The effects of corrective feedback with and without revision on enhancing L2 pragmatic performance

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This study investigated the efficacy of different feedback conditions in developing accurate and fluent production of L2 English email requests. Sixty-nine intermediate-level Vietnamese EFL university students were randomly assigned to one control and three experimental groups. All the four groups received three hours of explicit metapragmatic instruction on email requests, but only the experimental groups received written corrective feedback on their pragmatic production. One experimental group received feedback without opportunity for revision. Another experimental group received one cycle of feedback and revision, and the third group two cycles of feedback and revision. Results of a Discourse Completion Task (DCT) pre-test, immediate post-test, and delayed post-test indicated that the combination of instruction and feedback had a positive effect on the accuracy of learners’ pragmatic performance. However, no clear-cut evidence for the effect of revision on the fluency of learners’ pragmatic performance was found in the study. The findings highlight the effectiveness of corrective feedback and revision in consolidating emergent L2 pragmatic knowledge, but further research is needed to understand how much revision is sufficient to facilitate fluency development.

Keywords: corrective feedback, email requests, metapragmatic instruction, accuracy, fluency

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1. Introduction

The study reported in this article aims to examine the relative effects of different written feedback conditions on enhancing second language (L2) pragmatic performance. To date, the role of corrective feedback (CF) – both oral and written – in pragmatics instruction has received little attention (Lyster, Saito, & Sato, 2013; Nguyen, Do, Pham, & Nguyen, 2018). The few available CF studies have demonstrated the effectiveness of different types of CF (e.g., explicit vs. implicit CF, recasts vs. prompts) on accuracy of pragmatic performance, i.e. how pragmatically appropriately and grammatically accurately the learner can perform pragmatic functions (e.g., Alcón-Soler, 2005; Koike & Pearson, 2005; Nguyen, Do, Nguyen, & Pham, 2015; Nguyen et al., 2018; Nipaspong & Chinokul, 2010). However, the effect of CFs on fluency, or smooth and effortless performance of pragmatic functions, is not yet known.

The two constructs of pragmatic accuracy and fluency are based on Kasper’s (2001) claim that pragmatic development involves acquiring pragmatic knowledge and gaining automatic control in processing this knowledge in real time. These two aspects – analysis of linguistic knowledge and control of processing this knowledge – according to Bialystok’s (1993) two-dimensional model, are separate issues. Analysis of knowledge, or the ability to structure and organize linguistic knowledge, is reflected in performance accuracy. On the other hand, control of processing, or the ability to access and process the knowledge in real time, is reflected in performance fluency. As control of processing is constrained by time, skilled processing can lead to more speedy and effortless performance. Since learners do not often have enough processing capacity to attend to both accuracy and fluency of performance simultaneously, there can be trade-off between the two (Skehan, 1996). Indeed, this phenomenon has been observed in the pre-treatment data of the cohort of students under investigation in the current study. We found that besides those students who fared poorly in terms of both accuracy and fluency of pragmatic production before treatment, there were a number of other students (35/69) who gained a high accuracy score but low fluency score, or vice versa. As such, there is a strong indication that fluent processing should be an analysis independent from the analysis of accuracy and appropriateness in L2 pragmatics (Taguchi, 2005).

Within the framework of skills-acquisition theories (Anderson, 1993), pragmatic development can be seen as involving a transition from the stage of declarative knowledge (knowledge of that) to the stage of procedural knowledge (knowledge of how) with increasing automatization. In this transition, practice is a driving force in fostering both accurate and fluent performance (see Li, 2012; Li & Taguchi, 2014).
Informed by the skills-acquisition theories, our study aims to extend the line of instructed pragmatics research by examining the impact of written CF, when delivered with and without opportunities for rewriting (i.e., output practice) in improving L2 learners’ gains in accuracy and fluency of request production in student-faculty email communication in academic settings. Our focus on CF is motivated by an observation that “CF effectiveness may extend to fluency development by facilitating the automatization process that concerns the processing speed” (Saito & Lyster, 2012, p. 596). This especially applies when CF is accompanied by opportunities for output modification, such as revision in the context of written CF (Nguyen et al., 2015, 2018).

Our focus on email requests is motivated by the fact that writing emails in an L2 to professors can be a daunting task for uninstructed learners due to the unequal power of the student-professor relationship (Biesenbach-Lucas, 2007; Economidou-Kogetsidis, 2011). For example, it is observed that many learners in our study struggle not only to write socially appropriate emails but also to efficiently carry out this task, suggesting that they require both accuracy and fluency-based instruction. While one may argue that unlike spoken interaction, writers can take as much time as they wish to compose an email before sending it, this nevertheless does not rule out the need to develop fluency in email writing. First, for students taking writing tests that require them to produce emails (such as the British Council English proficiency Apts test), being fluent writers is still useful. Conversely, the lack of ability to write effortlessly and speedily in this context can be a major barrier to achievement. Not only may students fail to complete the tasks in a timely manner, the quality of their writing may also be compromised because the need to constantly attend to lower-level concerns such as word retrieval may prevent them from attending to higher-level concerns such as coherence, politeness, and register (Chenoweth & Hayes, 2001). When it comes to real-world communication, a lack of fluency in writing may also be counter-productive and put learners at a disadvantage. In the workplace context, for example, many positions require the employee to be fluent not only in spoken but also in written communication including email interaction, which entails work productivity and efficiency of the staff. Given the increasing use of emails in today’s technology-dominated workplace, it is therefore imperative that L2 learners develop not only pragmatic knowledge essential for writing socially appropriate emails but also the ability to handle email communication in a time-efficient manner so that they can transfer those knowledge and skills beyond the educational context to deal with real-world communicative demands.
2. Literature review

Effectiveness of instruction has been a major concern in L2 pragmatics research in the past few decades. Studies have compared the benefits of different types of instruction such as explicit (i.e., provision of metapragmatic information) and implicit instruction (i.e., provision of enhanced input, but not metapragmatic information) and demonstrated that while both types of instruction facilitate L2 pragmatic learning, explicit teaching is potentially more advantageous than implicit teaching (Alcón-Soler, 2005; Nguyen, Pham, & Pham, 2012). Some recent studies have examined the role of oral and written CF as an integral component in pragmatic instruction (e.g., Koike & Pearson, 2005; Nipaspong & Chinokul, 2010; Takimoto, 2006). However, as demonstrated in the review below, the findings are rather mixed, which necessitates further research in this area.

On the one hand, Takimoto (2006) investigated the effectiveness of explicit oral feedback (i.e., provision of answer plus meta-pragmatic explanation) in teaching L2 oral request modifiers but found no effect for this type of CF in relation to instruction. Using both judgment and production tasks, he compared one treatment group who received structured input instruction (requiring processing of pragmatic form and meaning connections) with another treatment group who received the same kind of instruction plus CF. Results showed that while both groups significantly outperformed a control group who received no equivalent treatment, there was no difference between the feedback and no-feedback groups in either the judgment or the production task. His conclusion was that L2 pragmatic knowledge can be enhanced when there is opportunity for in-depth processing of input, regardless of whether CF is provided or not.

In contrast to Takimoto’s (2006) study, however, other studies have reported that CF can improve L2 pragmatic performance in both productive and receptive skills. For example, Koike and Pearson (2005) compared the effectiveness of explicit and implicit oral feedback (i.e., requests for clarification of meaning) when combined with explicit and implicit instruction for teaching L2 Spanish suggestions and suggestion responses in oral production. They found that the group with explicit instruction and explicit feedback performed significantly better than the other groups in the recognition task on the immediate post-test, whereas the group with implicit instruction and implicit feedback was significantly better in the production task. Although such gains were not retained beyond the study, Koike and Pearson’s (2005) study suggests that both types of CF, when used in tandem with different types of instruction, can impact pragmatic production and awareness differently.

More recently, Nguyen et al. (2015) examined the relative efficacy of written direct feedback (provision of answer without explanation) and metapragmatic
feedback (provision of cues but no answer) following explicit instruction for developing the ability to recognize and produce pragmatically appropriate email requests in L2 English. The two feedback groups engaged in multiple rounds of feedback and revision for their email writing practice and were compared with a control group who received only regular instruction. The findings of the study revealed that while both treatment groups significantly outperformed the control group in the production task, there was no difference between them. On the other hand, the metapragmatic feedback group gained significantly higher scores than both the direct feedback and control groups in the recognition task. While these findings suggest the superior effect of metapragmatic feedback in developing pragmatic awareness, the lack of difference between the direct and metapragmatic feedback groups seems to attest to the benefit of the practice opportunities that both groups were given. In light of the skills-acquisition theory (Anderson, 1993), going through multiple rounds of rewriting has provided learners with the opportunity for the repeated practice of the target features, thus enabling them to develop better control over processing these features over time. As such, this study has offered some insights into the effect of repeated practice afforded by CF on the production of L2 pragmatics.

The above tendency was also observed in a follow-up study by Nguyen et al. (2018). In this study, comparison with regard to the production of email requests was made among four treatment groups who respectively received written metapragmatic feedback (provision of cues but no answer), clarification requests (questions seeking clarification of meaning), recasts (reformulation of erroneous/inappropriate production), and explicit correction (provision of answer plus explanation) in multiple rounds of feedback and revision. Results of the study demonstrated significant pre-to-post-test gains in the production task for the four groups but no between-group difference. However, a qualitative analysis of the learners’ multiple drafts indicated that although recasts and explicit corrections produced immediate results, students who received metapragmatic feedback and clarification requests finally caught up by the time they completed the third cycle of revision. This has led the researchers to conclude that the inclusion of multiple revision rounds in each corrective feedback treatment has afforded extensive practice of the targeted features, thereby balancing out the initial different outcomes yielded by the different CF types.

It is obvious that very few studies to date have addressed the role of practice in L2 pragmatic language learning. Especially scarce are studies that examine the link between practice and the development of declarative and procedural knowledge of L2 pragmatics (e.g., Li, 2012; Taguchi, 2008). Taguchi (2008) investigated how accuracy and speed of comprehension of implicatures develop in relation to the amount of language contact in a study-abroad context. Results of the
study showed that comprehension speed significantly improved over time and was closely correlated with the amount of language contact outside the class. However, accuracy of comprehension was not improved; nor did it correlate with the amount of L2 exposure. As such, the findings of this study suggest that while exposure to abundant L2 practice in everyday communication can lead to more efficient processing of the target pragmatic feature, practice alone does not facilitate accuracy development, which may require instructional intervention.

In the instructed context, Li (2012) explored the effect of varying amounts of practice on the development of accurate and fluent recognition and production of L2 Chinese requests. He compared a regular training group who received four instances of processing target forms, with an intensive training group who received twice as much practice and a control group who did not practice the forms. Results of the study revealed that the intensive group outperformed the other two groups in terms of production accuracy but not production fluency. As for recognition, no group achieved significant gains in the accurate judgment of the target forms, but the intensive group improved significantly in judgment speed, though not sufficiently to surpass the other two groups. The overall advantage of the intensive group seems to suggest that a larger amount of practice can lead to greater improvement in L2 pragmatic knowledge and processing ability. At the same time, the fact that the superior effect of intensive training is only observed for some measurements suggests that the question of how much practice is needed to promote procedural knowledge development deserves further empirical investigation.

Unlike the above studies, Takimoto (2012) examined the efficacy of task repetition on acquiring L2 request downgraders, thus offering another perspective on the role of practice in L2 pragmatics development. He compared the performance of a group who engaged in the same structured input tasks in each class over four weeks with a group who engaged in different structured input tasks over the same period of time. Results of the study demonstrated the superiority of the same-task group as compared with the similar-task group in both of the production and judgment tasks, probably because of the deeper processing involved in the same-task condition.

In summary, although the last few decades have seen a bulk of studies into the role of instruction in L2 pragmatics, a majority of these studies are concerned mainly with accuracy in acquiring L2 pragmatics, while largely neglecting issues in fluency development. In order to fill this gap, further studies are needed.
3. The study

3.1 Research questions

In light of the preceding review on the role of CF and practice in L2 pragmatic development, our study asks two questions:

– What are the effects of CF with and without repeated revision on enhancing accurate performance in writing L2 email requests?
– What are the effects of the above CF conditions on enhancing fluent performance in writing L2 email requests?

3.2 Participants

Sixty-nine Vietnamese university students (aged around 18–19) who were enrolled in an English language teacher education program participated in the study. The students were from four intermediate-level intact English classes, each randomly selected and assigned to one of the following conditions: control (N=16), CF without revision (N=17) (hereafter CF group), CF with one round of revision (N=20) (hereafter revision group), and CF with two rounds of revision (N=16) (hereafter repeated revision group). At the time of data collection, the participants had been in the program for approximately 8 months, taking classes in English oral communication, reading, and writing skills. Before enrolling in the program, however, they mainly learned English through grammar-translation methods, and had limited opportunities to use English for real-life communication. The students had little experience writing emails in English, and although they had learned some basic request forms, they were not familiar with the pragmatics of email requests, especially in unequal power social situations.

3.3 Treatment

The intervention program took place during the first eight weeks of the semester. All four groups received three hours of explicit instruction focusing on three types of email requests addressing professors, i.e. requests for a face-to-face appointment, requests for feedback on work-in-progress, and requests for an extension to the submission of an important assignment. These three request types were taught because they were found most common in student-to-faculty email interaction, yet potentially challenging to L2 learners (Biesenbach-Lucas, 2007). The three email types described an unequal power, familiar relationship between the writer and the recipient, and varying levels of imposition (Biesenbach-Lucas,
Each type of email request was taught for an hour, excluding the amount of time spent on post-writing activities designed specifically for each group. Each one-hour lesson began with an awareness-raising activity (15 minutes), followed by a 15-minute lecture on email discourse, request strategies, and choice of register (formality, directness, and politeness) in relation to the writer-recipient relationship and the level of imposition involved in making the request (see Nguyen, 2018 for a comprehensive list of the learning targets). Subsequently, students were engaged in 30 minutes of practice in email writing. As such, the lesson typically followed an inductive-deductive approach with an output practice component. The lessons were conducted primarily in the L2, but the teachers might have occasionally used the L1 to facilitate the learners’ understanding when this was deemed necessary.

It should be noted that although the four groups received the same kind of pragmatic instruction, they differed in the post-writing feedback treatment (see Table 1). The control group was withheld the teacher’s feedback on their email writing and resumed the regular syllabus after the pragmatics-focused lesson, while the CF group was given 10 minutes each time to study the teacher’s feedback on their emails, without opportunity for revision. The revision group engaged in one cycle of 10-minute feedback and 10-minute revision for each email, and the repeated revision group was given two cycles of feedback and revision.

Table 1. Summary of instructional and feedback components for each email type

<table>
<thead>
<tr>
<th>Group</th>
<th>Awareness-raising</th>
<th>Metapragmatic explanation</th>
<th>Email writing practice</th>
<th>Feedback</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control</td>
<td>NO</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CF</td>
<td>15 min</td>
<td>15 min</td>
<td>30 min</td>
<td>10 min</td>
</tr>
<tr>
<td>Revision</td>
<td></td>
<td></td>
<td></td>
<td>20 min×1 cycle</td>
</tr>
<tr>
<td>Repeated</td>
<td></td>
<td></td>
<td></td>
<td>20 min×2 cycles</td>
</tr>
</tbody>
</table>

The feedback given to the treatment groups in our study consisted of a comment or a question related to the nature of the pragmatic inappropriacy/linguistic inaccuracy but without providing a suggested answer (i.e., metapragmatic feedback). For each round of feedback and revision, students in the revision and repeated revision groups were returned their drafts with the teacher’s feedback given in the margin. The feedback could focus on one or more of these aspects: discourse organization, grammar, lexis, and pragmatics. After carefully studying the feedback, students rewrote the emails based on clean copies of their original work given back to them.
The four groups were alternatively taught by the third and fourth authors, who shared similar educational backgrounds, qualifications, and teaching experiences, and were trained carefully in pragmatics-focused instruction. One teacher taught the four groups in the odd weeks, and the other taught these groups in the even weeks. This arrangement was made to minimize possible disparities caused by the teachers’ different teaching styles.

3.4 Data collection

A written Discourse Completion Task (DCT) was employed to elicit students’ email requests in the three scenarios (i.e., Appointment, Feedback, and Extension) taught to them during the intervention. However, the imposition levels of the test scenarios were modified to prevent the likelihood of students memorizing answers from the previous practice tasks (see the Appendix for sample scenarios). DCTs are a common tool for data gathering in L2 pragmatics research, especially when the research focus is on the written genre such as emails and text messages (Nguyen, 2019). Despite that DCT scenarios are hypothetical without real-world consequences, they have administrative advantages and are highly controlled, which could easily ensure comparability of data. For these reasons, the DCT was used instead of naturally occurring email messages. To minimize the potential practice effect, the test scenarios were reshuffled each time they were included in the pretest (Week 1), immediate posttest (Week 5), and delayed posttest (Week 9). These tests are hereafter referred to as Time 1, Time 2, and Time 3, respectively.

The DCT was delivered following these steps:

1. The scenarios were distributed one at a time.
2. Students were given 5 minutes to read the prompt but were not allowed to write down an outline of how they wanted to respond to the scenario. The teachers observed the students to ensure no one started writing during this time. Students were told that once they started writing, no erasing but only crossing out and correcting/rewriting was allowed.
3. After 5 minutes, all students started writing at the same time and the teachers recorded the starting time for each scenario.
4. Once students completed a scenario, they raised their hands, recorded the completion time on the test paper, and handed it to the teachers. As such, the students were aware that their performances were timed.
5. The same procedure was repeated until all three scenarios were completed.

Note that ideally a computerized DCT should have been used to enhance the authenticity of the email writing task. However, due to the lack of access to a computer lab, this was not possible.
3.5 Data analysis

The DCT data were analyzed for both speedy and accurate/appropriate production of email requests. In line with previous L2 pragmatics studies (e.g., Li, 2012; Li & Taguchi, 2014), accuracy of pragmatic performance was measured by means of appropriate ratings for DCT performance. To be more specific, pragmatic accuracy was operationalized by the scores given to students’ emails on a 4-point rating scale adapted from Ishihara (2010), with 4 being the highest and 1 the lowest. Grading was based on four aspects: (1) strategies of the request; (2) level of directness, formality, and politeness in the context; (3) grammar, vocabulary, and phrases; and (4) organization of the request discourse. In judging the level of appropriateness, we drew on insights from prior research on email requests to faculty (e.g., Biesenbach-Lucas, 2007; Economidou-Kogetsidis, 2011). Accordingly, discourse addressing authority figures such as the professor is expected to display status-congruent appropriateness, for example using correct academic titles and adequate mitigation of the request. At the same time, aggravating elements such as making assumptions about the professor’s obligation to grant the request should be avoided. A student’s final DCT score (hereafter accuracy scores) was the average of the sum of his or her scores gained for each scenario.

Compared to accuracy, fluency is a more controversial construct in writing because the reiterative process of writing involves not only text production but also planning and editing (Johnson, Mercado, & Acevedo, 2012). Measures of fluency in L2 written production can vary, and some studies can use more than one of the following measures: (1) writers’ pausing (break in the writing process); (2) repair fluency (disfluencies such as deletions and insertions made to the text); (3) composing rate (number of words per minute); (4) text quantity; and length of (5) rehearsed texts or (6) translating episodes between pauses (see Abdel Latif, 2009). Among the aforementioned measures, some (e.g., pausing or length of translating episodes) cannot be examined on the basis of production data alone but require the use of think-aloud protocols or video-recording of the writing process. Hence, for practical reasons, our study adopted two product-based measures of writing fluency: (1) composing rate, or speed fluency and (2) repair fluency.

Measure 1, composing rate, can be said to parallel speech rate in producing oral speech acts as used in Li (2012, 2013) and Barron and Celaya (2010). In our study, composing rate was calculated by dividing the total number of words produced in an email by the total number of minutes a student took to write the email. In counting words, we closely followed the guidelines of Polio (1997, p.140).
Measure 2, repair fluency or rate of repair, was operationalized as the proportion of self-revisions\(^1\) such as deletions and insertions made to the text out of the total number of words produced. When calculating the rate of repair, we adapted the Mean Segmental Type-Token Ratio used by Ellis and Yuan (2004) because this formula takes into account the variation in learners' text lengths. The procedure for calculating the rate of self-repair was as follows. We first split each email into segments of 30 words (considering that the emails ranged between approximately 60–150 words), then counted the number of self-revisions in each segment, following Knoch's (2007) guidelines, and finally calculated the rate of self-revisions for each segment by dividing the number of self-revisions by 30. A student's overall rate of self-revisions for each email was then computed by averaging the rates obtained for all the segments in the email. The student's rates of self-revisions in the three emails were then averaged to obtain his or her final repair fluency score.

All four researchers were involved in data coding. The procedure for coding data for pragmatic accuracy and fluency was conducted as follows. First, we discussed the coding protocols (described above) and after reaching a common understanding of the protocols, each researcher independently coded 30% of the data. Then we came together to compare and discuss any discrepancy in our coding. After the team reached a consensus, the third and fourth authors each coded half of the remainder of the data. Finally, 30% of the coded data were checked by the first author. The overall agreement rate was 83.1%.

Data analysis was based on both within-group and between-group comparisons of the pre-to-posttest gains for accuracy and fluency of learners’ pragmatic performance. In addition, as mentioned earlier, because a trade-off between accuracy and fluency was observed for many learners before the study, correlation between these two aspects in the learners’ post-treatment performance was also conducted to examine whether the treatments helped reverse the above trade-off.

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1. According to skills-acquisition theories, before L2 knowledge is proceduralized, learners rely primarily on conscious rule application and thus, their performance is slow and erroneous. With increasing automatization, however, performance also becomes faster and more accurate. This indicates that fluency always entails low attention to accuracy. However, self-correction is not always an indication of disfluencies. With regard to writing specifically, for example, Knoch (2007) argues that if self-correction is made during the initial writing process, this could be considered a breakdown in fluency, whereas if correction occurs as a result of revision at a later stage, it cannot be considered a breakdown in fluency. Concurring with this argument, we observed only “online” activities and instructed the participants to pen down and submit their writing as soon as they finished the last sentence. However, we acknowledge that this may not have entirely ruled out the possibility of students re-reading and revising as they were writing and urge that our findings regarding repair fluency be interpreted with caution.
Data were submitted to the Statistical Package for Social Sciences (SPSS) version 24. Depending on the presence or absence of the normal distribution of a specific data set, a corresponding parametric or nonparametric test was then applied to the data.

4. Results

4.1 Effects on learners’ pragmatic accuracy scores

4.1.1 Within-group comparisons

Repeated-measures Analysis of Variance (ANOVA) tests were performed for the control, CF, and revision groups to investigate changes in their accuracy scores across times. For the repeated revision group, due to a lack of normal data distribution, the nonparametric Friedman test was used instead. Results of the above tests showed that all four groups performed significantly better in the two posttests as compared to the pretest: Control \( F(2,30) = 38.1, p < .001, \eta^2 \text{ partial} = .71 \); CF \( F(2,32) = 106.03, p < .001, \eta^2 \text{ partial} = .87 \); Revision \( F(2,38) = 118.4, p < .001, \eta^2 \text{ partial} = .86 \); Repeated revision \( \chi^2(2, n=16) = 25.2, p < .001; \) Kendall’s \( W = .79 \) (also see Table 2).

The results of the post-hoc pairwise comparisons also showed that for each group, the difference lay between Time 1 and Time 2 and between Time 1 and Time 3 \( p < .001 \), whereas there was no difference between Time 2 and Time 3 (control: \( p = 1.0 \); CF: \( p = .29 \); revision: \( p = .23 \); repeated revision: \( p = .36 \)), suggesting retentions of the gains beyond the interventions.

4.1.2 Between-group comparisons

Due to the significant difference in the pretest scores of the four groups and a lack of normal data distribution for the repeated revision group, gain scores, computed by subtracting the students’ pretest scores from their immediate and delayed posttest scores, were used instead of the raw scores. Results of the one-way ANOVA tests with Bonferroni post-hoc analyses show that all three treatment groups gained significantly better than the control group in both of the immediate and delayed posttests as compared to the pretest: immediate posttest: \( F(3,65) = 12.0, p < .001; \eta^2 \text{ partial} = .36; p < .001 \) for control vs. revision, and \( p = .001 \) for control vs. CF and control vs. repeated revision; delayed posttests: \( F(3,65) = 6.81, p < .001, \eta^2 \text{ partial} = .24, p < .001 \) for control vs. revision, \( p = .017 \) for control vs. CF, and \( p = .008 \) for control vs. repeated revision. However, there was no difference among the treatment groups in terms of their post-interventional progress: immediate posttest: \( p = .87 \) for CF vs. revision, \( p = 1.0 \) for CF vs. repeated revision, and \( p = 1.0 \) for revision vs. repeated revision; delayed posttest: \( p = 1.0 \) for all comparisons.
Table 2. Descriptive statistics for pragmatic scores

<table>
<thead>
<tr>
<th></th>
<th>Pre-test</th>
<th></th>
<th>Post-test 1</th>
<th></th>
<th>Post-test 2</th>
<th></th>
</tr>
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<tbody>
<tr>
<td></td>
<td>N</td>
<td>M</td>
<td>SD</td>
<td>M</td>
<td>SD</td>
<td>M</td>
</tr>
<tr>
<td>Control</td>
<td>16</td>
<td>2.31</td>
<td>0.25</td>
<td>2.78</td>
<td>0.25</td>
<td>2.78</td>
</tr>
<tr>
<td>CF</td>
<td>17</td>
<td>2.18</td>
<td>0.30</td>
<td>3.12</td>
<td>0.28</td>
<td>3.01</td>
</tr>
<tr>
<td>Revision</td>
<td>20</td>
<td>1.97</td>
<td>0.28</td>
<td>3.07</td>
<td>0.28</td>
<td>2.92</td>
</tr>
<tr>
<td>Repeated revision</td>
<td>16</td>
<td>2.31</td>
<td>0.40</td>
<td>3.26</td>
<td>0.18</td>
<td>3.17</td>
</tr>
</tbody>
</table>

### 4.2 Effects on learners’ speed fluency

#### 4.2.1 Within-group comparisons

Repeated-measures ANOVAs were performed for the revision and repeated revision groups, while non-parametric Friedman tests for the control and CF groups. Results of the tests showed that all four groups were more capable of fluent production after the study as compared to their pretest performance: Control: $\chi^2 (2, n=16) = 21.9, p < .001$; Kendall’s $W = .68$; CF: $\chi^2 (2, n=17) = 15.1, p = .001$, Kendall’s $W = .45$; Revision: $F(2,38) = 66.5, p < .001$, partial $\eta^2 = .78$; Repeated Revision: $F(2,30) = 33.3, p < .001$, partial $\eta^2 = .69$ (also see Table 3).

The results of the post-hoc analysis also indicated that the progress for the control and CF groups was observed mainly in the delayed posttest (control: $p = .007$ for Time 1-versus-Time 3 and $p < .001$ for Time 2-versus-Time 3 comparisons; CF: $p = .011$ for Time 1-versus-Time 3 and $p < .001$ for Time 2-versus-Time 3 comparisons). For the revision and repeated revision groups, significant improvement was found in both of the immediate and delayed posttests: revision: $p = .001$ for Time 1-versus-Time 2; $p < .001$ for Time 1-versus-Time 3 and Time 2-versus-Time 3 comparisons; repeated revision: $p = .014$ for Time 1-versus-Time 2; $p < .001$ for Time 1-versus-Time 3 and Time 2-versus-Time 3 comparisons.

#### 4.2.2 Between-group comparisons

A one-way ANOVA was performed to compare the four groups’ composing rates in the pre- and immediate posttests while the non-parametric Kruskal-Wallis was performed on their delayed posttest data due to the violation of the assumption of normality. It was found that while the four groups did not differ in their composing rates in the pre-test ($p = .63$), their performance in this aspect was significantly different in the immediate post-test [$F(3, n=65) = 3.06, p = .034$, partial $\eta^2 = .12$] and the delayed post-test [$\chi^2 (3,69) = 14.3, p = .003$, partial $\eta^2 = .22$].

Yet, further post-hoc analyses showed that only the revision group significantly outperformed the control group in the delayed posttest ($p = .001$). The revision group also composed their emails significantly more speedily than the CF group in the delayed posttest ($p = .002$). No difference was found for the other
pairwise comparisons: immediate posttest: control vs. CF: \( p = 1.0 \); control vs. revision: \( p = .24 \); control vs. repeated revision: \( p = .10 \); CF vs. revision: \( p = .47 \); CF vs. repeated revision: \( p = .22 \); revision vs. repeated revision: \( p = 1.0 \); delayed posttest: control vs. CF: \( p = .54 \); control vs. repeated revision: \( p = .09 \); CF vs. repeated revision: \( p = .11 \); revision vs. repeated revision: \( p = .14 \).

However, Cohen’s \( d \) effect sizes calculated for all pairwise comparisons indicated moderate-to-large differences between the revision and repeated revision groups with the control and CF groups in both of the posttests, suggesting that the lack of statistical significance reported above was more likely due to a lack of power rather than a lack of superior effect for the revision and repeated revision groups as compared to the control and CF groups. At the same time, the differences between the repeated revision and revision groups and the difference between the control and CF groups were only negligible (Table 4).

### Table 3. Descriptive statistics for composing rates

<table>
<thead>
<tr>
<th></th>
<th>Pre-test</th>
<th>Post-test 1</th>
<th>Post-test 2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>( N )</td>
<td>( M )</td>
<td>( SD )</td>
</tr>
<tr>
<td>Control</td>
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<tr>
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<td>3.52</td>
</tr>
<tr>
<td>Revision</td>
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</tr>
<tr>
<td>Repeated revision</td>
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<td>11.9</td>
<td>3.44</td>
</tr>
</tbody>
</table>

### Table 4. Cohen’s \( d \) effect sizes for differences in composing rates among the groups

| Post-test 1   | Control vs. CF | 0.15 | Control vs. Revision | 0.81 | Control vs. Repeated revision | 0.80 | CF vs. Revision | 0.65 | CF vs. Repeated revision | 0.68 |
| Control vs. CF | 0.30 | Control vs. Revision | 1.02 | Control vs. Repeated revision | 0.50 | CF vs. Repeated revision | 0.49 | Revision vs. Repeated revision | 0.31 |
4.3 Effects on learners’ repair fluency

4.3.1 Within-group comparisons

Friedman tests were performed for the control, CF, and repeated revision groups, while repeated-measures ANOVA was run for the revision group. The results of these tests indicated only significant changes for the control \( \chi^2 (2, n=16) = 10.5, \ p = .005, \) Kendall’s \( W = .33 \), CF \( \chi^2 (2, n=17) = 8.85, \ p = .012, \) Kendall’s \( W = .26 \), and revision groups \( F(2,38) = 17.4, \ p < .001, \ \eta^2 \ \text{partial} = .48 \), while no difference was found for the repeated revision group \( (p = .52, \ \text{n.s.}) \) (also see Table 5).

Pairwise post-hoc analyses show that for the CF group, the improvement was mainly from the pretest to the delayed posttest: \( p = .007 \) for Time 1-versus-Time 3; \( p = .07 \) for Time 1-versus-Time 2 and \( p = .11 \) for Time 2-versus-Time 3. For the control and revision groups, this improvement was well retained beyond the study: control: \( p = .011 \) for Time 1-versus-Time 2; \( p = .002 \) for Time 1-versus-Time 3 and \( p = .27 \) for Time 2-versus-Time 3; revision: \( p = .006 \) for Time 1-versus-Time 2, \( p < .001 \) for Time 1-versus-Time 3 and \( p = .13 \) for Time 2-versus-Time 3.

4.3.2 Between-group comparisons

Nonparametric Kruskal-Wallis tests were conducted to compare the four groups’ rates of self-revisions in the pre- and immediate posttests, while a one-way ANOVA was conducted for their delayed posttest performance. As indicated by the test results, there was no difference among the four groups in any of the tests: pretest: \( \chi^2 (3, n=68) = 4.13, \ p = .25 \); immediate posttest: \( \chi^2 (3, n=68) = 1.74, \ p = .63 \); delayed posttest: \( F(3,64) = 1.81; \ p = .16; \ \eta^2 \ \text{partial} = .08 \).

Table 5. Descriptive statistics for disfluencies

<table>
<thead>
<tr>
<th></th>
<th>Pre-test</th>
<th></th>
<th>Post-test 1</th>
<th></th>
<th>Post-test 2</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
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<td>( M )</td>
<td>( SD )</td>
<td>( M )</td>
<td>( SD )</td>
<td>( M )</td>
</tr>
<tr>
<td>Control</td>
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<td>0.09</td>
<td>0.16</td>
<td>0.08</td>
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</tr>
<tr>
<td>CF</td>
<td>17</td>
<td>0.17</td>
<td>0.08</td>
<td>0.14</td>
<td>0.09</td>
<td>0.11</td>
</tr>
<tr>
<td>Revision</td>
<td>20</td>
<td>0.23</td>
<td>0.09</td>
<td>0.15</td>
<td>0.07</td>
<td>0.12</td>
</tr>
<tr>
<td>Repeated revision</td>
<td>16</td>
<td>0.21</td>
<td>0.12</td>
<td>0.14</td>
<td>0.04</td>
<td>0.14</td>
</tr>
</tbody>
</table>
4.4  Relationship between accuracy of pragmatic knowledge and fluency of pragmatic processing

Results of the Pearson product-moment tests revealed no relationship between the accuracy and fluency of the learners’ pragmatic performance before the study. After the study, however, while the results remained unchanged for the control group, the results of the treatment groups were affirmative. With regard to the CF group, a moderate, negative relationship between accuracy scores and rates of self-repairs was found in both of the posttests (Time 2: \( r = -0.737, p = .001 \); Time 3: \( r = -0.511, p = .036 \)). As far as the revision group was concerned, a moderate, positive relationship between students’ accuracy scores and rates of production was observed in the delayed posttest (\( r = 0.589, p = .006 \)). A similar trend was also revealed for the repeated revision group with regard to their accuracy scores and rates of production (\( r = 0.500, p = .04 \)). These results suggest that for all three treatment groups, as the students improved their accuracy scores, they also increased their processing speed (as measured in terms of rates of production and rates of self-repairs). Such a correlation was not observed for the control group.

5.  Discussion

Our research question explored the comparative effectiveness of different feedback conditions for (1) fostering L2 pragmatic knowledge that is required for producing socially appropriate email requests, and (2) enhancing the fluency of that production. Findings regarding the learners’ gains in each of these two areas are discussed separately below.

First, regarding the learners’ pragmatic performance accuracy, our findings demonstrate that although all four groups significantly increased their DCT scores after the study, the control group, who received only pragmatic instruction but no feedback on their pragmatic performance, lagged behind the three treatment groups, who received both instruction and teacher’s feedback. Given that the four groups received the same amount of metapragmatic instruction on L2 email requests, the different learning outcomes between the control and treatment groups can be explained by the absence of the feedback component for the former. Apparently, the disadvantage of the control group suggests that although explicit teaching of pragmatic rules alone can lead to the refinement of pragmatic knowledge, it may not suffice to maximize learning outcomes. Pragmatic instruction provided in conjunction with CF, on the other hand, was more effective in promoting accuracy and appropriacy of pragmatic production. These findings are not unexpected as instruction and CF are often seen as complementary to one another.
to consolidate emergent L2 knowledge (Hattie & Timperley, 2007). While instruction presents learners with new knowledge, CF affords opportunities for retrieving and restructuring this knowledge, helping learners to gradually develop “a network of associations that become increasingly accessible” for them in language production (Lyster et al., 2013, p.13). Thus, when used in tandem with instruction, CF can enhance the instructional effectiveness by triggering connections between existing knowledge structures, thereby allowing for continued L2 growth (Lyster et al., 2013). In fact, the overall benefit of CF with instruction on accuracy development has been confirmed in some previous L2 pragmatics studies (e.g., Nguyen et al., 2018; Koike & Pearson, 2005; Nipaspong & Chinokul, 2010). Thus, the findings of our study corroborate these studies and add further evidence on the combined effectiveness of CF and instruction in fostering pragmatic knowledge.

After establishing the superior effect of instruction with CF to instruction without CF, our next concern is which CF configuration is more effective. Findings regarding this question are intriguing. From the perspective of the skills-acquisition theory, practice is the driving force in promoting accuracy and speed of performance. Specifically, through substantial practice, rule application can become automatized over time, leading to not only faster but also more accurate/appropriate language production (Anderson, 1993). This facilitative role of practice has been confirmed in various SLA (e.g., Bygate, 2001; DeKeyser, 1997) and L2 pragmatics studies (e.g., Li, 2012; Takimoto, 2012). Especially, repeated practice those learners in our study of the same task (e.g., revision in the context of writing instruction) has been found effective in familiarizing learners with the message content, thereby freeing up their memory space for other aspects of language production such as selection and monitoring of appropriate language use (Bygate, 2001; Takimoto, 2012). Accordingly, we would have expected the learning outcomes of the treatment groups to be different because of the differing post-writing components (i.e., no revision vs. one-time rewriting vs. repeated rewriting) in which they were engaged. Nevertheless, in contrast to the above studies, no effect of practice was observed in our study. Although the pre-to-posttest gains for each treatment group were significant, no treatment group outperformed another. Given that all the treatment groups received the same kind of metapragmatic feedback, a plausible account for our findings is the overriding effect of this type of feedback, which, to some extent, might have ironed out the differences in the practice components of the different groups.

Specifically, because of its explicitness, metapragmatic feedback is salient to learners, which arguably can effectively draw learners’ attention to target pragmatic norms. Since metapragmatic feedback contains information about pragmatic rules, it can also be argued that this type of feedback enables learners to develop not only the noticing of target exemplars but also the understanding of
rules governing pragmatic language use. According to Schmidt (2010), understanding represents a deeper level of abstraction than noticing, which only involves awareness of surface features. Thus, understanding of rules may contribute more strongly to long-term learning (see Nguyen et al., 2012). Also, since metapragmatic feedback does not contain a readily available answer, but only provides cues for learners to draw on their L2 pragmatic knowledge for self-repair, it requires learners to process not only language form but also the relationship between form, meaning, and context of use. This may promote the greater depth of processing of the target pragmatic feature, thus contributing more strongly to the development of pragmatic proficiency (see Nguyen et al., 2015 for similar discussion on this point). Presumably, since all three treatment groups had the same advantage of receiving metapragmatic feedback throughout the study, their performance accuracy may have been improved to a more or less similar extent.

The lack of effect of practice in our study might also indicate that undergoing one or two rounds of revision might not have been sufficient practice for the revision and repeated revision groups to exceed the CF group’s performance. This especially makes sense if we consider the great challenge that writing high-stake emails may pose to low-proficiency learners who lack real-life exposure to the L2 such as those learners in our study (see Nguyen et al., 2015). Indeed, Li (2012) suggests that there needs to be a certain threshold in the amount of practice before it makes a difference to the performance of instructed learners as opposed to un instructed learners. Therefore, it remains unknown whether with more rounds of revision, the group with a greater amount of practice would have improved further to surpass the group with less or no practice. Nonetheless, the above findings of our study seem to suggest that at least for brief feedback treatments, opportunities for the deep processing of target forms play a major part in improving L2 pragmatic knowledge.

Another possible explanation for the lack of difference among the treatment groups with varying amounts of practice, especially between the repeated revision and revision groups, might also be related to the way the feedback was given on the learners’ second drafts. Because of time constraints, the teachers only provided feedback on the unsuccessful revisions, but did not comment on successful revisions (e.g., “Well-done! Your email structure has been improved”), thus presumably not maximally effective in assisting the repeated revision group to transcend the level of improvement obtained in the first feedback-and-revision cycle. Apparently, the question of how specifics of feedback configurations may impact learning outcomes is worthy of future empirical investigations.

When it comes to instructional effect on the fluency of learners’ production, the findings also did not always confirm our hypothesis. From a skills-acquisition perspective, we would have expected a positive link between increasing the
amount of practice and performance fluency. As such, we would have expected the repeated revision group to outperform all the other treatment groups since they were given a greater amount of practice, which could arguably lead to a higher level of automatization. Since output practice may strengthen associations in memory and thus assist the proceduralization of L2 pragmatic knowledge, we would also have expected both the repeated revision and revision groups to fare better than the control and CF groups, who did not engage in output modification. This was anticipated to be even more of the case because both revision and repeated revision involved same-task repetition (rewriting the same email requests), which was assumed to familiarize learners with task content, thereby helping reduce their processing load (Takimoto, 2012). Nonetheless, our findings did not always confirm the advantage of the revision and repeated revision groups as compared to the other two groups. On the contrary, we found that although all four groups significantly increased their performance speed after the study, gains in repair fluency (i.e., reduction in the number of disfluencies) were only observed for the control, CF, and revision groups, but not for the repeated revision group. When it came to the between-group comparison of the learners’ posttest performance, although there seemed to be a stronger effect for the revision and repeated revision groups than for the control and CF groups in enhancing speed fluency, no such advantage was found for the two former groups with respect to repair fluency. Put together, our findings seem to suggest that while getting learners to undergo one or two rounds of revision seems effective in improving their performance speed as compared to the absence of such practice, this process does not appear to help reduce learners’ rates of self-corrections to a greater extent than otherwise.

The impact of revision on increasing learners’ speed of L2 production can be explained in light of the skills-acquisition theory, which emphasizes the role of skill-specific practice in building procedural knowledge associated with performance in that skill domain (Anderson, 1993; also see Li, 2012; Li & Taguchi, 2014 for similar findings). Specifically, as revision involves language production, engagement in such practice clearly benefits learners’ productive skills. From the perspective of language production, rewriting may also increase learners’ familiarity with task content, thus reducing attentional demands on meaning, and allowing more efficient control over processing (Gass, Mackey, Alvarez-Torres, & Fernández-García, 1999). Consequently, it is not surprising that the revision and repeated revision groups outperformed the control and CF groups in terms of processing speed.

What, then, may account for the improved speed of performance by the control and CF groups? Note that the test DCT scenarios were similar (but not identical) to the practice DCT scenarios used in the study. Under Takimoto’s (2012)
definition, the performance on the posttest DCT, thus, involved similar-task repetition, which is considered beneficial to L2 processing (DeKeyser, 1997). Yet, since similar-task repetition may not promote the same level of depth of processing as same-task repetition (Takimoto, 2012), that explains why despite obtaining significant gains from the pre- to the posttests, the control and CF groups still lagged behind the revision and repeated revision groups. On the other hand, the absence of difference between the revision and repeated revision groups in the aspect of speed fluency is contrary to our expectation, but might have been explained by the amount of repeated practice (20 minutes per revision cycle), which might not have sufficed for the benefit of repeated revision to be maximized.

In terms of repair fluency, practice effects may have also played a part in the posttest improvement by the control and CF groups. That is, the familiarity with the posttest DCT scenarios may have ensured more efficient control over processing of pragmatic knowledge on the learners’ part, thereby reducing their rates of production of disfluencies. On the other hand, a possible account for lack of superiority of the revision and repeated revision groups as compared to the control and CF groups might have been the unintended effect of revision. Presumably, engagement in revision might have made learners more form-conscious, thus leading to more self-repair in their subsequent performance (see Bygate, 1996 for similar discussion on this point). Indeed, this speculation is supported by examining the correlation between learners’ post-treatment accuracy scores and rates of self-corrections. As reported earlier, while these two variables were negatively correlated for the CF group, such a correlation was not found for either the revision or the repeated revision groups, suggesting that learners in these two groups did not make fewer corrections to their texts as their L2 pragmatic proficiency increased.

6. Conclusion

Our study sought to investigate the relative efficacy of different feedback conditions accompanying pragmatic instruction on enhancing the accuracy and fluency of L2 pragmatic performance. The findings have demonstrated that although CF can contribute to the development of L2 pragmatic knowledge, opportunity for revision following CF appears to be more effective in enhancing the speed of processing of this knowledge in task performance. As such, these findings add to our understanding of the importance of requiring learners to rewrite following CF to consolidate emergent L2 pragmatic knowledge and automatize the retrieval of this knowledge for real-time communication. Similar to Li (2012), our findings also seem to suggest that declarative knowledge of L2 pragmatics may be more amenable to development than procedural knowledge of L2 pragmatics. While the
development of declarative knowledge may require only a brief treatment (e.g., three hours), provided that there is opportunity for deep processing of surface structures and underlying rules of use, procedural knowledge may require a much more substantial amount of task repetition to sufficiently develop. In this study, we hypothesized a positive relationship between increased practice and enhanced processing ability. We have found a superior effect for learners who engaged in revision and repeated revision as compared to those without such practice. However, the lack of advantage of the repeated revision group as compared to the revision group in terms of speed fluency means our hypothesis is only partially confirmed. Most likely, two cycles of revision is insufficient for learners to surpass their peers going through one cycle. At the same time, going through multiple rounds of revision may even make learners more self-conscious, leading to more self-corrections, hence a loss in fluency.

An issue which can be addressed in future research is concerning the measurement of fluency. For written production, fluency is a controversial construct and affords a great diversity of measurement. Our study is based solely on product-based measures of fluency (e.g., rates of production and disfluencies). Nevertheless, future studies may include both product-based (e.g., quantity of text) and process-based measures (e.g., online observation of composing processes – see Abdel Latif, 2009) to enhance the reliability of the results. Future studies may also make use of technological advances to improve the measurement of speed fluency. For example, in future studies, paper-based DCTs can be replaced with computerized DCTs to capture the response time more effectively (see Li, 2012, 2013; Li & Taguchi, 2014). Recent L2 writing studies have employed keystroke logging software to record online writing features (e.g., Leijten & Van Waes, 2013; Van Waes & Leijten, 2015). This method can allow for investigation of the process of writing fluency and hence can be adopted by L2 pragmatics studies to investigate the fluency of written production of pragmatic meanings.

Despite some limitations, however, we believe our study can offer important pedagogical implications regarding email writing instruction. First, given the effectiveness of CF used in tandem with explicit instruction, we recommend that CF be given in a timely manner to assist learners in consolidating L2 pragmatic knowledge. It is also important that learners be provided with opportunities for revision following CF. Being pushed to modify their output helps learners process form-meaning-context relationships at a more in-depth level, thus aiding the refinement of their pragmatic knowledge. Also, performing the same task repeatedly can lead to an increase in the speed of task performance, therefore enhancing the efficiency of task performance in real time. As such, our findings would provide a good reference for curriculum designers and teachers in terms of how to use feedback and repeated tasks to improve students’ language performance.
Nonetheless, with regard to the question of how much revision is sufficient for learners to transcend their current level of L2 pragmatic competence, further research is needed to produce more conclusive outcomes before any plausible recommendations can be made. Also, since different types of pragmatic targets (e.g., email writing versus participation in social media-type written conversations) may respond differently to CF and instruction (see Taguchi, 2015), further research can address this particular question in order to help teachers tailor their teaching to suit their particular lesson objectives.

References


Taguchi, N. (2015). Instructed pragmatics at a glance: Where instructional studies were, are, and should be going. *Language Teaching, 48*, 1–50. https://doi.org/10.1017/S0261444814000263


**Appendix. Sample scenarios**

**Email writing practice task used in the lesson**

You are a college student. Due to an illness you need more time to complete your assignment. You want to ask your teacher, Professor John Smith, to give you an extension of a few days. Write him an email to request the extension well before the due date.

**DCT scenario used in the test**

You are doing a small research project. Your supervisor is professor Catherine Smith. You have been in her class for many years. You are supposed to submit the first draft of your literature review to her one week from now but it takes longer than you expect to find the literature. You are not likely to be able to hand in your work on time. Write her an email to ask for an extension.
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