

# Synchronous CMC E-tandem Learning in Japanese as a Second Language: Linguistic Environment and Language Development

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**Abstract:** In introducing Information and communication technologies (ICT) in classroom pedagogical objectives should guide choices in learning activities. This paper broaches this issue and evaluates an e-tandem L2 learning activity via text-based synchronous computer-mediated communication (SCMC) from two vantage points: (a) the linguistic environment offered by the activity and (b) language development as shown through chat-logs. An e-tandem activity was organized over the semester between Japanese L2 university students in Australia and English L2 university students in Japan. Each student engaged in text chat with their partner on a set topic over three sessions. An interactionist approach (Long, 1996) is adopted to measure the linguistic environment of the activity. Also, morphological and syntactic development was assessed within a Processability Theory framework (Pienemann, 1998; Kawaguchi, 2015). Analysis suggests that 20% of turns show negotiation of meaning and corrective feedback with highly successful outcomes. The rate of negotiation turns found is much higher than that of “simple chat”. Also, most students, but not all, showed morphological and/or syntactic development. Thus, while the use of SCMC e-tandem learning in L2 is useful, close evaluation of the activity and monitoring the student’s performance are crucial for the educator to ensure it promotes language learning.

**Key words:** ICT (information communication technologies), SCMC (synchronous computer-mediated communication), e-tandem learning, Japanese as a second language, Processability Theory

## 1. Introduction

The development of digital inventions and mobile technology has opened up a new era for second language (L2) teaching and learning where L2 educators are able to design activities using digital resources which were inconceivable even in the previous decade. New communication technologies such as text chat and skype allow learners to access authentic communication with native speakers instantly, with minimum cost and regardless of physical distance. Also, collaborative L2 activities go beyond face-to-face classroom. Thus, digital activities, critically, enable real-time interaction, production and feedback. Further, telecommunication with native speakers promotes intercultural competence (O’Dowd, 2003, 2007) as well as pragmatic competence (Cunningham & Vyatkina, 2012). The risk is, however, that technological novelty and availability, rather than pedagogical objectives, may determine the choice of digital activities in the L2 classroom. It is crucial then, as I will show

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below, that L2 educators evaluate the digital activities using second language acquisition (SLA) research and its pedagogical indications in order to optimize their pedagogical use. Research in SLA offers practical indications for language learning and teaching that can be useful in the context of digital technologies.

Given the above context this paper evaluates a computer mediated language learning activity in the classroom in terms of the linguistic environment it manages to provide for the learners and its effect on linguistic development in Japanese L2. More specifically it examines Synchronous Computer Mediated Communication (SCMC) e-tandem learning via text chat between English L2 and Japanese L2 students. In order to evaluate the linguistic environment provided by this e-tandem activity the chat-log data gained from e-tandem learning is analysed within two theoretical frameworks. An interactionist approach (Long, 1996) is adopted to account for the linguistic environment provided by the activity. On the other hand, Processability Theory (Pienemann, 1998; Pienemann et al., 2005) is used to measure the learner's linguistic development.

Firstly, in terms of the linguistic environment, the role of input and output in SLA has been well established over the last few decades (e.g., Krashen, 1985; Swain, 1993). More recently, researchers within the "input and interaction" framework (e.g., Long, 1996; Gass & Mackey, 2007) have engaged in demonstrating that interactional modification and negotiation of meaning as well as corrective feedback (Long & Robinson, 1998) and developmentally moderated feedback (Di Biase, 2008) promote language acquisition. Corrective feedback is a key component of form-focused instruction that gives feedback to the L2 learners on their non-target like form either in speech or in writing when a communication problem arises during interaction. Developmentally moderated feedback, on the other hand, refers to the requirement that the feedback offered is within the developmentally possible range for the learner. In a nutshell, SLA researchers broadly agree that L2 learners will benefit from conversational interaction where interactional modification, negotiation of meaning and corrective feedback occur. Schmidt and Frota (1986) with their noticing hypothesis, for instance, propose that language learning happens when the learner notices the gap between what they *want* to express and what they *can* express with their current knowledge of L2. Using digital communication technologies such as SCMC e-tandem learning, multiplies opportunities for L2 learners to interact with native speakers or other learners, and hence augment exposure, output, interaction, negotiation of meaning, feedback and "noticing the gap" both inside and outside the classroom.

Secondly, learner's language development is also a crucial element to consider when utilizing digital technologies. Several studies report that the group of students who studied L2 using CALL (Computer Assisted Language Learning) outperformed the group without CALL (e.g., Jafarian et al., 2012; Payne & Whitney, 2002). However, many of these studies treat the learners as a group. Individual learner's performance via CALL, instead, is barely considered. Yet, individual analysis is important especially in the context of digital technologies given that the learner has control over how far he/she will go with digital activities. In fact, Kawaguchi and Di Biase (2009) observed that lexical production while performing text-based chat varied enormously among the five students considered: the difference in both number of tokens and types produced was, remarkably, over 1:5. Therefore, monitoring learner language performance in digital activities is critical to assess whether activities are meaningful and fruitful. The current study examines individual learner's language development via e-tandem learning using a well established L2 development framework such as Processability Theory (Pienemann, 1998; Pienemann et al., 2005; Kawaguchi, 2010, 2015).

Two research questions will guide this paper:

- What kind of linguistic environment does SCMC e-tandem learning activity provide for Japanese L2 learners?

More specifically, do negotiations occur during synchronous chat in Japanese sessions?

- Can the data from SCMC e-tandem learning provide a measurable indication of the learner's morphological and syntactic development?

## **2. Language Learning through SCMC E-tandem**

SCMC e-tandem learning using text chat was introduced in an intermediate Japanese L2 classroom at Western Sydney University and an English L2 class at Kanda University of International Study in Japan. In L2 tandem learning a group of L2 students engages in a learning interaction with another group of students who are native speakers of that language. These, in turn, are also learners of a second language which is the native language of the first group. So, each group is, alternatively, learning from, or teaching the other group (cf. Lewis & Walker, 2003). Unsurprisingly, research on e-tandem L2 learning has been growing recently (Lewis et al., 2011).

In the e-Tandem language learning via instant synchronous messaging, students conducted three one-hour chat sessions distributed where they exchanged texts in each language (30 minutes in English and 30 minutes in Japanese) per session, over a two months period. Each student played two roles: as a L2 learner for one segment of 30 minutes and a language tutor in the other 30 minutes segment. In order to orient and focus autonomous learning, a topic is given to the students for each session, rather than leaving it to them to converse on whatever topic they choose. This is because guided autonomous learning in chat provides opportunities for the students to go beyond their current level of L2 skills. Without a specific topic on chat, they might stray in the conversation or find themselves at a loss as to what to talk about. The topics given in each session were: (Session 1) About myself; (Session 2) My university life and; (Session 3) Cultural issues, gradually increasing topic difficulty and complexity for carrying out the task. Students were also asked to download their chat logs after Sessions 2 and 3 and send their partner some friendly language corrections and suggestions via e-mail.

Interestingly, Payne & Whitney (2002) report on advantages of text chat over face-to-face communication in SLA. According to them, chat reduces the burden on language processing because of: (i) slower speed of information exchange (roughly between two and three words per second in normal speech, but 3 to 4 second per content word in writing) and; (ii) availability of previous messages (context) as steady visual representation. Given the reduced cognitive demands with text chat, the learner is able to employ more attentional resources on L2 lexicon and forms while maintaining the same interaction. This is especially beneficial for shy and/or linguistically weaker students who may be unable to respond using L2 speech immediately in the classroom.

Studies on e-tandem learning show how learners can use many different negotiation opportunities when communication problems occur (Iwasaki & Oliver, 2003; Bower & Kawaguchi, 2011). Further, Tudini (2003) shows e-tandem chat to result in similar levels of negotiation of meaning to face-to-face communication. In fact, chat can lead to greater learner noticing of problematic L2 language than face-to-face communication (Lai & Zhao, 2006).

## **3. Evaluation Method of SCMC E-tandem Learning in Japanese L2 Class**

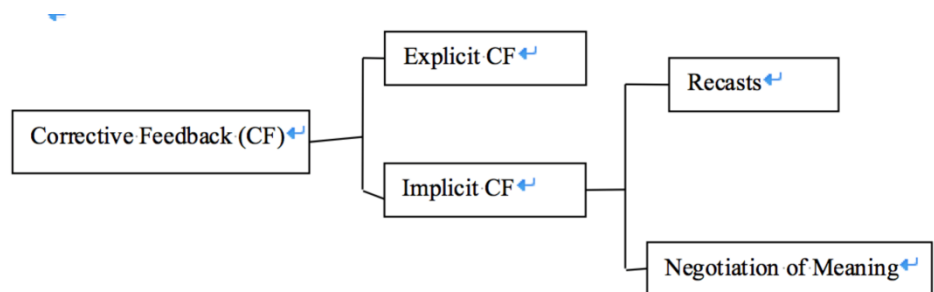
How do we evaluate the overall efficacy of digital activities such as SCMC e-tandem learning in L2 courses? Miyamoto (2001) suggests that digital activities projects should be evaluated from both linguistic environment and language development. Miyamoto claims both of them are crucial for evaluating multimedial L2 learning

practice. Accordingly, I examine linguistic environment and language development focusing on the Japanese L2 students. Miyamoto further indicated that it is also important to evaluate the activities from the point of the student's motivation since learner willingness to engage in the digital activity becomes a key factor especially when digital activities is utilised as out-of-class activities. However, this is beyond the scope of this paper. As for linguistic data, chat transcripts gained through e-tandem learning are used to analyse the linguistic environment, i.e., negotiation of meaning and corrective feedback, based on the Interaction Hypothesis (Long, 1996; Gass & Mackey, 2007). The same data is also used to measure the basic linguistic aspect: grammatical development. Hence, the student's morphological and syntactic development was also evaluated on production data based on Processability Theory (Pienemann, 1998; Pienemann et al., 2005).

### 3.1 Linguistic Environment

Out of 25 students who participated in the chat project, I chose the 11 learners of Japanese L2 who had the same English L2 partners across all three tandem sessions so that the data analysis could offer a coherent data set. That is, if the learner had a different partner in different tandem session, he/she inevitably needed to spend some time to introduce themselves to the new partner rather than go straight to the given conversational topic, which may affect the coherence of the qualitative and quantitative analysis.

What kinds of negotiations occur during synchronous Japanese chat sessions? To answer this question, the following analysis method was adopted. Firstly transcripts between Australian students and Japanese students are analysed to check whether corrective feedback (CF) and negotiation of meaning occur during their chat sessions. Long's (1996) categorisations of corrective feedback are shown below in Figure 1. Explicit CF is an overt indication that the learner's output is wrong. Implicit CF is divided into recast and negotiation of meaning. Recast is a reformulation of a learner's erroneous output into a target-like form. Implicit CF such as clarification requests, repetition and confirmation may trigger negotiation of meaning when a communication problem occurs.



**Figure 1 Corrective Feedback (after Long, 1996)**

### 3.2 Language Development

Data from e-tandem sessions were also analysed to address the question: can the data from chat transcripts provide an indication of the learner's linguistic progress? Linguistic development of the same 11 students above was analysed based on the stages of acquisition of L2 Japanese defined by Processability Theory (henceforth PT. Pienemann, 1998) as shown below. PT was used since the theory is well established to measure the learners' morphological and syntactic development. Also the theory has been extensively applied to Japanese as a second language (Kawaguchi, 2010, 2015). As three chat sessions were conducted in a narrow frame over two months, only Session 1 and Session 3 (with the exclusion of Session 2) are analysed to examine the students' development of morphology and syntax.

According to PT (Pienemann, 1998; Di Biase & Kawaguchi, 2002), L2 morphology develops as the learners acquire the following procedures (in that order):

Stage 1: Lexical procedure (invariant form of words),

Stage 2: category procedure (Japanese verbal inflection requires this procedure),

Stage 3: phrasal procedure (Japanese verb combinations, V-*te* V construction<sup>1</sup>, are acquired at this stage),

Stage 4: S-procedure (Japanese case-marking in non-canonical sentences require S-procedure).

As for syntactic development, according to PT, single words and formulaic expressions requiring no language-specific processing skills are acquired first. At the second stage, sentence structure is acquired with default mapping. These are represented by language-specific canonical sentences. For Japanese, this is {(Subject)-(Object)}-Verb sequence where an agent-like subject is marked by either — *ga* (nominative) or —*wa* (topic) and a patient-like object is marked by — *o* (accusative) where either of them must be present. At this stage, the learner is not able to distinguish sentence subject and topic (Pienemann, Di Biase & Kawaguchi, 2005; Di Biase, Kawaguchi & Yamaguchi, 2015). At the third stage, the learner becomes able to produce a topic or XP (e.g., noun phrase and adverbial phrase) before a canonical sentence which allows the L2 learner to identify grammatical subject of the sentence which is no longer in sentence initial position. The fourth stage is characterised by constructions with marked alignment. In Japanese these include object topicalization, scrambling, passive, benefactive and causative constructions (Kawaguchi, 2010, 2015). At this stage, the learner maps thematic roles such as agent and patient onto appropriate grammatical functions such as subject and object non-canonically. What follows concerns the linguistic evaluation of the digital activity.

#### **4. Evaluation of Linguistic Environment**

This section examines the linguistic environment provided in the e-tandem learning context. This section shows the analysis for the Japanese session only (for an analysis of corrective feedback for English, see Bower & Kawaguchi, 2011). A total of 33 chat transcriptions (11 Japanese L2 students x three sessions) are analysed in terms of negotiation of meaning and corrective feedback. Negotiated turns usually consist of the triadic sequence of trigger (speaker)-signal; (hearer)-response; (speaker)-reaction to response (hearer). These students produced 1613 turns in total where 20% of the turns turned out to be used for negotiation of meaning: 54 turns (i.e., 3.3%) for negotiation on errors and 269 turns (i.e., 16.7%) for negotiation on communication problems which are not related to errors, as shown in Table 1. This indicates that e-tandem interaction between native speakers (NS) and non-native speakers (NNS) involved much more negotiation unrelated to errors than negotiation related to errors. This is consistent with other studies in text-based CMC on the point that negotiation of lexical (semantic) meaning is far more common than grammatical negotiations (e.g., Pellettieri, 2000).

Let us look at negotiation related to error. What do NNS do when their errors are corrected by NS? Table 2 represents NNS responses to NS corrections. Japanese L2 students' nontarget-like utterance received corrections from their partners 16 times. This number is small considering that these 16 corrections were spread over 33 transcripts. However, success rate was very high (81.3%): NNS either modified their output or self-corrected. In other occasions, NNS acknowledged the corrections by, for example, thanking for NS' correction. So we can observe that corrective feedback on errors does not happen very often in chat but when it happens, it brings about

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<sup>1</sup> In V-*te*V construction, the first verb has to be marked with the — *te* morpheme, which is a marker of non-finiteness and seriality, in order to combine with another verb.

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some action by NNS on their own errors.

**Table 1 Data Summary of E-tandem for 11 Japanese L2 Students for Three Chat Sessions**

No. of negotiation turns on errors	No. of negotiation turns on communication problems (unrelated to errors)	No. of turns which do not involve negotiation	Total turns
54 (3.3%)	269 (16.7%)	1290 (80.0%)	1613 (100%)

**Table 2 NNS Responses to NS Corrections on Errors**

Frequency and category of NNS responses to NS' corrective feedback	Ignore	Total No. of NSs nontarget-like triggers
13 <sup>2</sup> (81.3%) - Modified output/self-correction 7 - Acknowledgement 8	3 (18.8%)	16 (100%)

How about negotiation turns unrelated to errors? In the chat-logs, there are 269 turns involving negotiation of meaning unrelated to errors (see Table 1 above). This 269 turns comprise 59 cases of negotiation of meaning as quantified in Table 4. The two examples below, taken from the chat logs (with English translations in the bracket), represent one successful negotiation and one unsuccessful one. In Table 3a, NNS successfully found out, after exchange of information, the meaning of *いがい* (*igai* "except"). On the other hand in Table 3b, NNS tried to ask if his Japanese L1 pair (NS) still lived where he was born but this sentence turned out to be ungrammatical. So NS wrote that he did not understand what the sentence meant. Instead of continuing negotiation of meaning to resolve the communication problem, they apologized to each other saying *ごめん* (*gomen* "sorry"). The conversation topic moved on before their communication problem was solved.

**Table 3 Two Examples**

a. successful negotiation of meaning
NS: わたしはにちようびいがいは 学校にいます (I am at the University except Sunday)
NNS: すみません。。。いがいのいみは なんですか? (Sorry... what does it mean by <i>igai</i> ?)
NNS: EXCEPT です ^^ (It means EXCEPT^^)
NS: すみません EXCEPT ^^ ありがとう ^^ (Sorry EXCEPT^^ thank you^^)
b. unsuccessful negotiation of meaning
NNS: ところうまれたで、もう住んでいるですか? (intended meaning "do you still live in the place you were born?")
NS: 『ところうまれたで、もう住んでいるですか』っていうのは、どういう意味? (What do you mean by 『ところうまれたで、もう住んでいるですか。』?)
NS: ごめん! ちょっとわからない。 (Sorry! I don't understand)
NNS: ごめん。 (Sorry)
NS: 最初はゆっくりでも、やさしい日本語をつかうといいよ! (Take time (to construct the sentence) first and try using easy Japanese expressions!)

<sup>2</sup> There were two instances where NNS responded with both modified output and acknowledgement to NS signals.

**Table 4 Outcomes of Negotiation of Meaning Unrelated to Errors**

	Successfully negotiated	Unsuccessfully negotiated	Total instances
NS-initiated Negotiation of Meaning	20 (95.2%)	1 (4.8%)	21 (100%)
NNS-initiated Negotiation of Meaning	34 (89.5%)	4 (10.5%)	38 (100%)
Total	54 (91.5%)	5 (8.5%)	59 (100%)

Table 4 summarises the outcomes on negotiation of meaning unrelated to errors according to whether they were successfully or unsuccessfully negotiated. NNS-initiated negotiation totals 38 cases, which is almost double the frequency compared to NS-initiated negotiation (21 cases). This shows that NNS were actively involved in the chat sessions and tried to achieve successful communication when a problem arose. Both NS-initiated and NNS-initiated negotiation of meaning achieved very high success rates (95.2% with NS-initiated and 89.5% with NNS-initiated negotiation of meaning).

According to White (1987) it is the “incomprehensible” input which pushes the learner beyond their current L2 stage of acquisition because such input creates opportunities for them to notice the gap between their current state of interlanguage and the target language. Thus e-tandem provides an ideal linguistic environment for testing this proposition.

Topics/tasks given to the student for e-tandem learning are important for ensuring negotiation opportunities. Tudini’s (2003) study reported that only 9% of turns were devoted to negotiation of meaning when the students engaged in “simple chat”. In our e-tandem project we ensured there was a theme for each e-chat session and each student was required to prepare a list of things they wanted to find out from their pair through the e-chat. Our e-tandem learning shows that a higher rate of the turns, i.e., 20%, contributed to negotiation of meaning. Smith’s (2003) and Pallettieri’s (2000) studies achieved 30% and 34% respectively when jigsaw task was included in e-chat, which is much higher than our study. However, naturalistic conversation on a specific topic as in our study may trigger a more natural, authentic and non-mechanical interaction for intercultural exchange.

## 5. Morphological and Syntactic Development

Table 5 represents a distributional analysis of the learners’ morphology in Session 1 (baseline) and Session 3 (two months later). Note that Stage 1 is not included in the morphological and syntactic developmental stages in the tables below since all the participants are intermediate students who are beyond the lowest stage of Japanese L2. In PT, a particular morphological structure is deemed to be acquired when the learner shows lexical and formal variation. For example, Leo<sup>3</sup> produced *omoimasu* (think-POL) (“I think...”) and *omotteiru* (think-COMP ASPECT “(I am thinking...)”) in Session 3, exhibits formal variation of a verb. Also, he produced another V-*te* V construction with *wakatteiru* (understand-COMP ASPECT “I understand..”) in the same session (lexically different from the previous verb). Therefore, he is deemed to have acquired V-*te* V construction at Session 3. In the table, the broken line indicates the acquisition pattern of the 11 learners. In Session 1, all learners were able to produce Stage 2 morphological structures but only two students, Anne and Chris, were at the phrasal procedure stage (Stage 3) as they were able to produce V-*te* V construction. In Session 3, after two months, clear morphological development was observed in three students, Jeremy, Leo and Daniel, moved from Stage 2 to Stage 3. Other 8 students did not show progress in their stage of development but most of them increased the frequency

<sup>3</sup> All students’ names are fictitious.

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of rule applications of each stage thus they improved accuracy in morphological use.

**Table 5 Morphological Development**

	Session 1 (baseline)			Session 3 (2 months later)		
Stages	Stage 2 Category procedure	Stage 3 Phrasal procedure	Stage 4 S-procedure	Stage 2 category procedure	Stage 3 phrasal procedure	Stage 4 S-procedure
Structures in Japanese L2	verb inflection	V-te V	Non canonical case mapping	verb inflection	V-te V	Non canonical case mapping
Colin	2			2		
Iwan	3			3		
Teresina	6			8	1	
Dong	4			6	(1)	
Dona	3	(1)		5		
Mia	6	1		8	1	
Jeremy	5	1(1)		13	4(1)	(1)
Leo	23	1		11	20	(2)
Daniel	2			11	3	1
Anne	1	6(3)		2	6	
Chris	4	4		27	2	

The number in brackets indicates ill formed structures.

Now Table 6 shows the syntactic stages of 11 students at Session 1 (baseline) and Session 3 (two months later) respectively are summarised. In Session 1, four students were at Stage 2 (i.e., Colin, Don, Anne, Daniel), five students at Stage 3 (i.e., Dona, Iwan, Mia, Jeremy, Chris) and the remaining two students, Teresina and Leo, at Stage 4. Two month later in Session 3, three out of the four who were at Stage 2 in Session 1 (i.e., Don, Colin and Anne) moved to Stage 3 and one student (i.e., Daniel) moved to Stage 4. Further one student (i.e., Chris) moved from Stage 3 to Stage 4. Four students (i.e., Dona, Iwan, Mia and Jeremy) stayed at Stage 3. The remaining two (Teresina and Leo) were already at Stage 4 in Session 1, the highest in Japanese L2, but both used Stage 4 structures more frequently in the last session. Thus in Session 3, no student remained at Stage 2, seven students were at Stage 3 and four students were at Stage 4.

**Table 6 Syntactic Development**

	Session 1 (baseline)			Session 3 (2 months later)		
Stages	Stage 2 Unmarked alignment	Stage 3 XP+ unmarked alignment	Stage 4 marked alignment & marked mapping	Stage 2 Unmarked alignment	Stage 3 XP+ unmarked alignment	Stage 4 marked alignment & marked mapping
Structures	Canonical order	TOP/XP+ canonical	OBJ topicalization, passive, causative, benefactive	Canonical order	TOP/XP+ canonical	OBJ topicalization, passive, causative, benefactive
Colin	1			1	2	
Don	3			1	4	
Anne	8			2	6	
Daniel	2			10	6	1
Dona	1	1		1	5	
Iwan	1	2		2	1	
Mia	7	4		3	4	
Jeremy	3	4		9	6	(1)
Chris	9	4		9	7	2
Teresina	1	2	1(1)	5	4	3
Leo	5	1	1	8	12	1(2)

The number in brackets indicates ill formed structures.



This e-tandem project was conducted as part of a semester-long Japanese subject. Therefore, e-tandem learning cannot be attributed an exclusive effect in promoting language acquisition. Nevertheless, Japanese L2 students' linguistic achievements as measured by PT significantly improved after the introduction of e-tandem learning and many of the intermediate students attained the highest stage by the end of the third semester of study at Western Sydney University, which had not happened previously (Kawaguchi, 2010).

## **6. Conclusion**

In this paper, an e-tandem learning activity via SCMC used in an intermediate Japanese L2 class was outlined. Further, the activity was evaluated from points of linguistic environment using an interactionist approach (Long, 1996) and language development using the Processability Theory (Pienemann, 1998; Kawaguchi, 2010, 2015). Two research questions guided this study. The first asked whether negotiation of meaning does occur during e-tandem chat sessions. The analysis of chat logs suggested that 20% of the total turns in Japanese sessions were actually used for negotiation of error and meaning. This is significantly higher than ratios reported in other studies involving e-tandem learning such as, for instance, Tudini (2003) where she found overall negotiation rate of just 9% in the chat transcript between Italian L2 learner and Italian native speakers. In Tudini's study "Students were simply asked to chat with NSs with a view to evaluating the live chat as a possible teaching and learning tool" (p. 148). In the current study, instead, specific topics to chat with were assigned. Students were also asked to think about the questions they might want to ask over the chat session. This indicates that task design of the e-tandem learning may have a significant effect on overall negotiation rates.

The second question asked whether data from the e-tandem activity could provide a measurable indication of language development. Indeed, most students progressed over developmental stages in both or either morphology and syntax as measured with the Processability Theory. More precisely, three out of 11 students moved to the next morphological stage. In terms of syntax, two out of 11 students were already at the highest syntactic stage and five students progressed syntactically: four of them moved one stage up and one moved two stages up. Some learners acquired higher level constructions, such as passive, which were not taught in class. This never happened among students in my class before the introduction of digital activities which brought about interaction with native speakers. Even those three students who showed neither morphological nor syntactic development produced more structures for each stage in Session 3.

The above analysis shows that SCMC has a great potential to promote L2 acquisition provided the activity is aligned with learning and developmental objectives. In other words, with the increasing importance of information communication technologies, it is necessary for L2 educators to create an effective learning environment by designing curriculum and activities which promote learner-centered and collaborative learning inside and beyond the classroom. L2 learning through digital activities also requires greater, effective monitoring of learners' progress through the use of reliable measurements, such as those provided by PT, to ensure that development is occurring. In conclusion, this paper showed that the L2 educators are able to design effective learning environments for the L2 learner by incorporating SCMC which simultaneously take advantage of widely accepted research findings in L2 development as well as contemporary pedagogies.

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