

Corrective Feedback in Written Synchronous and Asynchronous Computer-Mediated Communication

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ABSTRACT

Although corrective feedback (CF) has attracted much attention in the field of second language acquisition, there is scant research pertaining to CF in naturalistic written computer-mediated communication (CMC). This exploratory study addressed this gap by describing the types of CF that occurred and evaluating their relative effects on learner uptake in two conditions: (1) asynchronous CMC and (2) synchronous CMC between four Native Speaker-Non-Native Speaker dyads. As a measure of effectiveness, learner uptake is defined as immediate or delayed learner responses to CF. Participants completed the following synchronous tasks: an introductory task, and a video-prompted discussion task via an online chat program. For the asynchronous task, the participants co-developed a 3-day travel plan via email. The findings showed that CF in the form of clarification requests existed in the ACMC environment, whereas recasts were the only type of CF observed in the SCMC environment. Although no evidence of immediate effect was shown during task performance, an instance of delayed effect was shown across tasks in the SCMC environment.

INTRODUCTION

Second language acquisition and teaching researchers have long been interested in the role of corrective feedback (CF) in language learning (Ellis, Loewen, & Erlam, 2006). CF research, to date, has primarily focused on immediate and/or delayed effects of CF, specifically the types of CF that facilitate learner repair in response to feedback (e.g., Carroll & Swain, 1993; Han, 2002; Lyster & Ranta, 1997), the overall effects of feedback (e.g., McDonough, 2005; Oliver & Mackey, 2003), and learner perceptions of feedback (e.g., Carpenter, Jeon, MacGregor, & Macky, 2006; Han, 2001; Mackey, Gass, & McDonough, 2000).

Recently, CF studies have branched out into computer-mediated environments. With this, there has been an inclination to compare and contrast the findings of face-to-face (F2F) CF research (e.g., Heift, 2004; Sauro, 2009; 2011) with those in the computer-mediated environments (e.g., Lowen & Erlam, 2006; Sagarra, 2007). One difference between F2F and computer-mediated communication (CMC), at least in current cultural practices, is that CMC

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allows for synchronous and asynchronous exchange whereas F2F is, in the main, synchronous only. It is an empirical question whether the findings of F2F-CF can be generalized to both synchronous and asynchronous CMC.

The majority of CMC and F2F CF research seems to be situated in experimental or instructional settings (e.g., Bueno-Alastuey, 2013; Han, 2001; Lyster, 1998). However, CMC-CF research conducted in *naturalistic CMC* conditions is almost nonexistent. In the present study, task-based naturalistic CMC settings refer to the interaction that takes place outside the auspices of a classroom or experimental conditions.

The current study builds its design out of the need to better understand the dynamics of corrective feedback and uptake in written synchronous and asynchronous CMC contexts. This study therefore examines naturalistic computer-mediated discourse of adult native-speaker (NS)/non-native speaker (NNS) dyads, contrasting CF behavior in synchronous versus asynchronous conditions. In the next section, a review of the literature on CMC and CF as they relate to SLA will be presented. Next, the methodology section will ensue, followed by data analysis and presentation of the results. The paper will conclude with a summary of the findings and discussion of the methodological limitations of the study.

LITERATURE REVIEW

Computer-mediated communication (CMC)

In the past two decades, the field of computer-assisted language learning (CALL) has witnessed a shift away from the conventional use of multimedia or stand-alone programs in language learning to the more “communicative and interactive” aspects of language learning that “technologies can offer or reinforce” (Hoven, 2006, p. 237). This motivates the need to further investigate CMC technologies. With the recent theoretical and methodological development in CMC, the number of studies examining computer-mediated contexts from an interactionist perspective has also increased.

Since CMC had traditionally been depicted as one-dimensional and passive, previous research failed to distinguish between the myriad of CMC technologies and their relationship to language learning. Smith, Alvarez-Torres, and Zhao (2003) advocated for CMC effectiveness to be evaluated in terms of its impact on language learning, not as “a uniform technology, but based on the unique characteristics or features embodied in the different sub-tool and technology utilized in the interaction process” (p. 710). Numerous studies have explored various qualities in CMC sub-technologies, namely, (1) temporality, (2) degree of anonymity, (3) modality, and (4) spatiality (Smith et al., 2003), mostly anchored within an array of existing SLA theoretical frameworks, among which the interactionist theory of SLA has enjoyed immense attention (Bower & Kawaguchi, 2011). From the interactionist perspective, written CMC alters human interaction in that it becomes easily transmitted, stored, archived, reevaluated, and edited, all of which encourages reflection and interaction (Warschauer, 1996). Over the years, such aspects of text-based communication motivated corrective feedback-focused studies in CMC.

Corrective feedback

Various terms have been used to describe what happens when the learner is informed that his/her production of the target language is unacceptable in the target language. The most common terms that have been used in the literature include *corrective feedback*, *negative feedback*, *negative evidence*, and *interactional feedback*. Research including Lyster and Ranta (1997), Lyster (1998) and, Panova and Lyster (2002) use the term *corrective feedback*. However, contemporary research stemming from the interactionist perspective interchangeably use the terms *feedback* (Mackey et al., 2000), *negative evidence* (Long, 1996), and *negative feedback* (Long, Inagaki, & Ortega, 1998). Despite these various terms, they all denote the same concept, namely, what takes place when language learners are informed that their utterance is unacceptable in the target language.

Discussions of different approaches to providing CF have characterized feedback according to its degree of explicitness or implicitness. Explicit CF includes overt indicators that an error has occurred, thus directing the focus of interaction to linguistic forms rather than meaning. Implicit CF, on the other hand, lacks this overt indication of error. Within these broader categories of implicitness and explicitness, feedback can also vary in three distinct ways: (1) the kind of information it provides learners regarding the nature of error, (2) the presence or absence of a target-like reformulation of an error, and (3) the response elicited from the learner.

Corrective feedback arguably has the potential to induce a learner to notice mismatches between their own utterance and target-like norms. To date, CMC studies have overwhelmingly investigated two major types of CF, namely recasts and metalinguistic feedback, mostly conducted in instructional settings with English and Spanish as the target languages.

The earliest group of classroom and experimental studies, comparing recasts and metalinguistic feedback, reported no statistically significant gains in response to either type. Loewen and Erlam (2006), a partial replication of a F2F study (Ellis et al., 2006), cited variable learner proficiency and, to an extent, difference in test types for the lack of any significant gains in learner output. Similar results were reported by Sauro (2009), who compared the relative effects of recasts and metalinguistic information focused on omission of the zero article with abstract non-count nouns with Swedish university learners. The results showed no significant advantage for either feedback type on immediate or sustained gains in the target form, which the author ascribed to the “ambiguity of the corrective intent of recasts” (p. 110). As Ellis et al. (2006) point out, full recasts, that is, recasts which consist of reformulations of the entire utterance containing the initial error, may not be as helpful in pointing learners to the location of the error as are partial recasts, which consist only of reformulations of the error minus the rest of the initial utterance. In other words, the more information the learner is confronted with, the more difficult it may be for the learner to locate and identify the portion that is reformulated; as a result, the learner may not be able to notice the reformulation.

On the question of noticing and uptake in CMC in relation to CF types, studies have reported mixed results. Sotillo (2010), for example, found that text-based chats afforded more opportunities for error noticing and awareness of linguistic forms as the language tutors in the study provided more direct or explicit forms of CF to the ESL learners, with more than 60% of the uptake being successful. These findings were echoed in Samnani and Noordin (2013) who studied the effects of recasts and prompts on the learning of new grammatical forms in CMC. According to the study, using both recasts and prompts was effective for learning new grammar items with prompts being more effective than recasts in SCMC. Sotillo (2010) ascribes the success of prompts over recasts to pushed modified output on part of the learner. Findings in these studies are congruent with Lyster and Ranta (1997), in that recasts are found to be less

effective in facilitating the processing or uptake of L2 forms even though they are more available than other CF types in CMC environments.

Uptake

Lyster and Ranta (1997) defined uptake as an "utterance that immediately follows the teacher's feedback and that constitutes a reaction in some way to the teacher's intent to draw attention to some aspect of the student's initial utterance" (p. 49). As such, learner uptake can be understood as a specific type of pushed output (Swain, 1995). Expanding Lyster and Ranta's (1997) definition of uptake, Ellis, Basturkmen, and Loewen (2001a, 2001b) proposed that uptake can also be preemptive, in that it can occur even when the previous move did not involve corrective feedback. According to Ellis et al. (2001a), uptake is when "a student correctly repaired a linguistic feature or clearly demonstrated understanding of an item" (p. 299). The authors further summarize uptake as follows: (1) uptake is a learner move; (2) the move is optional, (3) the uptake move occurs where learners demonstrate gaps in their knowledge of some target language feature, and (4) the uptake move occurs as a reaction to a preceding move in which the interlocutor had, explicitly or implicitly, provided information about a linguistic feature. Taken together, both Lyster and Ranta (1997) and Ellis et al. (2001a) consider uptake as some kind of a reformulated utterance by the learner after the teacher's feedback. However, a reformulated utterance cannot be taken as evidence that the more correct or advanced form has been integrated into the learner's interlanguage. Nevertheless, a reformulated learner response may offer some reason to suspect that the mismatch between the learner utterance and the target utterance has been noticed (Schmidt, 1995), a step at least toward acquisition. In order to understand the conditions, in which CF occurs for the benefit of language acquisition, negotiated interaction is discussed in the next section.

Negotiated interaction

Long (2007) ascribed a key role to CF in his Interaction Hypothesis (Long, 1996) and situated it within a context of what he calls *negotiated interaction*. Long (1996) argued that during interaction, interlocutors negotiate mutual understanding by manipulating and reformulating how their utterances are encoded. At times, reformulations are induced by corrective feedback by linking input, noticing of that input, and modified output by the learner.

Negotiated interaction has been the focus of L2 acquisition research largely due to its ability of making input comprehensible, drawing learners' attention to form, and producing modified output (Gass, 1997; Long, 1996). In negotiated interaction, learners negotiate the meanings of utterances to make input more comprehensible (Long, 1996). Such negotiations can draw learners' attention to target-like forms and promote *noticing*, which has been hypothesized to be the first step to interlanguage (IL) development (Schmidt, 1995). According to Schmidt's (1995) noticing hypothesis, L2 learners must consciously notice linguistic forms and the meanings that they carry in order to move their L2 development forward. This role for noticing is termed as "the very foundation on which the efficacy of corrective feedback... is based" (Smith, 2005, p. 2).

To summarize, mixed results have been reported in the literature on CF and its effects in CMC environments. Overall, the results from CF studies in CMC suggest that recasts and metalinguistic information are the most frequent CF types available in CMC. Since most of the research is conducted in instructional settings adopting an experimental or quasi-experimental design, extreme caution has to be exercised in any attempt to extend findings from these studies to naturalistic CMC environments. The lack of CF research in naturalistic CMC motivated the present study. More specifically, the current study aimed to explore NS-NNS naturalistic written discourse in SCMC and APMC for the occurrence of different types of corrective feedback and their effects on learner uptake. The research questions investigated in the present study are as follows:

1. Does corrective feedback exist in naturalistic written synchronous and asynchronous CMC?
 - a) If yes, what types of corrective feedback exist in each of these environments?
 - b) To what extent are these types of corrective feedback effective within and across these environments?

METHOD

Participants

The participants (N=5) in the study included four NNSs and one NS of English. At the time of data collection, the NNSs, selected through convenience sampling, were high intermediate learners of English at a community language program in New York City. NNS-1 was a 37-year-old artist whose L1 was French. His length of residence in the United States was eight months. NNS-2 was a 20-year-old L1 French female au pair whose length of residence at the time of the study was two months. NNS-3 was a 34-year-old female musician whose L1 was Japanese. Her length of residence was eight years. NNS-4, a 31-year-old homemaker, was also an L1 French speaker whose length of residence at the time of the study was twelve months.

The NS interlocutor was a 26-year-old female, first-year master's student at an education institution in New York City. She spoke Spanish as an L2 and did not have any prior formal or informal experience in teaching ESL or EFL. Lack of teaching experience was important because the researcher's primary objective was to collect naturalistic interaction data. Moreover, none of the participants knew each other at the onset of the study or were told the purpose of the study.

Tasks

With the main focus of the investigation being the occurrence of CF in naturalistic interaction, the study used three different tasks to collect a “*general* sample of learner language” (Ellis & Barkhuizen, 2009, p. 30). The tasks were designed to provide a context for the participants to use the L2 in a purposeful manner focusing on meaning exchange and use of language for real-world, non-linguistic purposes (Ellis & Barkhuizen, 2009). Table 1 summarizes the tasks used in the study.

TABLE 1

Tasks			
Environments	Tasks	Duration	Tool
Synchronous CMC	Task 1: Introductions	40 minutes	<i>Google Talk</i>
	Task 2: Video Discussion	50 minutes	<i>Google Talk</i>
Asynchronous CMC	Task 3:	2 – 4 days	<i>Gmail</i>

The first two tasks were conducted in the synchronous environment. Task 1 was an introductory task which lasted 40 minutes. The participants were asked to introduce themselves to their partner like one would in an online chatroom. They were also given a few guiding questions to ask their partner (e.g., *What did he/she do last weekend?*). Task 2 was a video discussion which lasted 50 minutes. Each dyad watched a short video clip (1 minute and 57 seconds) from the animation movie *Bolt*, after which they discussed the content of the clip. After completing tasks 1 and 2 in the synchronous mode, the second phase of data collection ensued in the asynchronous mode. In task 3, the dyads had to cooperatively devise a 2-day travel plan based on competing sets of travel preferences. The dyads were asked to make a joint travel plan through discussions and negotiations. It is important to underscore that the tasks across the synchronous and asynchronous environments were not identical owing to the inherent nature and characteristics of these environments, as noted in previous literature. The three types of tasks used in the study served a dual purpose: (1) the tasks provided different contexts to the interlocutors to interact in, thus providing more opportunities for the provision of CF; and (2) through participating in the different tasks, the NNSs had multiple venues to showcase immediate or delayed uptake of CF, if any.

Procedures

Data for the present study were collected in two phases. Phase-1 lasted four days, one day for each pair to complete tasks 1 and 2 in the synchronous environment. The synchronous CMC tool used in phase-1 was *Google Talk*, an instant messaging service. Work stations, including a laptop with head-phones, were set up in two different rooms in the library for each pair. In phase-2, the NNS participants interacted with the NS interlocutor from the comfort of their homes and at their leisure to complete task 3 in the asynchronous environment. *Gmail*, a free web-based email service was used in phase-2. Table 2 below presents the data collection schedule.

TABLE 2
Data collection schedule

Steps	Description	Dyads: Date	Duration
Phase 1: SCMC Tasks 1 & 2	The participants completed tasks 1 & 2 in the synchronous mode	Dyad 1: April 25	Task 1: 40 minutes
		Dyad 2: April 26	Task 2: 50 minutes
		Dyad 3: April 27	
		Dyad 4: April 28	

Phase 2: ACMC Task 3	The participants	Dyad 1: April 30 to
	completed task 3	May 3
	in the	Dyad 2: May 1 to 5
	asynchronous	Dyad 3: May 2 to 4
	mode	Dyad 4: May 1 to 4

Coding

All NNS turns were coded as either having an error or not. A turn was operationalized as a transfer of the *floor* from one participant to the other. The term was defined this way because there was no way of knowing whether the writer intended each separate consecutive line to constitute a new turn or it simply reflected an individualized keyboarding style (Smith, 2005). Twenty-five percent of the data were coded by two coders, including the researcher, while the rest of the data were coded only by the researcher.

In counting NNS turns without error, short turns (one or two words) with little or no potential for error such as *yes, no, oh, so interesting, wow, very nice, good, thank you*, greetings or salutations (*hi, hello, dear, best, regards*), and names of people, places, and objects (e.g., movies) were excluded. However, other short utterances were included when there was potential for error, as in the following example:

(1) (SCMC Task 2 – Video discussion – April 27)

- NS: *Let me know when you're done watching the video*
NNS-3: *I watched!* [Error – grammatical]
NS: *Do you know that movie?*

The word *watched* in the NNS turn was used as a transitive verb thus classified as an error.

Like Lyster and Ranta (1997), the thrust of the present study was corrective feedback and learner uptake. As such, errors in the present study were broadly classified as either lexical or grammatical. A separate category for spellings in the target language was included because of their frequency. An example of lexical error is as follows:

(2) (SCMC Task 1 – Introduction – April 27)

- NS: *Do you like spicy foods?*
NNS-3: *I'm not **fun** of spicy foods...* [Error – lexical]
NS: *I am very fond of spicy foods! A lot of authentic Mexican food is spicy.*

The above NNS turn was coded as a lexical error because the NNS used the word *fun* instead of possible context-relevant target-language words *fond* or *a fan* to share her preference for food. However, if the NNS turn revealed a non-target-like use of English, then it was considered a grammatical error. For example, in the following, the NNS turn is erroneous because the plural marker *-s* is missing from the word *friend*.

(3) (SCMC Task 1 – Introduction – April 26)

- NS: *What was your highlight of the week?*
NNS-2: *I skyped with one of my childhood **friend**.* [Error – grammatical]

For consistency, no distinction was made between spelling errors and what might be considered as “typos.” Lastly, when more than one type of error occurred in a student turn (e.g., lexical + spelling), these were coded as “multiple,” as in the following example:

(4) (ACMC Task 3 – Travel plan)

May 2

NS: *Did you search for a campsite in that area? I think camping would be much better than Airbnb, may be even cheaper.*

May 3

NNS-4: *... Yes, 3 ties yesterday night.* [Error – multiple: 1 spelling, 1 lexical]

In terms of coding for CF, two types of corrective feedback were distinguished in the study.

1. *Recasts* were defined as reformulations of all or part of a NNS’s non-target-like utterance retaining the user’s intended meaning (Nicholas, Lightbown, & Spada, 2001). Following is an example of a NS recast as operationalized in the study:

(5) (SCMC Task 2 – Video discussion – April 25)

NNS-3: *The last movie that I saw was called American Hustle*

NS: *It was one of those big movies that was nominated for an Oscar award*

NNS-3: *It was kind of slow but I love all casts.* [Error – grammatical]

NS: *Yes, the cast was great, I agree.* [CF – recast]

The NS provided a partial recast in her second turn by using the target-like form of the noun *cast* used erroneously by the NNS. Similarly, in the following example, interacting with another NNS participant, the NS provides a partial recast regarding the erroneous use of the preposition *with*.

(6) (SCMC Task 1 – Introduction – April 27)

NNS-2: *Now I have a bicycle. I love biking in Central Park and in the city in general.*

NS: *That's great. You are brave! I think I am too afraid to bike in the city because of all the cars and traffic.*

NNS-2: *I feel more free with a bike...* [Error – grammatical]

NS: *I can understand feeling more free on a bike than on a car. It makes me want to try riding a bicycle here sometime.* [CF – recast]

As can be seen from the examples, the NS turns that contain the partial recasts are not isolated recasts, rather, the turns form relevant responses that continue the topic and provide new information.

2. *Clarification requests* were the second type of CF distinguished in the data. According to Lyster and Ranta (1997), clarification requests indicate to the learner either that their utterance has been misunderstood by the interlocutor or that the utterance is ill-formed in some way and that a repetition or a reformulation is required. This is a feedback type that can refer to problems in either comprehensibility or accuracy, or both. NS feedback was coded as clarification requests

only when these moves followed a NNS error. In the example from the ACMC task below, while discussing whether camping would suit him, the NNS indicates that he has food allergies that include gluten and tree nuts but says camping is fine. However, the NS does not understand the comment and replies with a clarification request asking the NNS to reformulate his sentence.

(7) (ACMC Task 3 – Travel plan)

April 30

NNS-1: *Im allergy to food items with gluten and tree nuts so camping is suited...*
[Error-grammatical]

May 1

NS: *Did you say you're allergic to tree nuts? Because then I assume we can't go camping. Staying away from the trees will be better for us.* [CF – clarification]

May 1

NNS: *Yes, no camping. Sorry for confusion! ☺ hotel stay is okey.*

RESULTS

The data set consisted of chat scripts generated by the participants during task-based dyadic SCMC and ACMC interactions. Analysis consisted of both quantitative and qualitative procedures. The quantitative component involved determining the number of words in the corpus, counting the number of errors produced by the NNSs, followed by the number of CF types provided by the NS interlocutor. The number of instances of effect, immediate or delayed, was also part of the quantitative component. The qualitative analysis involved the analysis of episodes with immediate or delayed effects within or across the two environments.

There were 9,952 words generated in the data out of which 7,800 words were produced in the SCMC tasks 1 and 2, and 1,792 words in the ACMC task 3. The NNSs produced 4,636 words across the three tasks in the two environments, and the NS interlocutor produced 4,956 words in total.

Research Question 1 & 1a

Research question 1 asked whether CF existed in naturalistic written SCMC and ACMC, and if yes, what types of CF were used. Per the results, recasts were observed in SCMC whereas clarification requests were observed in ACMC. To address RQ1, errors were identified as the starting point for locating CF in the data. Tables 3.1 and 3.2 summarize the number of errors produced by the NNS participants in the SCMC and the ACMC mode respectively. Altogether, 225 errors were identified with 177 errors in SCMC compared to 48 errors in ACMC. Task 1 warranted the most number of errors (91), followed by Task 2 (86), and Task 3 (48). As shown in the tables, across the two environments, grammatical errors were the most common error types, compared to lexical and spelling errors.

TABLE 3.1
Number of errors in SCMC

		Grammatical	Lexical	Spelling	Total
Task 1	NNS-1	18		6	24
	NNS-2	13		1	14
	NNS-3	28	1		29
	NNS-4	22		2	24
	Total	81	1	9	91
Task 2	NNS-1	9		8	17
	NNS-2	15		4	19
	NNS-3	19	1	1	21
	NNS-4	27		2	29
	Total	70	1	15	86

TABLE 3.2
Number of errors in APMC

		Grammatical	Lexical	Spelling	Total
Task 3	NNS-1	9		3	12
	NNS-2	7	1	1	9
	NNS-3	12			12
	NNS-4	13		2	15
	Total	41	1	6	48

Of the six types of feedback outlined in Lyster and Ranta's (1997) typology, 18 counts of *recasts* and 1 count of *clarification request* were observed in the present study. All of the recasts were observed in the synchronous mode whereas the clarification request was observed in the asynchronous mode. As displayed in Table 4 below, there were a total of 19 instances of recasts in the synchronous mode comprising Tasks 1 and 2. NNS-2 and NNS-3 received the highest number of recasts (7 and 8 respectively), while NNS-1 received 3 and NNS-4 received only 1 recast.

TABLE 4
NS Recasts in SCMC

		Error Type		
		Grammatical	Lexical	Spelling
NNS-1	2			1
NNS-2	6			1
NNS-3	7		1	0
NNS-4	1			0
Total	16		1	2

Research Question 1b

Part (b) of the research question sought to explore the extent to which the types of CF found in the two modes were effective within and across the environments. The results in Table 5 indicate that there was just one instance of delayed uptake and no instances of immediate uptake in the data across the two modes. The delayed uptake was observed in the SCMC mode.

TABLE 5
Recasts received by NNS and evidence of uptake

	Error Type			Uptake	
	Grammatical	Lexical	Spelling	Immediate	Delayed
NNS-1	2		1		
NNS-2	6		1		1
NNS-3	7	1			
NNS-4	1				
Total	16	1	2	0	1

There were several inter-learner patterns of feedback in the data that warranted a qualitative analysis. The analysis reveals that the NS provided more recasts in response to grammatical errors compared to spelling or lexical errors. A closer examination of interactions reveals that among the array of grammatical errors, most of the recasts were in response to errors pertaining to the regular and irregular plural nouns, especially the use or lack of the plural *-s*, and the definite and indefinite articles.

It is interesting to note that the two L1 Japanese participants produced most of the grammatical errors. The analysis further reveals that the NS's responses to L1 French participants were mostly different from her responses to the L1 Japanese participants. When interacting with L1 French participants, the NS interlocutor would mostly follow up on the topic under discussion with further questions rather than simply reformulating erroneous NNS utterances, as in the case of most of her interactions with L1 Japanese participants. We can only speculate that such idiosyncrasy may be suggestive of a tendency in NSs to engage differently with speakers from different L1 backgrounds.

The data also showed that the two L1 French speakers readily engaged in topics related to music, movies, and travel, whereas the L1 Japanese participants mostly remained focused on personal topics, for example the English language courses they were enrolled in at the time of data collection. Topics of conversation then played an important role in determining the length of turns and the kind of recasts (full vs. partial, integrated vs. isolated) provided by the NS. As such, if the topic was related to the NNS participant's personal experiences, then the NS was more likely to simply reformulate the erroneous utterances. However, if the topic of the conversation was more 'neutral' and/or objective (e.g., movies, sports) then the NS was more likely to add to the information, propelling the conversation forward and rendering longer turns as a result. Following are examples in support of this observation.

(8) (SCMC Task 1 – Introduction – April 27)

NNS-3: *So I didn't study English until 2 **month** ago.* [Error – grammatical]

- NS: *Wow! Your English is very good for only 2 months of study!* [CF – partial recast]
NNS-3: *Thanks 😊 I have lived here for 8 years.*

(9) (SCMC Task 1 – Introduction – April 25)

- NS: *I really like the French movie Amelie. Do you know it?*
NNS-1: *Amelie Poulin? 😊 with *beauuutiful musics haha.* [Error – multiple: 1 spelling, 1 grammatical]
NS: *Yes! I love the music! That composer is amazing. I forget his name right now...* [CF – partial recast]
NNS-1: *Yann Tiersen! Yes, I love him too and it is a cute story... a little bit strange sometimes haha*

In example (8), the NNS participant spoke Japanese as her L1, while the NNS in example (9) was an L1 French speaker. The NS in (8) praises the NNS's English proficiency embedding a partial reformulation of the NNS's utterance. On the other hand, in the latter example, the NS provides a partial reformulation of the noun *music* but then adds more information by stating that she loves that particular music. She then carries the conversation forward by asking a question. It is important to highlight that the use of *beauuutiful* could be intentional, with the speaker wanting to add emphasis on the degree to which she loves the said music; however, it is difficult to establish intentional use due to the design of the present study.

The qualitative analysis of the only incidence of delayed uptake in the data reveals that NNS-2 fluctuated in his use of the word *too* within and across tasks. The NNS started by using *to* as shown below. In her second turn, the NS provides a reformulation of the word.

(10) (SCMC Task 1 – Introduction – April 26)

- NS: *Do you have a favorite museum here?*
NNS-2: *May be the MOMA But I like the Studio Museum to.* [Error – spelling]
NS: *I like MoMA a lot too...* [CF – partial recast]

Towards the end of the same task, eighteen turns later, the NNS successfully uses the word *too*. This use was coded as delayed uptake in the study.

(11) (SCMC Task 1 – Introduction – April 26)

- NNS-2: *Nice chatting with you too!* [Delayed uptake]

Moving on to Task 2, the NNS successfully used the target-like form of the word in a different context, as shown below:

(12) (SCMC Task 2 – Vide discussion – April 26)

- NNS-2: *Yes those movies are really good. I think them too.*
NS: *It is funny and it is art. There is something very deep and philosophical and it is often very mysterious*
NNS-2: *Yes I agree. The characters are so well developed, too. Very lovable and memorable characters.*

However, eight turns later, he used the incorrect spelling of the word and continued to use the non-target-like spelling all the way to the end of the task.

(13) (SCMC Task 2 – Vide discussion – April 26)

NS: *One of my favorite films is an old French film called The Umbrellas of Cherbourg*

I'm not sure what its French name is. Do you know it?

NNS-2: *Jacques Demi*

I love him to [Error – spelling]

NS: *Yes!*

6 turns later

NS: *Catherine Deneuve was so beautiful!*

NNS-2: *yes i love her to [Error – spelling]*

19 turns later

NS: *Ok! Thank you for chatting, it's been nice. I think I'm going to go home and watch The Young Girls of Rochefort this weekend! 😊*

NNS-2: *good idea. You can see Peau d'Ane> It beautiful to [Error – spelling] it is.*

The last turn is an important utterance because it provides evidence that the NNS was aware of his language use as he attempted to self-correct part of his utterance by adding *it is*. This indicates that he read what he typed, perhaps noticed the errors and provided self-correction. However, he failed to notice the error in his use of the word *to* in the present context. Given the evidence so far based on the operationalization of uptake in the study, one can claim that a successful delayed uptake was nevertheless observed in the data. However, the subsequent non-target-like use of the word warrants a second interpretation. It may be safe to assume that the recasts had made a stir in the internal syllabus of the NNS, in regard with the use of *too*, and that psycholinguistically speaking, the NNS was using the two forms (*to* and *too*) interchangeably perhaps as a precursor to restructuring.

Self-Corrections and Clarification Requests

The qualitative analysis revealed multiple instances of unprompted self-corrections and clarification requests on the part of the NNS participants in the SCMC mode. The unprompted self-corrections were, however, *selective*, in that the NNS participants did not self-correct each time they produced an error. It is probable that after the NNSs typed in and hit “send,” they read their response in the chat window and noticed the mistake. However, in all four instances, there were other errors in the same utterance that went unnoticed by the learner. Of the four instances of self-correction observed in the data, two were observed in NNS-1 data and one instance each was observed in NNS-2 and NNS-3 data.

(14) (SCMC Task 1 – Introduction – April 25)

- NNS-1: *Interesting to discover a new culture, too create links, to speak english of course 😊*
*to create** [Self-correction]
NS: *yes, exactly. it's great that you get to be in a different culture...*

(15) (SCMC Task 1 – Introduction – April 26)

- NNS-2: *Yes it is sure that it can be dangerous but bicycle enlarge the possibility of the space. I fell ;ore* [Error – grammatical]
*free *with a bike.*
I feel more free... [Self-correction]
NS: *I can understand feeling more free on a bike than on a car.* [CF – partial recast]

In both examples above, the NNSs self-correct part of their utterances marking the corrections with asterisks.

Further qualitative analysis reveals three instances where the NNS participants would ask the NS to explain or clarify meanings of certain lexical items. NNS-1, 3, and 4 each requested for clarification as in the example below. The NS used the word *bother*, which the NNS does not understand. Upon expressing her lack of understanding, the NS then provides an explanation and an example relating the word to the NNS's personal experience.

(16) (SCMC Task 2 – Video discussion – April 25)

- NS: *I have dogs and a cat at my home in California and the cat always bothers the dogs it's so funny*
NNS-1: *sorry i just don't understand the word 'bother', is it like 'play with provocation'?* [Clarification request]
NS: *Yes it's like to play with but in an annoying way. It could be like what a little sister or brother does to his/her older sister/brother*
NNS-1: *hmmm*
NS: *Maybe with the girls you nanny, the little sister can 'bother' the older one if she tries to play or provoke her in an annoying way*
NNS-1: *ok yeah I got it, thank you!* [Acknowledgement]

Interestingly, in the example above, the NNS does not incorporate the feedback/explanation in any subsequent replies; rather she just thanks the NS for the clarification. A similar response towards the end of the explanation is also observed in the following example. The NNS attempts to use the word *gorgeous* but is unsure about the spelling. She then asks the NS interlocutor about the spelling and then just thanks the NS after the clarification.

(17) (SCMC Task 2 – Video discussion – April 25)

- NNS-4: *I saw Phantom of Opera. It was very gousious (I do not know spell, sorry? How do you spell it?) I am going to see Wikid next! How about you?*
[Clarification request]
NS: *Do you mean gorgeous as in beautiful?*
NNS-4: *Yes! Thank you!* [Acknowledgement]

In the expanded definition of *uptake* in Smith (2005), *recognition* or *acknowledgement* of the information provided by the NS interlocutor is regarded as an uptake move. According to the study, “this category [of recognition] also includes moves where the learner acknowledges the information received in a longer utterance but does not use the target item productively” (p. 46). However, Smith cautions that according to Ellis et al. (2001a), learner recognition or acknowledgement may be viewed as “unsuccessful uptake.” In line with Ellis et al. (2001a), instances where the NNSs acknowledged the information provided by the NS were coded as unsuccessful uptake.

The qualitative analysis enabled the researcher to note particular patterns in the NNS data that were largely idiosyncratic in nature. As mentioned earlier, a separate category of spelling errors was created due to the overwhelming number of such errors in the data. NNS-1, an L1 French speaker, produced an overwhelming number of spelling errors (17 in total). She received one partial recast when she misspelled the word *music* in example (11); however, no evidence of immediate or delayed uptake was observed in the data concerning the misspelled word.

A close analysis of her spelling errors reveals that she was consistent in her errors, in that she consistently dropped the “e” in the final position in words like *suspense* and *favorite*. This consistency was observed within and across Tasks 1 and 2. As shown in the example below, the NS provides the correct spelling of the word *favorite* in the beginning but when NNS-1 uses the word in subsequent turns she drops the final “e.” This trend continues in Task 2 during a discussion on movies. The word is used two times by the NNS, both without the “e” in the end.

(18) (SCMC Tasks 1 & 2 – April 25)

Task 1	Task 2
NS: <i>fun! I also like relaxing in Central Park, it's one of my favorite things to do when it's sunny out</i>	NS: <i>Yes, Tangled. I haven't seen that one either!</i>
NNS-1: <i>yes!!</i>	<i>That's the one with the main character who has long curly red hair right?</i>
16 turns later	NNS-1: <i>Yes it is this movie, one of my favorit animations haha, [Error – spelling]</i>
NNS-1: <i>... did you wear the specific clothes for your favorit team?</i>	NS: <i>What types of movies are your favorite?</i>
<i>Haha [Error – spelling]</i>	[CF – partial recast]
	NNS-1: <i>What is your favorit kind of movie? [Error –spelling]</i>
	NS: <i>I like a lot of different movies... Do you have a favorite actor or actress?</i>
	NNS-1: <i>Well, I never remember the name of the actors, I am terrible...</i>

One possible explanation could be that the “e” in the end is silent and that the NNS may have used the word more in oral communication than in written. Secondly, the NNS may not be developmentally ready for noticing the NS’s use of the correct spellings of the word.

DISCUSSION AND CONCLUSION

The present study explored the occurrence of CF and its effects on learner uptake between a NS and NNSs of English in naturalistic SCMC and ACMC discourse. The study, first and foremost, found a marked difference between the two modalities, in that, while CF in the form of recasts was observed in the SCMC environment, clarification requests were observed in the ACMC environment. This finding is interesting because it sheds light into the nature of naturalistic ACMC. The findings are in line with recent CMC studies in instructional settings (e.g., Castaneda, 2005; Sauro, 2009; 2011), which have also reported the existence of CF in both environments. However, in the present study, the amount of CF in ACMC was shown to be much less than in SCMC. Among the many reasons for this discrepancy could be that the focus of the participants is mainly on meaning (Lin, 2013). Additionally, time-lapse or temporality (Smith et al., 2003) may also have played a role. Since emails could be reread, the NS interactant could possibly decode the message without needing to provide feedback in the form of, for example, clarification requests or prompts.

Since the study focused on naturalistic as opposed to instructional or laboratory data, the findings partially echo previous literature (e.g., Sauro, 2009; Sotillo, 2010). Recasts have been documented as the most commonly used CF type in the CMC environment; however, studies have also reported *metalinguistic feedback* and *prompts* in instructional settings. The present study presents some evidence that native speakers may not provide CF when interacting in naturalistic discourse with non-native speakers unless there is some communication breakdown. One could explain the difference between the findings in quasi-experimental studies, where primarily L2 instructors or tutors interact with L2 learners, and the findings in the present study, as the difference between a teacher's versus a native speaker's intent in providing feedback. In other words, there is a need to underscore the difference between conversational or interactional feedback, where the focus is primarily on meaning, and corrective feedback in instructional settings, where the teacher's intent is mostly *corrective* (Castaneda, 2005; Loewen & Erlam, 2006). Although further research needs to be conducted in this regard, this finding indicates that, in general, NSs might not consistently provide feedback in natural interaction except when there is a miscommunication or a breakdown in communication (Warschauer, 2006).

With regard to self-correction, according to previous research, self-repair has been shown to exist primarily in NS-NS interaction, where interactants are equally competent in the language (Schegloff, Jefferson, & Sacks, 1977). The instances of self-correction reported in the study indicate that, due to its temporal and written nature, the CMC mode potentially increases the opportunities for learners to notice and repair the errors in their responses.

Moreover, the present study also suggested that learners usually preferred to acknowledge the information provided by the NS in response to NNS clarification requests, as opposed to incorporating the information in their subsequent response(s).

With regards to immediate uptake, previous research has reported increasing numbers, especially in the SCMC environment (e.g., Abrams, 2003; Heift, 2004); however, the present study did not show any instances of immediate uptake. Again, this could be attributed to the fact that the present study used naturalistic data as opposed to quasi-experimental data that have been widely used in CMC literature. The singular evidence of delayed uptake shown in the study is interesting in that it adds to the existing body of CMC literature as a classic instance of an inverted U-shaped development previously reported in face-to-face studies.

LIMITATIONS

Limitations of the study included the absence of a framework in coding errors. Three categories of error types were identified vis-à-vis grammatical, lexical, and spelling errors. However, a more nuanced approach is needed in coding naturalistic data to account for the exact nature of each error. The use of Lyster and Ranta's (1997) CF typology was another limitation in the study. First of all, their typology has pedagogical underpinnings and is developed based on what happens in the language classroom. Learner self-corrections, for example, were observed multiple times in the data but could not be coded. Moreover, a stimulated recall would have shed more light on why the NS provided feedback selectively.

In conclusion, this exploratory study aimed to address a gap in CMC literature regarding the occurrence of CF and its effects on learner uptake in naturalistic written CMC. The major finding of the study was that different types of CF existed in the two environments: recasts in the SCMC mode and clarification requests in the ACMC mode. No immediate effect of recasts was reported within tasks; however, one instance of delayed effect was reported in the study. Findings from this study could potentially inform further studies of feedback in naturalistic text-based CMC, especially synchronous CMC, regarding what type(s) of feedback works best in naturalistic interactions, for which learners, and with what type of interlocutors.

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