Syntactical and lexical development in NNS-NNS asynchronous CMC

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Recent research into asynchronous CMC-based interactions between native speakers (NS) and nonnative speakers (NNS) of a language has linked them to increased motivation and participation, and a reduction in anxiety (Beauvois & Eledge, 1996; Leh, 1997; Aitsiselmi, 1999), and studies suggesting that such interactions may lead to increases in L2 proficiency have begun to appear in the literature (e.g., Floréz-Estrada, 1995; Ioanniou-Georgiou, 1999; Stockwell & Harrington, 2003). However, a problem faced by many second language teachers is the difficulty in finding suitable native speaking email partners with whom to hold exchanges, and teachers are often forced to conduct such projects solely with other nonnative speakers. This study is a follow-up study based on the methodology of previous research by Stockwell and Harrington (2003) to investigate if similar patterns of interaction and target language (TL) development were also evident in an NNS-NNS setting. The study investigates 24 nonnative speakers of English studying at two different universities in Japan involved in a five-week email exchange project. Learner output was investigated for lexical and syntactic development over the exchange period through a combination of type/token ratio and T-unit analyses. The results of the study showed that there was evidence of TL development in the NNS-NNS interactions across the interaction period following a similar pattern to that found in the NS-NNS interactions, although significantly less pronounced. Examination of the interactions suggested that there were aspects that differed from the NS-NNS, which are also discussed.

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That computer-mediated communication (CMC) has the capacity to contribute to the second language learning process is gaining widening acceptance, and benefits of both synchronous (e.g., chat) and asynchronous (e.g., email) forms of CMC have started to appear more regularly in the literature in recent years. Email still arguably remains the most accessible and most commonly used form of CMC, and while there have been some arguments to suggest that research into email for second language learning to date has provided somewhat ambiguous results (Chapelle, 1998; Paramskas, 1999), a number of advantages to language learners have been identified. Such benefits include motivational increases through interacting with a real audience

(Jor & Mak, 1994), reduced anxiety through more anonymous exchanges (Beauvois, 1995; Kinginger, 1994), provision of authentic communication (Saita, Harrison & Inman, 1998), increased participation (Kelm, 1992), and an equalising effect for the participants (Warschauer, Turbee & Roberts, 1996).

Motivation has been a commonly cited advantage of email (see Warschauer, 1995; Beauvois & Eledge, 1996; Leh, 1997), which has been linked to increased participation (Kelm, 1992). Kern (1995), for example, found all of the students in his class participated in electronic discussion compared to face-to-face discussions, where five students tended to dominate and four failed to participate at all. Similar results were found by Sullivan and Pratt (1996), with only 50% of the students participating in face-to-face discussion while 100% of the students participated in the electronic discussion. Warschauer (1996) found that while those participants who were typically dominant in face-to-face discussions still continued to dominate—albeit to a lesser degree—in the electronic discussion, participation patterns certainly improved in electronic discussion when compared to face-to-face discussion.

While email provides a number of benefits to both the learners and the researcher, there are also a number of possible shortcomings. For example, some researchers found that while enthusiasm is high at the start, generally the number of email communications between the learners tends to drop off, sometimes completely, after the initial enthusiasm has passed (see Tella, 1991, 1992; Warschauer, 1995). In contrast, Leh (1997) found that one quarter of learners of Spanish in the United States paired with native speakers in Mexico continued electronic mail communication with their partners as much as one year after the project had finished. Another possible difficulty with the writing of email messages to native speakers is that it can be a demanding task, requiring sufficient levels of proficiency and motivation on the part of the learners (Saita, Harrison & Inman, 1998). That is to say, if learners do not have the sufficient skills to both read the messages which they receive, or if they are unable to construct messages which are comprehensible to their partners, barriers may appear between the participants and the success of such exchanges will be jeopardised.

When learners are in an environment where there is some degree of anonymity, learners become less accountable for their actions, resulting in possible "bad behaviour" (Paramskas, 1999). One researcher warns of the possibility of "flaming" in email, which is characterised as bold, offensive, or crude comments, not typically found in oral conversations (Kelm, 1992). Another commonly cited difficulty associated with email is that in sending and receiving messages, participants are unable to use eye contact, intonation or voice quality (Wilkins, 1991), meaning that much of the expression that might normally be present in face-to-face conversations is lost in email interactions, and as such has the potential to be "unsociable, insensitive, cold and impersonal" (Sherblom, 1988, p. 41). While the potential certainly exists for this to be the case in email interactions, much of the empirical evidence does not appear to support it, and there have been numerous studies which have described email as a highly motivating medium for discussion (Kelm, 1992; Beauvois, 1995, 1997; 1998), and some learners have claimed that they have developed very close relationships through email (Cononelos & Oliver, 1993; Stockwell & Levy, 2001).

Provided that the possible shortcomings are kept in mind and addressed in advance of the study where possible (Stockwell & Levy, 2001), there is a slowly growing body of work to suggest that the use of email as a learning aid in the second language classroom has the potential to lend itself to second language development, particularly in NS-NNS

interactions. Floréz-Estrada (1995) demonstrated that learners of Spanish involved in email interactions with their teacher showed development in grammatical competence. Learners in a study by Brammerts (1996) developed their writing style in German and Spanish through email interactions. St John and Cash (1995) and Stockwell and Harrington (2003) showed that learners improved in grammar and vocabulary usage through email interactions in German and Japanese respectively.

Studies that investigate second language development in NNS-NNS CMC-based learning environments, however, have yet to feature in the literature, but rather have focussed more on the dynamics of the interactions, such as those described by Warschauer (1996) above. It is a well-established fact that there are significant differences between NS-NNS interactions and NNS-NNS interactions, based on research from traditional face-to-face learning environments (see Iwashita, 2001, for a discussion). One notable study by Pica, Lincoln-Porter, Paninos and Linnell (1996) showed that both NS and NNS interlocutors gave similar types of modified input and feedback, but that NNS interlocutors provided less feedback than did NS interlocutors. Greater quantity of feedback does not necessarily mean more effectiveness for learners, as evidenced in a study by Philp (2003), who found that shorter and less complex recasts were more effective in prompting self-correction for nonnative speakers of English involved in interactions with native speakers. Considering these two factors, it is conceivable that NNS-NNS interactions have the potential to contribute to second language development for the participants.

The purpose of this study is to investigate interactions between nonnative speakers through email to determine whether second language development is evident in the participants. The study sought to address whether learners involved in NNS-NNS email interactions exhibit improvement in their L2 output, and whether a comparison of the two NNS groups reveals anything about the characteristics of the group and the subsequent results. The methodology for the study is described below.

Method

The study is largely a follow-up investigation to determine whether learners involved in email interactions with other learners of a language were able to demonstrate proficiency developments in the target language, through examining learner output for evidence of the incidental development of L2 syntax and lexis. The methodology that was adopted for the study was similar to that used by Stockwell and Harrington (2003) in their investigation of incidental L2 development of learners of Japanese through email interactions with Japanese native speakers.

Subjects

There were 24 participants in the project, who were studying English at two different universities in Japan, 12 at a small private university in a rural part of Japan (U1) and 12 at a large private university in a metropolitan area (U2). Students at U1 were studying linguistics while students at U2 were studying advanced composition, and students from both universities were either in their third or fourth year. All of the participants had been studying English for at least eight years at the time of the project, and were of an intermediate to

upper-intermediate level, although proficiency levels of the students at U2 were considered to be somewhat higher than those at U1. None of the participants at either institution had extensive in-country experience.

Data collection

The email exchanges took place as part of a joint project between the students at the two universities. The goal of the email interactions was for the students to learn more about the everyday lifestyle of a university student in the other institution. Despite the fact that both of the universities are in Japan, U2 is located in Tokyo, while U1 is located in a mid-sized city on the island of Kyushu in the south of Japan. Lifestyles were considered to be sufficiently different in the two cities to make the exchanges interesting to both groups of learners. There were significant differences in the proficiency levels of learners at both universities, with the U1 students having significantly lower English skills than the students at U2, but there were no formal measurements made. Before the interactions commenced, the U1 students indicated some apprehension regarding the interactions with the higher proficiency U2 students, but it was later revealed that the U2 students showed similar apprehension.

Although all of the exchanges were in English, students were told that they would not be assessed on their English language in the emails. The learners at both universities were informed that the emails were to be used as part of a study, but they were not given details about how they were to be used. The participants were told that they should try to exchange 4 to 5 emails per week with their partners over a five-week period, based on a different topic each week. The dyads were assigned randomly, and participants continued to interact with the same partner for the length of the project. General topics were assigned to help guide the interactions, but learners were advised that they were free to discuss other topics as well. The assigned topics were: "Self introductions", "About my city – what to do", "Life at university – i.e., club activities", "Life away from university – i.e., weekends, etc.", and "How I spent Golden Week[1]". The dyads discussed a wide range of different topics aside from the assigned topics during the interactions. In keeping consistent with the previous study, learners were again instructed to focus on the content of the interactions and to not explicitly correct any errors on the part of their interlocutors during the interactions.

As students with insufficient email skills have been shown to have difficulties in sustaining email interactions (Jor & Mak, 1994; Stockwell & Levy, 2001), all participants at both institutions were asked to confirm that they were comfortable with the mechanics of sending emails. As all of the participants indicated that they were, no pre-practice time was assigned to the sending of emails. As a result, the participants were allowed to use either their university-assigned email accounts or their own private accounts. Three students indicated that they would like to use their mobile phones for the communication due to difficulty in accessing PC-based emails from their homes. All three, however, asked to change to PC-based email within two to three exchanges due to the time taken in inputting English on the mobile phone keypad.

All of the students at each university were randomly assigned a number from 1 to 12, and were paired up with the student at the other university with the corresponding number. A dedicated domain name was registered for the project, and a page was set up

that contained information about the guidelines of the project. Email aliases were then set up for each student, with addresses such as u1-1@domain or u2-1@domain for the U1 and U2 students respectively. Learners sent emails to their opposite number to avoid confusion (i.e., u1-3 to u2-3, u1-7 to u2-7, and so forth). When emails were sent to the alias address, one copy of the email was forwarded to the student's real email address, and another was forwarded to a predetermined address set up by the researcher which allowed all of the messages sent by the students to be stored. The emails were sorted chronologically according to dyad.

Data analysis

After all of the emails were sorted, they were analysed for L2 proficiency development. Analysis of language development closely followed the method used by Stockwell and Harrington (2003) for NS-NNS interactions. The purpose of the study was to seek evidence of L2 development as measured by development of syntactic complexity and accuracy and by vocabulary usage. Syntactic development was measured by T-unit analysis – complexity through mean length of T-unit, and accuracy through percentage of error-free T-units – lexical development was assessed by calculating a type/token ratio. The text feature measures were performed on the 1st, 5th, 10th, and 15th message produced by each participant in the study.

A detailed description of each of these measures can be found in Stockwell and Harrington (2003), so only a brief summary is included here. In short, syntactic complexity may be measured through calculating the number of words per minimal terminal unit (T-unit). A higher average length of T-unit reflects an individual's ability to use longer, more complex structures. In English, the T-unit is a unit of syntactic production that coincides with an independent clause and any attached or embedded material (Hunt, 1977). However, as the mean length of the T-unit does not take into account the accuracy of the structure produced, the number of error-free T-units as percentage of total production has also been used as measure of overall syntactic accuracy in production (Scott & Tucker, 1974). T-unit analysis has appeared periodically in CALL research in recent years with some recent examples including Sotillo (2000), who compared the syntactic complexity of language produced by ESL learners engaged in synchronous and asynchronous CMC interactions, González-Lloret (2003) in an investigation of learners of Spanish using an online CALL activity, and Chen, Belkada and Okamoto (2004) for their examination of Japanese learners of English in a web-based English course.

Lexical development has been measured by type/token ratios (TTRs). Specifically, TTRs are used as measures of lexical diversity, and are calculated by dividing the number of different words used by the total number of words (Arnaud, 1984). A learner of low proficiency would be thought to use a smaller number of lexical items, recycling them more often, thereby providing a lower ratio. Examples of TTR measures in second language learning environments include Grant and Ginther (2000) who examined, among other features, lexical specificity in second language learners' essays through computer tagging, and Warschauer (1996) in a comparison of face-to-face and CMC-based small group discussions. While there has been some criticism directed towards TTRs as a measure of lexical development (such as Richards, 1987), this has mainly been an issue if there are large variations in sample sizes.

If these sample sizes are kept constant, however, the TTR has been shown to be a consistent measure of lexical variety (Wesche & Paribakht, 1996). As a result, in the current study, only the first 5 lines of each message were analysed using the TTR measure.

Each of these three measures (lexical development, syntactic complexity and syntactic accuracy) was carried out at specific intervals during the interaction period, and development was determined through one-way repeated measures analyses of variance (ANOVA). As with the NS-NNS study performed by Stockwell and Harrington, there were large variations in the number of messages produced by each of the participants (see Table 1 below).

Table 1. Overview of interaction patterns of participants

Category	Number of Messages	Number of Students
Very Low Interaction	Less than 5	1
Low Interaction	5-9	9
Mid Interaction	10-14	9
High Interaction	15 or more	5

Due to the relatively small number of students in the high-interaction category, it was decided that analysis would also be carried out on the low- and mid-interaction categories as well. As a result, different samplings were carried out for each of the groups. The very low interaction category produced insufficient data for any comparisons to be made, hence was excluded from the study. For the low-interaction category, the samples were taken at the 1st and 5th messages, for the mid-interaction category at the 1st, 5th and 10th messages, and for the high-interaction category at the 1st, 5th, 10th and 15th messages. Planned contrasts were made between each of these samples. The results of the data analysis have been divided into three sections: vocabulary development, syntactic complexity and syntactic accuracy. These are presented forthwith.

Results

Vocabulary Development

Analysis of the type/token ratios revealed a sharp drop in lexical density from the 1st to the 5th message. This fall in lexical density continued slightly until the 10th message, and was followed by a very marginal increase from the 10th message until the 15th message (see Figure 1). A very similar pattern was evident across each of the three interaction categories (i.e., low-, mid- and high-interaction) for as long as the interactions continued.
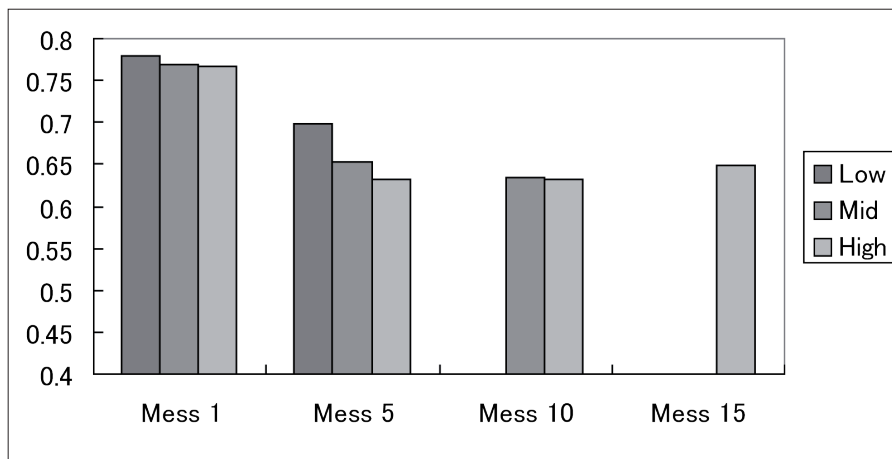
Figure 1. Lexical complexity as measured by type/token ratios

As shown in Table 2, this decrease from the 1st to the 5th message was significant for each of the three interaction categories. The results did not, however, show any significant increase between the 5th and the 10th message or between the 10th and the 15th message.

Table 2. Type/token ratio planned contrasts for the
low- and mid- and high-interaction categories

Message Contrast	Sum of Squares	F	p
Low (n = 9)			
1 vs. 5	.058	16.755	.0088
Mid (n = 9)			
1 vs. 5	.106	20.078	.0084
1 vs. 10	.125	28.469	.0001
5 vs. 10	.004	.608	.4297
High (n = 5)			
1 vs. 5	.046	11.167	.0100
1 vs. 10	.073	12.717	.0075
1 vs. 15	.006	9.781	.0143
5 vs. 10	.014	1.659	.2174
5 vs. 15	.012	.339	.5675
10 vs. 15	.021	.289	.5971

In general, the standard deviations were quite small for each of the messages, meaning that there was not a great deal of variation between the learners. The mean TTR was .772 (SD=.047) for the 1st message (n=23), .673 (SD=.051) for the 5th message (n=23), .634 (SD=.048) for the 10th message (n=14), and .649 (SD=.050) for the 15th message (n=5).

Syntactic Development (Complexity)

Figure 2 shows a similar pattern as the TTR results in the average length of T-unit measures, with a small fall from the 1st to the 5th message, followed by a slight increase to the 10th which appeared to be maintained until the 15th message. The differences in syntactic complexity were markedly smaller than those shown in lexical density.
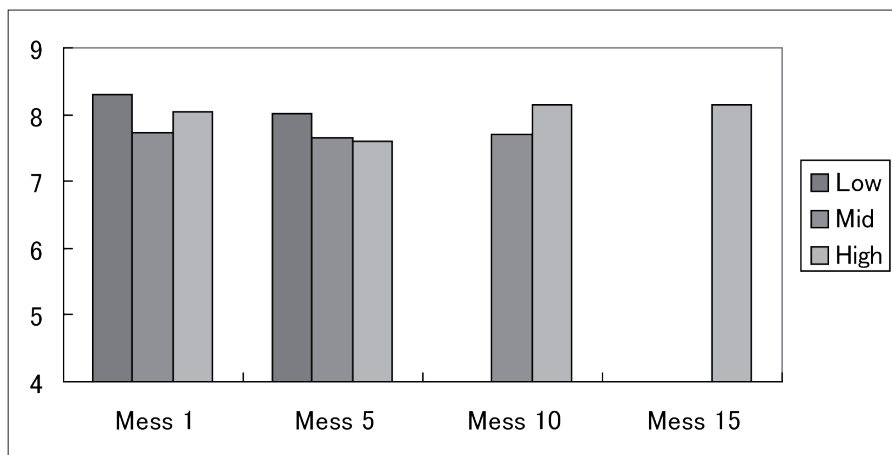

Figure 2. Syntactic complexity as measured by the mean length of T-unit

Examination of the results of the planned contrasts in Table 3 shows that none of the decreases or increases in syntactic complexity measured through the T-unit analysis was significant. In addition, there were somewhat larger differences between the learners, as was evidenced by the larger standard deviations. The mean of the average length of T-unit was 8.023 (SD=1.396) for the 1st message (n=23), 7.788 (SD=1.488) for the 5th message (n=23), 7.867 (SD=1.450) for the 10th message (n=14), and 8.156 (SD=1.583) for the 15th message (n=5). Taking these large standard deviations into consideration—along with the lack of significance in the planned contrasts—it is unlikely that there was any particular development in syntactic complexity over the interaction period.

Syntactic Development (Accuracy)

While the results of the percentage of error-free T-units showed a similar pattern to the TTR, the drop from the 1st message was much more dramatic than the TTR. Accuracy

Table 3. Mean length of T-unit planned contrasts for the low- and mid-interaction categories

Message Contrast	Sum of Squares	F	p
Low (n = 9)			
1 vs. 5	37.191	.160	.6849
Mid (n = 9)			
1 vs. 5	36.558	.010	.9197
1 vs. 10	38.070	.000	.9871
5 vs. 10	42.626	.006	.9378
High (n = 5)			
1 vs. 5	16.456	.240	.6297
1 vs. 10	14.205	.012	.9145
1 vs. 15	19.552	.013	.9115
5 vs. 10	11.868	.502	.4882
5 vs. 15	17.258	.366	.4882
10 vs. 15	14.713	.001	.9810

dropped from over 70% for all three interaction categories in the 1st message down to a level of around 40% for the 5th message. There appeared to be very little change in this figure from the 5th message through to the end of the interaction period.
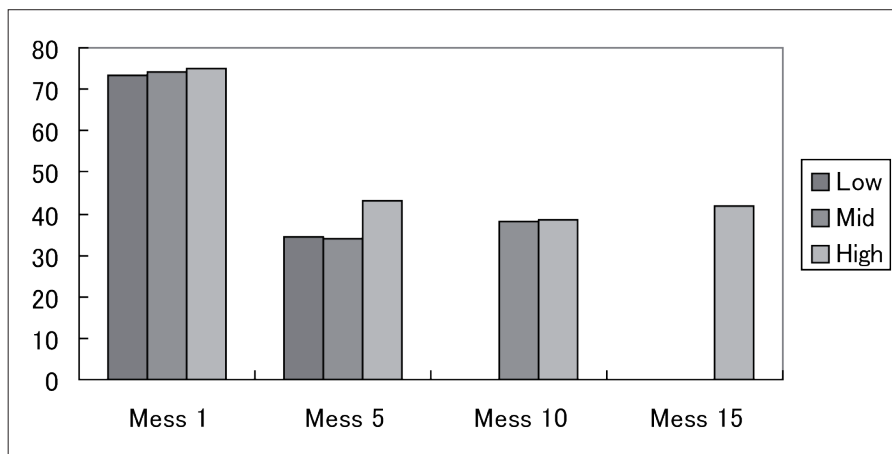
Figure 3. Syntactic accuracy as measured by the percentage of error-free T-units

The results of the planned contrasts in Table 4 show that this drop from the 1st message to the 5th message was significant for each of the three interaction categories. There were no significant increases in any interaction category through to the end of the interaction period.

Table 4. Percentage of error-free T-unit planned contrasts for the low- and mid-interaction categories

Message Contrast	Sum of Squares	F	p
Low (n = 9)			
1 vs. 5	8419.851	68.265	.0001
Mid (n = 9)			
1 vs. 5	8698.996	85.264	.0001
1 vs. 10	7816.716	47.360	.0001
5 vs. 10	2719.924	.508	.4705
High (n = 5)			
1 vs. 5	3656.761	18.766	.0026
1 vs. 10	3829.544	59.885	.0001
1 vs. 15	3376.661	37.700	.0003
5 vs. 10	1148.245	.419	.5257
5 vs. 15	1235.824	.032	.8599
10 vs. 15	620.825	.386	.5422

Combined results for all of the interaction categories showed that the percentage of error-free T-units was 74.022 (SD=7.492) for the 1st message (n=23), 36.047 (SD=11.990) for the 5th message (n=23), 38.254 (SD=11.910) for the 10th message (n=14), and 41.740 (SD=9.566) for the 15th message (n=5). The large individual differences are shown in the large standard deviations, particularly for the 5th and 10th messages.

Comparing the Groups

In addition to the overall measures, comparisons were also made between the U1 group and the U2 group. Figure 4 shows a comparison of the TTR measures for the high-interaction category for both groups. As the figure shows, U1 students started with a higher lexical density over the 1st and 5th message, but this is gradually overtaken by the U2 group over the 10th and 15th message. It is conceivable here that the first two samples represented a high proportion of formulaic speech (c.f., Stockwell & Harrington, 2003) which may have resulted in the higher figure for lexical density in the early stages, particularly for the U1 students.
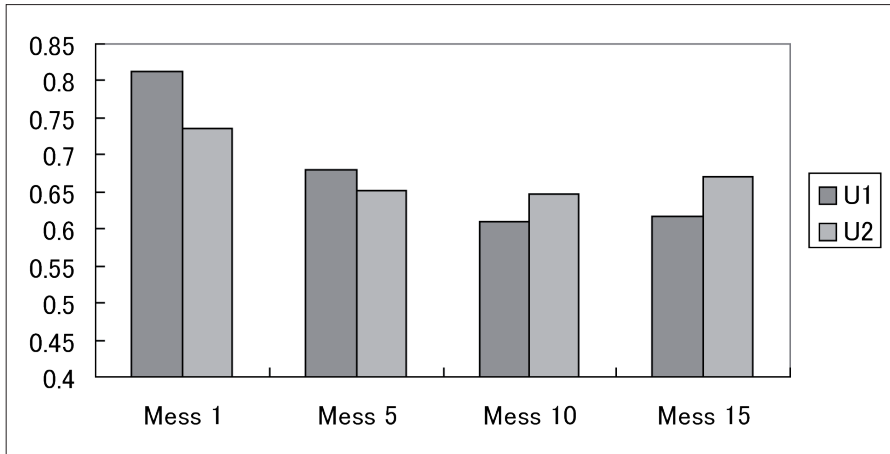
Figure 4. Comparison of lexical density development of the two groups

Comparison of syntactic complexity (Figure 5) revealed no visible pattern in the groups, with the output of U2 students exhibiting slightly higher syntactic complexity over the first three samples (although the 10th message was almost the same). In the 15th message, the average syntactic complexity of the U1 students was higher than that of the U2 students, but again, the difference was relatively small.
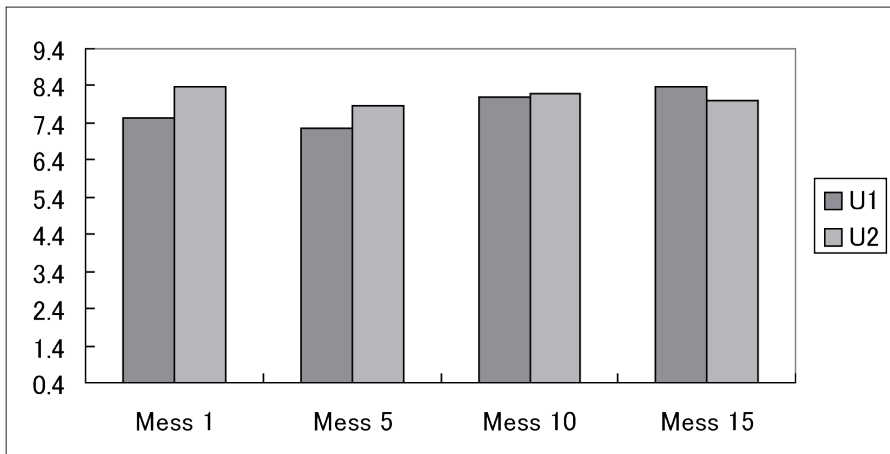

Figure 5. Comparison of syntactic complexity development of the two groups

Finally, Figure 6 shows that the U2 students were consistently more accurate in their grammatical usage than the U1 students. Given the anticipated higher proficiency of the U2 students, this was not a surprising outcome.
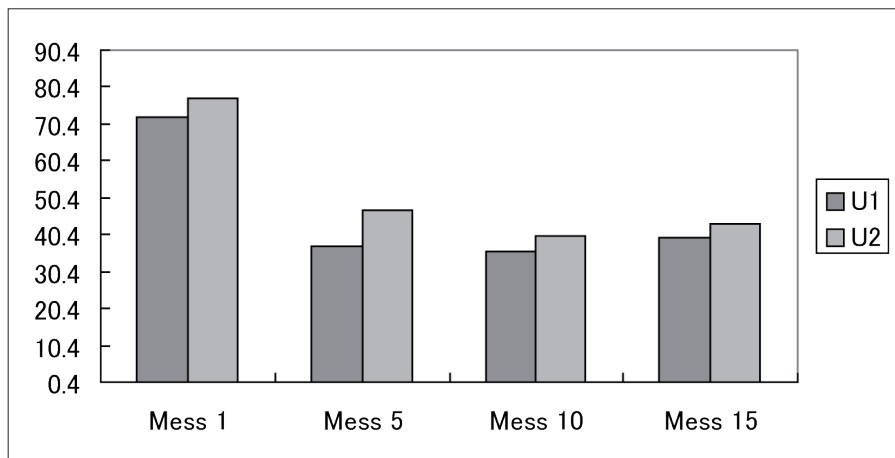

Figure 6. Comparison of syntactic accuracy development of the two groups

Examination of the three comparisons shows that generally both of the groups exhibited very similar patterns, and while the U2 students were consistently more accurate in their L2 output, measures of lexical density and syntactic accuracy did not reveal great differences between the two groups.

Discussion

Second Language Development

It is important to note first of all that the small scale of this study means that it can only be considered as a pilot study, and the generalisability of the results is limited. Despite this, the study produced some interesting results, and therefore does help to further our understanding of what happens during NNS-NNS email interactions. Firstly, the results confirmed the existence of a "first message effect" described by Stockwell and Harrington (2003) for lexical density and syntactic accuracy. In this effect, learners exhibit high levels of proficiency in the first few messages, but there is a significant drop after the first few exchanges have been completed.

Unlike the study by Stockwell and Harrington, there was no significant improvement in L2 output by the participants of the study across the interaction period. One possible explanation for this is that in the NNS-NNS interactions in the current study, the learners tended to send rather shorter messages than those in the NS-NNS interactions outlined in the earlier study. Given this reduced input and output on a message by message basis, it is

possible that the improvements in second language proficiency were somewhat reduced. In saying this, it is possible that some gains may have been evident if the study were conducted across a longer time frame, but further research is necessary to determine whether or not this would be the case.

The quantitative analysis performed here did not reveal any notable differences between the two groups of learners. The anticipated higher proficiency of the U2 learners was evident in the measures of syntactic accuracy, and the higher figure for lexical density for the U1 group in the 1st message may be a reflection of a greater reliance on formulaic speech. This agrees with research by Perez (2003), who showed in a comparison of the first and last message of learners involved in email interactions that the first message was very formulaic compared with the last which appeared more spontaneous and natural. Moving away from a reliance on formulaic speech, or rather moving into topics that do not allow such reliance on formulaic speech means that learners must rely more on their own linguistic competence in writing the email messages, which may lead to second language development over time.

Proficiency Levels of the Participants

While the differences in proficiency were not measured before the study, teacher impressions coupled with the evidence of higher syntactical accuracy from the data that were collected indicated that students at U2 were of a markedly higher proficiency level than students at U1. A summary of the number of messages sent by students at each university along with the average number of lines per message can be seen in Table 5.

Table 5. Mean number of messages and message length produced per group

	Mean Number of Messages		Mean Length of Message	
Group	M	SD	M	SD
U1	10.75	5.41	4.84	2.28
U2	11.83	5.54	7.32	3.57

* Note: *n* = 12 students for each group

As the table shows, there is a slightly higher number of messages written by students at U2, but considering the large standard deviation, it is unlikely that this difference held any significant meaning. In contrast, U2 students wrote markedly longer emails compared with the U1 students. This difference lends weight to the argument for a minimum proficiency requirement for using email in language learning (see Jor & Mak, 1994; Saita, Harrison & Inman, 1998), and it is likely that learners of higher proficiency would benefit more from email interactions.

Suggestions for Further Research

While the study shed some light on the nature of NNS-NNS email interactions in terms of their effectiveness in facilitating second language development, there are still several areas where further research is needed. For example, in the current study, participants were instructed not to explicitly correct errors in their partners' emails in keeping consistent with the earlier Stockwell and Harrington (2003) study. In light of research by Sotillo (2005), where a comparison of advanced nonnative speakers and native speakers enrolled in ESL teacher certification courses revealed that the advanced nonnative speakers corrected a higher number of errors in NNS-NNS instant messenger interactions than did the native speakers in NS-NNS interactions, there would be value in examining what forms of correction existed in email interactions, particularly where the participants were not training to be ESL teachers.

Research is also necessary to determine the variety of language used by the learners in email interactions, as it is possible that there was a significant amount of recycling of syntactic structures by both groups of learners. If, for instance, learners at U2 recycled structures more than those at U1, there is likely to be less benefit to the U2 learners despite the greater amount of output. Devising a means through which learners are required to focus on specific structures in emails while at the same time maintaining the authenticity of the interactions may be one way of improving effectiveness of email activities as a part of a second language learning class.

Examination of the interactions revealed that many of the features associated with face-to-face NS-NNS interactions (c.f., Long, 1981) were evident in the messages, such as U2's students dealing with topics more briefly, and U1's students topic continuing moves. Further research is necessary to investigate the role of the higher proficiency level students compared with the lower proficiency students to determine whether the higher proficiency students assume a pseudo "native speaker" role in the interactions, and how both groups of learners perceive their roles within the context of the interactions. Would the higher proficiency learners be more likely to correct errors in the output of the lower proficiency learners? How would the lower proficiency learners deal with errors that they notice in the output of the higher proficiency students? How would miscorrections on the part of he higher proficiency learners be perceived by the lower proficiency learners? Furthermore, Gass and Varonis (1985) and Porter (1986) have suggested that in face-to-face interactions, where there is a gap in the proficiency level, there is a higher instance of negotiation of meaning compared with dyads where learners are of the same level. How would this translate to email-based interactions? In short, there is still a substantial amount of research to be done in examining how mixed proficiency dyads interact with each other in email interactions.

Conclusion

Conducting email interactions between native speakers and nonnative speakers may be, for many teachers, an ideal environment to establish for learners, but it is not always logistically possible. Problems such as differences in semester timing or difficulties in locating colleagues in the target language country are not always easy to overcome. In addition, while NS-NNS email interactions can be of benefit for the nonnative speakers, they tend to become

demotivating for the native speaker, meaning that it is difficult to convince native speakers to partner with nonnative speakers for extended periods of time.

This study investigated email interactions between nonnative speakers of English at two universities in Japan, and examined language development over the interaction period in terms of lexical density, syntactic complexity and syntactic accuracy. The study failed to identify any significant development in second language proficiency over the relatively short interaction period described here, but suggested that differences in proficiency levels of the learners not only contributed to the quantity of output, but also that the differences in proficiency may result in certain role expectations on the part of the participants. Further research is necessary, however, to determine 1) whether a longer time frame may lead to second language development, 2) whether a type of task design focussing on specific forms may facilitate acquisition better than open discussion of topics, and 3) what impact gaps of proficiency level of the participants would have on the dynamics of the dyads.

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Endnotes

1   ''Golden Week'' is a series of public holidays that fall together, which, when coupled with the weekend gives approximately one week. It is often used for domestic or international travel.