREs), which are parts of a dialogue where the students talk about the language they are producing, question their language use, or correct themselves or others" (Swain, 1998, p. 70). Provided below is an example of a metalanguage episode from the offline data used in this study. B is looking for the word *ataeru* to state *Warui eikyo: o ataeru* 'have a bad influence' in B1. Then, B and W search for the word by listing candidates: *agaru, ageru, ataeru, ataeteageru*.

B1: Warui eikyo: ga agaru?

W2: Ageru?

B3: Ageru? Ataeru?

W4: Ataeteageru?

B5: Ataeru. Ataeru.

W6: Ataeru.

B7: Un.

By identifying the episodes that are related to linguistic aspects and included in a tailor-made test, the dyad-specific posttest may measure how the linguistic issues discussed were dialogically retained by the learners for at least a short period of time. The dyad-specific posttests are created on the basis of the metalanguage episodes, as determined by the audio recordings of the peer dialogue during the performance of the collaborative tasks. Swain (1998, 2000) states that in joint dictogloss tasks, the learners were able to remember the solutions they arrived at with respect to 70–80% of the items in the LREs on the posttest, which was held 7–10 days later. The high scores in the posttest suggest that metalanguage talk in collaborative peer dialogue may be important for L2 learning.

In sum, the findings of the analysis of collaborative dialogue that occur during the writing and revising activities indicate the potential of offline interaction in ACMC to serve as a learning opportunity. Moreover, an analysis of the offline interaction may provide a verbal protocol that demonstrates a learner's status on a moment-to-moment basis. However, offline interaction in ACMC may differ from dialogues that emerge during other writing activities. In an ACMC activity, learners are required to comprehend the received online messages and compose text messages that are framed specially for their partners. In addition, they have two types of interlocutors who can provide assistance for both task-oriented and linguistic needs: online partner(s) and offline peers. The incorporation of a descriptive approach should be effective in revealing the learners' actual behaviors beyond the domain of online interaction and the developmental process of learning that occurs in this context.

Many previous studies on ACMC have examined only online interactions (e.g., Kinginger, 2000; Kitade, 2006; Lamy & Goodfellow, 1999; Schwienhorst, 2003; Stockwell & Levy, 2001) without addressing the role of offline interactions or the learners' engagement in combined online and offline interactions. In order to fully understand how learners implement a task in the ACMC context and the potential of this task with regard to L2 learning, this study incorporates a sociocultural perspective and examines both online and offline interactions to reveal how each type of interaction—online, offline, or combined interactions—can provide learners with opportunities for collaborative learning. The study investigates learners' metalinguistic talk in online and offline interactions in order to identify the types of knowledge used and to show how they are co-constructed from the two types of interaction. A posttest is also employed to investigate the extent to which learners retain the co-constructed knowledge, at least in the short term. The research questions are as follows:

RQ1: What kind of discourse structure do the learners engage in to construct metalinguistic episodes in the ACMC activity with respect to the following: (a) online versus offline interaction and (b) receptive versus productive modes?

RQ2: What kinds of metalinguistic episodes are discussed by the learners to convey their intentions to their native key pals in terms of the linguistic focus (lexical-, syntactic-, phonological-, or discourse-based)?

RQ3: To what extent do learners retain the knowledge co-constructed with their peers in the metalinguistic episodes ?

METHOD

Participants

In order to examine learners' interactions in a classroom environment rather than in an experimental context, this study was conducted in two content-based Japanese study classes held in two terms: Term 1 (Fall, 2005) and Term 2 (Spring, 2006). In these classes, the learners and their classmates studied and discussed social problems and cultural aspects related to Japan through in-class discussions or using the bulletin board system (BBS). The participants comprised 36 exchange students (Term 1: 8 students; Term 2: 28 students) studying Japanese in half- or one-year language programs at a Japanese college. They were enrolled in the advanced-low level Japanese course, comprising eight classes per week, the content-based class being held once every week. During the data collection process, the students stayed in Japan for one month, immediately after learning Japanese in their own countries: Korea, China, Taiwan, France, Germany, Italy, Sweden, Denmark, England, the Philippines, Australia, Canada, and the U.S.A. They indicated in the questionnaire that they regularly wrote e-mails in Japanese and had no difficulty typing in Japanese. The 32 Japanese volunteers were all undergraduate students; during the data collection, 10 of them were attending the Japanese language teaching seminar class.

Task and Procedures

The participants were randomly paired with their classmates and engaged in a decision-making task with one or two Japanese partners; they could interact with their classmates only through the BBS. The participants engaged in the task during 60 minutes of a 90-minute class, which was held once a week for four weeks. To accomplish the task, the Japanese partners were also instructed to hold discussions with the participants through the BBS.

During the first week of each term, the participants were given instructions on the use of the BBS and were introduced to the available online dictionaries. The students in both Terms 1 and 2 began comparing educational or job-hunting system in Japan with those of their own countries. In the subsequent three weeks, the participants in Term 1 were instructed to discuss their ideal school with the instruction: "If you were to start a school, what kind of school would you want to establish?" They had to answer this question with respect to the educational objectives, educational system, content covered, educational environment and facilities, and name of the school. The participants in Term 2 discussed their ideal job. They were provided with the following instruction: "When you look for a job, what kinds of conditions do you need?" They had to answer this question with respect to salary, holidays, working hours, interests, stability, and human relations. After discussing and arriving at an agreement in four weeks, all the participants were instructed to write a summary of their responses in Japanese. The Japanese learners were also required to submit a handwritten report about the linguistic and cultural aspects they had learned through the activity.

Data

Data were obtained from three sources. The first was the interactions conducted during the task with two types of traceable interactions: text-based online interaction through the BBS and audio-recorded offline verbal interaction. A total of 16 recordings, each lasting an average of 59.0 minutes for Term 1, and 39 recordings, each lasting an average of 51.5 minutes for Term 2, were transcribed in order to create the posttest and identify the metalinguistic episodes. The online BBS messages included 60 messages for Term 1 and 186 messages for Term 2. The type of BBS employed for the ACMC activity, termed "zoops," enabled registered participants to engage in discussions using a group thread.

Secondly, two research assistants took notes on their observations in the classroom during all sessions in order to capture the learners' nonverbal behavior, including the use of dictionaries, which could not be captured by audio-recorded data. Finally, interviews were conducted and questionnaires were distributed for the purpose of documenting the behavior and perceptions of the Japanese-as-a-second-language participants. The questions focused primarily on three aspects: (a) the learners' behavior while they were reading and writing online messages (i.e., if and in what order they paid attention to the organization, content, or form of the messages); (b) their opinions of the pair work with their classmates; and (c) their impression of the ACMC interactions for language learning, compared to the other modes of interaction. In both terms, a research assistant conducted audio-recorded interviews with students; these lasted for an average of 13 minutes each. The interviews included more open-ended questions that were designed to extract more detailed answers.

The audio-recorded offline data were transcribed and the metalinguistic episodes were identified based on the definition of LREs provided by Swain and Lapkin (1998). The discourse structure of the metalinguistic episodes in the ACMC activities was identified and then, the preferred types of metalinguistic episodes were determined with respect to linguistic focus on the metalinguistic episodes and their corresponding solutions. At the beginning, the interrater reliability of two raters—obtained through the identification and categorization of metalinguistic episodes—was found to be 90.6%. However, following the discussion of the items that differentiated the assessments (between the two categories), the disagreements were resolved and the interrater reliability reached 100%. Based on the identified metalinguistic episodes in the online and offline interactions, test items were individually developed for each L2 learning participant for the posttest; this test was administered during the sixth week. Similar to the dyad-specific posttest by Swain and Lapkin (1998), the format of the questions used in this study varied depending on how the test items were originally discussed in the metalinguistic episodes. Some examples of the posttest are provided in [Appendix A](#).

FINDINGS

Discourse Structure of Metalinguistic Episodes

One of the most salient structural features of the metalinguistic episodes was that they were conducted through a combination of online and offline interactions. [Figure 1](#) illustrates the dual interactions in the ACMC activities: the online interaction between a learner and a Japanese student and the offline interaction between Learners A and B, peers. All the metalinguistic episodes were triggered either by a linguistic item in the Japanese partner's online message or a linguistic item that Learner A attempted to write in the online message to his/her Japanese partner. The metalinguistic episodes took place in both online and offline modes. After the learners discussed and agreed upon a certain linguistic form in the offline mode, as shown by the rectangles in [Figure 1](#) (off1, off2, and off3), Learner A replied in an online message to his/her Japanese partner, using the agreed upon linguistic item. The time interval between the online messages enabled the learners to engage in offline peer interaction, while communicating with their online Japanese partners.

The metalinguistic episodes in the offline interaction are illustrated in a simplified structure in [Figure 1](#) (offline1, offline2, and offline 3), but the actual exchanges in the data are more complicated and varied, depending on each episode. In one of the more complicated structures, the learners asked the instructor or the teaching assistant to provide assistance when they were unable to solve the problem through discussions with their partners.

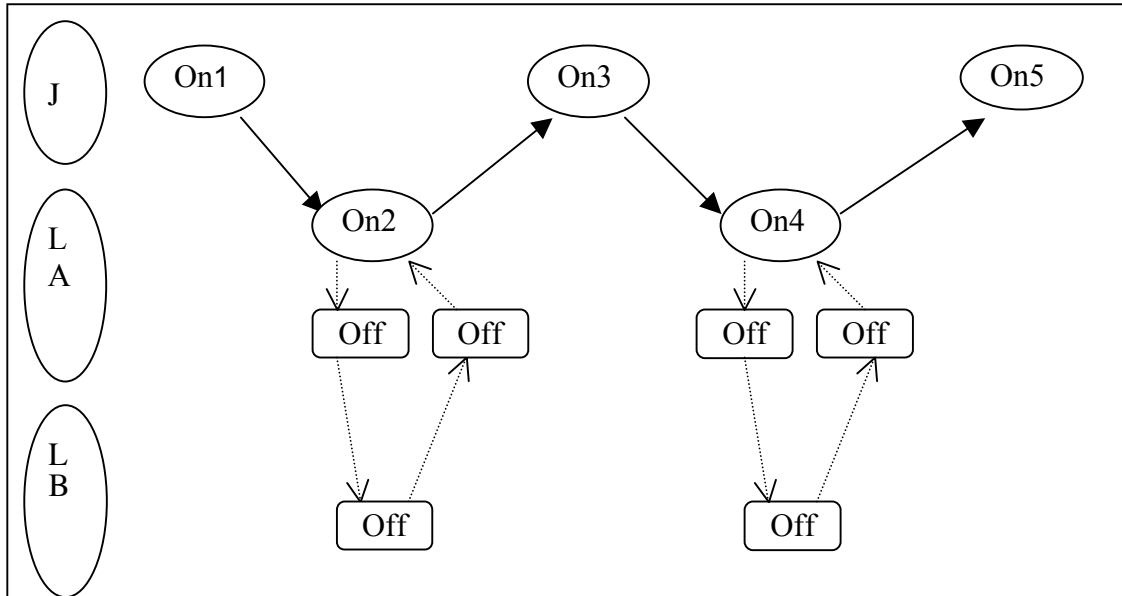


Figure 1. Combination of online and offline interactions in the ACMC activity. J: Learner A's Japanese partner; LA: learner A; LB: Learner B (Learner A's peer partner); On: online interaction; Off: offline interaction.

The unique functions of repetition in the collaborative dialogue and the evidence of written repetition constitute another significant feature of the metalinguistic episodes. From a sociocultural perspective, Dicamilla and Anton (1997), which examines L2 peer dialogue in a joint writing task, indicates the extensive use of repetition (32% of the total utterances) and demonstrates that repetition plays an essential role in establishing and maintaining intersubjectivity (Rommetveit, 1985) among peers. Repetition enables learners to indicate and maintain a mental space wherein they can confirm their agreement with what has been constructed thus far and add new information to it.

The availability of written repetition also shapes the offline dialogue in a manner that differs from regular face-to-face interactions. After or while solving the linguistic problem in the peer dialogue, the learners returned to the online message (on2 in [Figure 1](#)) and replied to their online partners using the decided linguistic item. Therefore, the online texts frequently show traceable evidence of not only the learners' transferred knowledge but also the shared information obtained through peer collaboration. Moreover, the written repetition enabled the learners to establish and maintain intersubjectivity, as mentioned above, particularly in contexts in which the learners sat side-by-side and viewed text that was typed by another learner on his/her computer screen.

[Excerpt 1](#) illustrates how, when writing a response to their Japanese partners, spoken repetitions were used to collaboratively construct the learners' knowledge in the offline peer dialogue.

Excerpt 1 (J & E, Session 3, 16:21–18:35): J and E are peers summarizing the group discussion on a young Japanese individual (Furi:ta:) who makes a living by working a part-time job. In the excerpt, they

are discussing and writing the reason why they do not support Furi:ta:. During the discussion, E is typing. In **Excerpt 1**, Learners J and E are negotiating the choice of the most appropriate particle (case marker) for the sentence they are creating. In Line 3, J is misusing *o*, an object marker particle; in Line 4, E suggests another particle, *ni*, a dative case marker particle. However, the verb *haratta* 'paid' sounds awkward, and in Line 7, J suggests the use of another particle, *no*. Finally, E suggests *ni* with the verb *kakatta* 'cost' instead of *haratta*. In Line 15, J repeats the complete sentence he uttered in line 1 with the appropriate particle (dative case marker), *ni*, and the verb, *kakatta*.

The following (partial) notation system was used in the transcripts:

(.), (..): pauses

[brackets]: The contents within brackets are the transcriber's comments.

*asterisk: The words/phrases marked with an asterisk are incorrect.

Boldface: Boldface is used to highlight the grammatical aspects under discussion.

1J: Nazeka to yu: to ano (..) kyo:iku kyo:

The reason is. Well (..) Education Edu

2E: ((typing)) Kyo:iku ((typing))

((typing)) Education ((typing))

3J: Kyo:iku ***o haratta** okane no imi wa nai (.) kana?

The money paid for the education [with the wrong usage of the object marker particle *o*] would be meaningless (.) I wonder?

4E: Kyo:iku **ni** ka.

For the education [with the correct usage of the dative marker particle *ni*], is it?

5J: Kyo:iku **ni haratta**

Paid for the education [with the correct usage of the dative marker particle *ni*]

6E: A a =

Ah a =

7J:= No tame no kane da no imi da. tabun **no**.

It means money for the sake of it. It is probably *no* [with the particle *no*]

8E: Kyo:iku **ni**

For the education [with the correct usage of the dative marker particle *ni*]

9J: (Kyo:iku)

(Education)

10E: Ah, kyo:iku **NI: kakatta** okane?

Ah, the cost of education? [Emphasis with the correct usage of the dative marker particle *ni*]

11J: A un kyo:iku

Ah, yeah. Education.

12E: **Kakatta** okane?

The cost?

13J: Un, **kakatta** okane.

Yes, the cost.

14E: ((typing)) okane

((typing)) The money

15J: Kyo:iku **ni kakatta** okane no imi wa nai.

The cost for education would be meaningless. [with the correct usage of the dative marker particle *ni*]

16E: ((typing))

This demonstrates that the learners pay attention to linguistic accuracy as well as the content of the message, and they co-construct the knowledge to produce the most grammatically appropriate sentence. Interestingly, the word *kyo:iku* 'education' first appears in Line 1 and is repeated in Lines 2, 3, 4, 5, 8, 9, 10, 11, and 15. As J and E search for the appropriate particle following *kyo:iku*, they repeat the word to indicate the point of agreement, that is, the point at which their knowledge is shared to add new information. In other words, "*kyo:iku* strategically facilitates the scaffolding by indicating the momentary mental space and producing the correct particle. Repetition also functions as a confirmation check, as is the case in Line 12, and an acceptance, as in Line 13. After collaboratively solving the linguistic problems, J repeats the completed sentence to reconfirm its modified, completed version (Line 15), and E types the sentence. The BBS message typed by E is also confirmed to be identical to sentence J, which is uttered in Line 15.

BBS messages, such as those composed during this discussion, provide noticeable written evidence of the knowledge gained through peer dialogue. However, in one case, the learners acquired non-target knowledge through the dialogue. Such an instance implies that learners can co-construct the knowledge gained and reproduce this knowledge in the subsequent text; however, the acquired knowledge may be non-target and, therefore, may require confirmation by experts.

Preferred Modes for Metalinguistic Episodes

With respect to the preferred mode of metalinguistic episodes, participants clearly selected the offline mode: As shown in [Table 1](#), most of the metalinguistic episodes (Term 1: all episodes; Term 2: all episodes, except two online instances) were discussed during offline verbal interactions rather than online interactions. There are two possible explanations for this finding. As previous studies suggest, learners are reluctant to ask their online partners for help with linguistic matters, due to the less frequent exchanges and lack of instant responses (Kitade, 2006). It is difficult to obtain extensive exchanges with repetitions in asynchronous interactions. Further, the act of soliciting linguistic help from online native partners may be threatening. However, the opportunity for offline collaborative dialogue through synchronous peer dialogue, where learners feel less threatened to ask for linguistic assistance, may avoid these disadvantages of ACMC.

The other question regarding the preferred types of metalinguistic episodes is the manner in which these episodes are triggered. In comprehending their online partners' messages and in producing their own messages, learners may face linguistic problems. The data from both Terms 1 and 2 indicate that 91.7%

and 93.5% of the metalinguistic episodes, respectively, took place during the productive mode, where the learners were trying to compose messages. More complex cognitive processes are required during the productive mode than during the receptive mode and these processes may promote more metalinguistic episodes. In addition, the use of online dictionaries may reduce the burden of comprehending messages with unfamiliar words. Apart from the metalinguistic episodes in the audio-recorded data, the class observations and learners' interviews suggested that there were more instances in which the learners faced linguistic problems. In these instances, the learners solved the linguistic challenges by consulting online or electronic dictionaries. More possible explanations will be discussed in the following section, which will deal with the learners' perceptions.

Table 1. Frequency of Metalinguistic Episodes in Different Modes

	Term 1	Term 2	Total (%)
Online metalinguistic episodes	0	2	2 (0.6)
Offline metalinguistic episodes	85	203	288 (99.3)
Productive mode	78	190	268(93.0)
Receptive mode	7	10+3*	20(6.9)

Note. Three metalinguistic episodes were triggered when the learners attempted to write a response, but the resources are originally from the online partners' messages.

The other noteworthy finding is that the number of metalinguistic episodes among the pairs indicate a variation, as shown in Tables 1-a and 1-b. For instance, pairs 2 and 6 were able to engage in more than 30 metalinguistic episodes; this accounts for five times the number of episodes engaged in by pairs 4 and 15, that is, 6. Thus, the factors affecting the number of metalinguistic episodes in pairs should be investigated using a larger population.

Table 1-a. Frequency of Metalinguistic episodes (offline) among pairs -Term1-

Pair (Gender)	Metalinguistic episodes (%)
Pair 1 (M-F)	22 (25.8)
Pair 2 (F-F)	33 (38.8)
Pair 3 (M-F)	24 (28.2)
Pair 4 (M-F)	6 (7.0)
Total	85 (100)

Table 1-b. Frequency of Metalinguistic episodes (offline) among pairs –Term2-

Pair (Gender)	Metalinguistic episodes (%)
Pair 5 (M-F)	15 (7.3)
Pair 6 (F-F)	32 (15.7)
Pair 7 (M-F)	9 (4.4)
Pair 8 (F-F)	13 (6.4)
Pair 9 (M-F)	8 (3.9)
Pair 10 (F-F)	8 (3.9)
Pair 11 (M-F)	14 (6.8)
Pair 12 (M-F)	8 (3.9)
Pair 13 (M-F)	26 (12.8)
Pair 14 (M-F)	29 (14.2)
Pair 15 (M-F)	6 (2.9)
Pair 16 (M-F)	8 (3.9)
Pair 17 (M-M)	15 (7.3)
Pair 18 (M-M)	12 (5.9)
Total	203 (100)

Linguistic Focus of Metalinguistic Episodes in the APMC Activity

All the metalinguistic episodes are categorized as lexis-based, form-based, discourse-based, phonological- or orthographic-based, a combination of lexical and syntactic, or a combination of phonological and lexis-based. The categorization is modified from the classification suggested by Swain and Lapkin (1998, 2002) because some aspects, such as the phonological and orthographic focus, are salient in CMC. In lexis-based metalinguistic episodes, the learners search for and confirm or select the appropriate vocabulary from alternative Japanese vocabulary items. In form-based metalinguistic episodes, the learners address one aspect of Japanese syntax or morphology. The orthography (i.e., spelling and Kanji) and phonological focus (e.g., voiced or voiceless sounds) are categorized in the independent group. However, in discourse-based metalinguistic episodes, the learners focus on aspects such as discourse markers, logical sequencing, stylistics including the degree of politeness, or text structure. Some metalinguistic episodes pertain to more than one linguistic focus and are categorized in the combined groups (see [Appendix B](#) for examples.)

As shown in [Table 2](#), the results of both Terms 1 and 2 were similar with regard to the linguistic focus of the metalinguistic episodes, although the different topics of the task may have affected the number and types of metalinguistic episodes that occurred. Out of a total of 288 metalinguistic episodes, 142 (49.3%) were lexis-based, 74 (25.6%) were form-based, 36 (12.5%) were phonological and orthographic-based, and 16 (5.5%) were discourse-based. The metalinguistic episodes involving a combination of the lexical and syntactic and the lexical and phonological focus account for less than 5% each.

Table 2. Linguistic Focus of Metalinguistic Episodes

	Term1 (%)	Term 2 (%)	Total (%)
Lexis	43 (50.5)	99 (48.7)	142 (49.3)
Form	27 (31.7)	47 (23.1)	74 (25.6)
Phonological & orthographic	8 (9.4)	28 (13.7)	36 (12.5)
Discourse	5 (5.8)	11 (5.4)	16 (5.5)
Lexical & form	0 (0)	13 (6.4)	13 (4.5)
Phonological & lexical	2 (2.3)	5 (2.4)	7 (2.4)
Total	85 (100)	203 (100)	288(100)

Approximately half the metalinguistic episodes had a lexical focus, but the percentage of form-related episodes (approximately 31% in Term 1 and Term 2 with the combination of lexical and form aspects, 6.4%) was quite significant. Due to the availability of both online and electronic dictionaries, many metalinguistic episodes involved more than just vocabulary searching. Most metalinguistic episodes were classified into three conditions. The first is when learners lack confidence about their knowledge or hypothesis and request quick verbal assurance from their peers or the instructor. The second is when learners are unable to choose the appropriate item from those known to them or in the list suggested in the dictionary. The last condition is when the problem encountered by learners is beyond the scope of the dictionary. For example, when a learner seeks an expression to describe a highly abstract concept, he/she would be unable to find a suitable expression even in his/her L1. On these occasions, learners are unable to solve the problem using dictionaries and need to ask their partners or instructors for further assistance. The last two conditions, in particular, often lead learners to engage in more complex metalinguistic explanations (i.e., why one is more appropriate/inappropriate than the other) where learners need to verbalize their moment-to-moment state of knowledge.

[Excerpt 2](#) illustrates the metalinguistic episodes in which pair Y and D engages in a dialogue to co-construct grammatical knowledge. In order to formulate the educational objective suggested by Y and D for their ideal school, Y suggests the use of the expression they have just learned in the other class, *A to*

yu: no wa B no koto de aru [Noun A is to Noun B], as seen in Lines 3, 11, and 13. However, E explains to Y that the use of the expression is inappropriate in the sentence due to the following reasons: (a) the structure suggested by Y contains a verb, but the expression requires a noun, as observed in Lines 14–18 and (b) the expression is suitable for a more general definition, when in reality, they are attempting to pen their opinions, as in Lines 18–22. Y understands D's explanations and suggests a different expression, *Verb koto da to omoimasu* [we think it is to Verb] in Line 23.

Excerpt 2 (Y & D, Session 2): After the discussion on the educational objectives of their ideal school, Y and D begin noting down their ideas. Based on their discussion, D is typing the message.

1Y: Tabun kyo:iku mokuhyo: to yu: no wa (.)

The educational objective is to probably (.)

2D: U:n. Kyo:iku mokuhyo: ((typing)) nn.

Yeah:. The educational objective ((typing)) mm.

3Y: Tabun *to yu: no wa naninani no koto de aru* toka kakeba i: ka? (.) un etto:

Would it be okay to write something like *to yu: no wa naninani no koto de aru??* [a structure to express *it is to such and such*] (.) mnn well:

4D: Etto:

Well:

5Y: Ki-ho-n-te-ki-na

The basic

6D: Kihonteki na? ((typing))

The basic (.) un (.) things ((typing))

7Y: Kihonteki na (.) un (.) koto-o

The basic (.) un (.) things

8D: Koto-o ((typing))

Things [with the objective case marker *o*] ((typing))

9Y: Benkyo: saseru, benkyo: suru? benkyo: saseru? ...saseru kana? sase

Benkyo: saseru [Let them study, using causative form for study], benkyo: suru [study]? ...Benkyo: saseru, I wonder? (.) sase. [the use of the causative form (*study* or *let them study*)]

10D: Benkyo:suru

(benkyo: suru)[*study* without the causative form]

11Y: *Saseru no koto de aru* (.) *no koto* ((typing))

*Saseru no koto de aru [*it is to let them study]* (.) *no koto ((typing)) [the wrong usage of the structure]

12D: (Demo)

(But)

13Y: Demo *nanka to yu: no wa naninani no koto de aru* desho? kono hyo:gen dakara:

But *nanka to yu: no wa naninani no koto de aru* [a structure *something is to such and such*], isn't it? Because of this expression:

14D: mnn. Ano:: (..) *no no nai ho: ga i: to omo: kedo*

mnn. well:: (.) but I think it would be better without *no* [a nominalizer]

15Y: Demo *nanka*=

But somehow=

16D: =Demo *saseru wa do:shi de meishi ja nai*

=But *saseru* [the causative verb suffix] is a verb, but not a noun.

17Y: Demo *etto getsuyo:bi kana? kono iroiro na hyo:gen yatta desho? renshu: shita dakara sono hyo:gen wa naninani to yu: nowa naninani no koto de aru kara.*

But I wonder if it was Monday? We learned these kinds of expressions, didn't we? We practiced it, and the expression was *naninani to yu: nowa naninani no koto de aru* [something is to such and such.]

18D: Tabun *me:shi, me:shi no ho: ga tekito: to omo: n da ne. sore wa hyakkajiten ja nakute*=

I think probably a noun; a noun is more appropriate. This is not an encyclopedia, but=

19Y: =Un, so so *hai wakatta nanka (.) minna to*=

=Yeah. Right right. Yes, I understand. Some (.) Everyone and=

20D: =*Jijitsu no yo:na*

=Like a fact

21Y: Un un *wakatta hai*=

Yeah. I got it. Yes =

22D: =*Watashitachi no iken*

=Our opinion.

23Y: Un. so so so ka. *da to omoimasu tte kaita ho: ga i: desho? ((typing)) ja saseru koto da to omoimasu.*

Yeah. Right right right. It would be better to write, *da to omoimasu* [we think it is], wouldn't it? ((typing)) Well, *saseru koto da to omoimasu* [we think it is to let them study].

24D: Ano: ((unintelligible)) un.

Well: ((unintelligible)) yeah

The feedback provided by D contains a metalinguistic explanation addressing what Y had overlooked. Metalinguistic feedback is claimed to promote a particular type of learners' repair that engages the learners in deeper cognitive processing (Lyster & Ranta, 1997). Furthermore, D's feedback matches Y's requirement because D and Y share the same knowledge of the expression learnt in the same class. Such instances of metalinguistic episodes indicate that if the learners conduct the ACMC task by themselves at home or individually, they will not be able to solve many of the challenges they will encounter. They may miss the opportunities for metalinguistic episodes where learning may take place.

Results of the Individually Tailored Posttest

The individually tailored posttest was developed on the basis of the metalinguistic episodes identified in the audio-recorded offline dialogue in Term 2. The multiple-choice questions were created to include the choices of both the correct and incorrect items discussed (and not discussed) in the metalinguistic episodes (see [Appendix A](#) for examples). The posttest was administered six weeks after the last ACMC session; the learners were told not to use any assistance during this test and that the result would not affect their grades.

From the 180 questions developed from the metalinguistic episodes, 132 (73.3%) were correctly resolved during the posttest, as shown in [Table 3](#). This finding confirms the results of dyad-specific posttests by LaPierre (1994) and Swain (1998), which were conducted one week to ten days after the task session and indicate a 70-80% correspondence. Although this study does not ignore the possibility of any change in the effect of language learning subsequent to the metalinguistic episodes and prior to the posttests, it suggests that a high rate of linguistic knowledge constructed through dialogue can remain in memory for a minimum of 6 weeks. The self-reported lexical items that the learners indicated they had learned through the ACMC activities were tested in the same exam sheet; 28 (49.1%) out of 57 were correctly resolved. Compared to the results for the self-reported lexical items, the lexical items in the metalinguistic episodes indicate a higher rate of resolution (68.8%). Interestingly, most newly learned lexical items reported by the learners were originally from the online partner's messages and not the item discussed in the metalinguistic episodes. However, the posttest result demonstrates that the lexical items discussed in the peer dialogue had a higher rate of resolution than those that the learners believed they had learned.

The other significant finding in the posttest is the high rate of resolution (79.5%) of syntactic items. Selecting the correct syntactic items in the posttest may not necessarily imply that the learners completely understand the syntactic aspect and are capable of applying it to any given context. However, the data demonstrate that the learners were at least able to choose the correct syntactic item from the alternatives they listed in the metalinguistic episodes and could do so by themselves—something they were unable to accomplish before.

Table 3. Posttest Result

	Total number of items in posttest	Items answered correctly	Resolution rate (%)
Lexical	90	62	68.8
Phonological & orthographic	27	20	74.0
Form	44	35	79.5
Discourse	2 ^a	2	100.0
Lexical & form	12	8	66.6
Phonological & lexical	5	5	100.0
Total	180 ^b	132	73.3

DISCUSSION

Significance of Offline Metalanguage Talk

The analysis of the metalinguistic episodes during the offline talk demonstrated the unique discourse structure of such episodes and suggested the possibility of high retention (73.3%) of linguistic knowledge when it was discussed among peers. The high scores on the posttest imply that the opportunities to discuss linguistic aspects with peers and instructors not only reflect the linguistic challenges encountered by the learners but also have the potential to promote longer maintenance of the item in their individual

memories. The unique structural features of the metalinguistic episodes also demonstrate opportunities for the learners to enhance their knowledge.

One major finding is that the learners' metalinguage talk did not occur in the online interaction with the Japanese speakers but rather in the offline verbal interaction. The retrospective interviews and questionnaires indicate that the learners are highly motivated to interact with online Japanese partners, but preferred the offline mode for metalinguage talk because of the availability of prompt and comprehensible responses. The offline context—in which extensive exchanges with repetitions are available—helps learners to establish and maintain intersubjectivity and obtain graduated and contingent assistance. Unlike offline peer dialogues, asynchronous online interactions lack the exchanges that are needed to create and maintain such discourse. The other explanation for the preference of offline interactions is related to the interlocutors' effect. In offline modes, the assistance provided by peers who share similar background knowledge is more comprehensible. Further, it is less face-threatening to request linguistic help from offline peers than to request assistance from online Japanese partners that the learners have never met.

The other crucial feature of the structure of metalinguistic episodes is the written and spoken repetition discussed by the peers. The learners had the opportunity to incorporate the linguistic solution discussed in the offline interaction into the online messages they subsequently wrote to their Japanese partners. The learners' written repetition of what was already discussed in offline metalinguistic dialogues functions not only as a message to the online Japanese partners but also as visualized evidence indicating the intersubjectivity agreed upon by the peers in their offline interaction. By viewing the repeated written words/phrases on the shared computer screen and listening to the spoken repetition, the learners are able to indicate their stance to one another and be acknowledged for it. Further studies examining the role and effect of written repetition may explore the potential of the distinguishable discourse structures of metalinguistic episodes during an APMC activity.

Although APMC activities are frequently conducted as outside-the-classroom assignments, the findings in this study indicate the significance of the in-class APMC activity, since this entails the beneficial aspects of offline talk. Although reference to online dictionaries is useful, the learners' retrospective interviews suggest that there are limitations in the scope of these dictionaries. Unlike the receptive mode (reading), which requires only comprehension, the productive mode requires the selection of the correct linguistic knowledge and awareness of how to apply that knowledge in a particular context. Collaborative peer context is able to meet such complicated demands that cannot be solved using dictionaries.

Factors Affecting Opportunities for Learning: Pair Work and Task Activities

Although most learners indicated in the questionnaires that they took advantage of the allotted time and peers' help between the online asynchronous messages to write more complex and accurate texts, some learners are more self-directed and hesitate to ask for assistance frequently. Such individual differences are also apparent in the learners' perception of pair work. Previous studies based on the sociocultural perspective, particularly in classroom-based research (Foster, 1993; Swain & Lapkin, 1998), suggest that the manner in which the learners perceive, interact, and conduct pair work varies depending on the pair. The responses to the question regarding the perception of pair work indicate that 61% of learners considered it to be helpful, 30.5% perceived no difference between pair and individual work, and 8% experienced difficulties working in a pair.

As indicated by previous studies examining pair interactions (Storch, 2002; Storch & Wigglesworth, in press; Swain & Lapkin, 1998), the amount and pattern of metalinguistic episodes observed in each pair and the manner in which the tasks were approached varied. The learners' perceptions of pair work may be related to the congeniality of the two learners and may affect the amount and pattern of metalinguistic episodes in the pair. Learners' reasons for disliking pair work were a preference for an independent learning style and an inability to get along with their partners. The pairs who had more metalinguistic

episodes indicated that they enjoyed pair work and gained significant knowledge from their peers in terms of the language and content of the discussion. On the other hand, the peers who had fewer metalinguistic episodes tended to perceive offline peer interactions as an ineffective context for language learning. As some studies suggest (Berg, 1999; Swain, Brooks, & Tocalli-Beller, 2002; Tang & Tithcott, 1999), providing explicit instructions about the rationale of employing peer collaboration and training on collaboration may promote a positive perception and increase collaborative work.

The type, complexity, and operationalization of the task also moderate the benefits of offline interaction. The learners were instructed to collaboratively write more than one online message in each session, but how they collaborated to carry out the task (write the messages) varied between the pairs. The metalinguistic episodes seemed to consistently take place in the coauthoring (i.e., joint writing) context, where the pair, using the same computer screen, collaboratively discussed and decided how and with what content they should respond to their online Japanese partners. However, the pairs who discussed ideas and decided who would write what, and then individually wrote a message, tended to have relatively fewer metalinguistic episodes. The nature of the task may vary depending on how the learners construct the task up to the final outcome (Coughlan & Duff, 1994), and a more qualitative analysis examining the operationalization of the writing task in each process (e.g., prewriting discussion, composition, and revision) and the pattern of collaboration (Storch, 2002) should be incorporated in order to address the tasks involving collaborative writing in CMC. In particular, the effect of coauthoring, in which both learners are equally responsible for online messages, may be one area of investigation for future research.

Another factor that may reduce the opportunity for learning through peer collaboration is the restrictive nature of peer assistance. In one episode, a pair reached a non-target solution during the metalinguistic talk. In another episode, a pair was unsuccessful in finding the correct grammatical form and instead used an easier, alternative word in its place. This pair was attempting to find a subjunctive form of the word *yokereba* 'good' (*yokereba* is conjugated rather uniquely in Japanese). After listing the incorrect forms, the pair agreed instead to employ the more well-known word *ok*. Most of the episodes in the data indicate that the learners solicited the instructor or the assistant for help when they were unsure about their linguistic solution or unable to arrive at one. Such instances suggest that the availability of assistance from an instructor or expert is crucial during peer collaboration.

Methodological Suggestions for Future Studies

Unlike other studies that focus on the effect of planning time in experimental settings, this study incorporated a microgenetic approach to examine the learners' actual behaviors in an offline setting in which there is a time stipulation and where peer collaboration occurs naturally. Although offline behaviors are not stored in the scripts and are not as easy to observe as online behaviors, the analysis of offline data reveals some of the learners' actual behavior while executing ACMC tasks, such as collaborative knowledge-buildings during the asynchronous exchanges. The incorporation of audio and visual recordings may capture the non-verbal cues and demonstrate further details of the peer collaborative process. The findings from the observation of the learners' offline behaviors suggest that the planning time of ACMC is not an independent factor. On the other hand, the availability of external resources during the time interval between the messages (dictionaries and metalanguage talk with peers and the instructor) is advantageous for L2 learning. While an experimental study is useful in addressing the general and statistical significance of the effect of planning time on the quality of production, a more naturalistic and microgenetic approach that takes into account the availability of external resources, learners' actual behaviors in executing tasks, and their long-term development should also be considered when studying the effective practical application of ACMC in L2 contexts.

Besides the variety in the amount and quality of pair work and the actual activity carried out in a task, it is necessary to improve the methods of measuring the transfer of knowledge obtained in peer collaborative dialogue. This study employed a tailor-made test based on items that were resolved during peer-to-peer

dialogue; therefore, it addressed the extent to which the knowledge obtained through collaborative dialogue was individually transferred and maintained. The items in the posttest posed questions in a new context; however, each item was asked in varied contexts in order to examine whether the learner had truly acquired the encountered knowledge item in question and was capable of applying it. A follow-up posttest to study long-term effects should also be useful.

Although the tailor-made posttest is a relatively new method that requires some modification and is difficult to apply to larger data, Swain (2000) indicates that this method directly demonstrates the dual role of a language, suggested in the Vygotskian perspective: language as a mediation tool of cognition ("saying as a cognitive activity") and the construction of knowledge that reflects itself ("what they said becomes an outcome of that activity.") At the same time, traditional pre-experimental and post-experimental studies examining the quality of the production (i.e., accuracy, complexity, and fluency) with statistical evidence using a larger data sample should also contribute to the exploration of the effect of collaboration and planning time. A study with a combination of methodologies and varied approaches should suggest the effective pedagogical application of ACMC where learners engage in different modes of interaction.

CONCLUSION

This study examined the benefits of offline dialogue in an ACMC activity. Since the size of the sample was small, further research considering factors such as the proficiency levels of learners and online partners, the use of the L1 (in the context of foreign language learning), and the goal of the activity is necessary for generalizing the findings. Addressing the preferred type of metalinguistic episodes, the points at which they occur, and their relationship with language learning in an ACMC activity, this study demonstrates how ACMC tasks can be structured to allow learners to take advantage of text-mediated reflective processes that are amplified with sufficient time stipulations and peer collaboration. More so than SCMC, ACMC provides greater access to real interactions with expert speakers (i.e., without the difficulty posed by time differences), particularly for learning intercultural communication and pragmatic competence. However, the asynchronous nature of ACMC can be perceived as unfavorable for L2 learning because it reduces the opportunity for instant and tailored feedback. This study suggests that offline dialogue may compensate for this shortcoming and serve as an occasion for L2 learning and knowledge building. The offline verbal peer dialogue data demonstrates that knowledge of the target language may be collaboratively constructed, and the tailored posttests suggest that learners retain this knowledge for at least a short period of time.

The findings related to the role of offline peer dialogue in the ACMC activity suggest a need for the reexamination of CMC and the alternative pedagogical application of ACMC activities. The methodological implication raised for future studies on CMC is the incorporation of a more detailed analysis examining the learners' actual behaviors in carrying out CMC activities. Previous studies on CMC have paid less attention to the role of offline interaction in language learning; however, the potential of offline interactions to create a collaborative context, not only among online interlocutors but also among offline peers, should be investigated in future studies. The collaborative peer relationship enables learners to engage in interactions whereby they deepen their knowledge not only in terms of the content but also linguistic aspects and at a level higher than they would have achieved individually. To effectively incorporate collaborative learning in a CMC context, more pedagogical techniques (e.g., encouraging co-authoring activities, taking careful consideration when matching pairs, guiding the learners in pairing activities) should be carefully considered.

APPENDICES

Appendix A

Examples of Posttest Questions

{ } の中から一番適切なものを選んでください。Please choose the most appropriate one from { }.

Lexical:

仕事を選ぶ時、どんな国や町にあるかという会社の {位置・職場・立場} が大事だ。

Form:

関西弁を使うと、日本人から {わらわせる・わられる・わられる} かな。

Appendix B

Examples of Each Metalinguistic episodes Category

<Lexis>:

To choose one from two Japanese words for "every": daigaku "goto-ni" vs. daigaku "*tabi-ni"

To choose one from two Japanese words for "position": daigaku no "*tachiba" vs. daigaku no "ichi" (for location)

<Form>:

The potential verb form for "tsukuru (to make)": "*tsuku-rareru" vs. "tsukur-eru"

The use of the causative form: Kodomo ni "asonde-hoshii" vs. "asobasete-hoshii"

<Discourse>:

Inserting "tatoeba" (for example) to create cohesion.

"-yo: dearu (sentence final expression)" is too formal and change it to "yo:-desu"

<Lexis and form> Searching for both the lexical item(s) and structure together.

Discussing to find the expression "he got fired" in Japanese.

<Phonological and lexical>

To choose one from two phonologically similar words: "seikaku (personality)" or "seikatsu (life)"

<Phonological & orthographic>

The spelling of "message" in Japanese is "messe:gi," but the learner wrote as "*mesegi."

ACKNOWLEDGMENTS

This research is supported in part by a Grant-in-Aid for Scientific Research of the Ministry of Education, Culture, Sports, Science and Technology. I would like to acknowledge and thank Maiko Ikeda for transcribing the data, as well as the reviewers and editors of LLT for the helpful comments and feedback.

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