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# The Effect of Asynchronous versus Conventional Corrective Feedback on the Correct Use of Prepositions in an EFL Context

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***Abstract:*** *Providing feedback on students' errors by means of computers and especially through the Internet has drawn a lot of attention in recent years. Therefore, the present study was an attempt to investigate the effects of asynchronous computer-mediated versus conventional corrective feedback on the accuracy of using prepositions in the writings of 54 pre-intermediate students. Three groups of learners took part in the study: asynchronous feedback group, conventional feedback group, and a control group. Asynchronous feedback group students received explicit feedback on the targeted structure via e-mail, while conventional feedback group received explicit feedback on the targeted structure in printed copies, using red pen. Students of the control group received no feedback. Results indicated that asynchronous feedback group outperformed those of conventional and the control groups, and the post-test scores of the control and the conventional feedback groups were not significantly different.*

***Key Words:*** *Asynchronous corrective feedback, Conventional corrective feedback, Prepositions.*

## 1. Introduction

Over the past few decades, as the focus of classroom instruction has shifted from an emphasis on form of the language into function the place of error correction or corrective feedback (CF), has become more salient (Brown, 2004). Since 1970s, as Error Analysis became a popular paradigm for studying second and foreign language learning and teaching, researchers have become interested in the role errors play in the process of learning. The shift of the focus from studying the relationship between the native and the target language into studying the actual language learning was the result of moving from traditional contrastive analysis to the new view of error analysis (Van Els, Bongaerts, Extra, Van Os, & Janssen-van Dieten, 1984), in which the comparison was made between the production of the target language and the target language itself. Thus, errors that learners made were no longer regarded as imperfection (Gass & Serlinker, 2008), rather an opportunity to learn and improve.

Corrective feedback as a critical issue in learning languages has been studied from a variety of different standpoints. Researchers have found different answers to practical questions related to the issues such as how and when to correct students (Lyster & Ranta, 1997; Ellis, Loewen, Elder,

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& Erlam, 2006; Surakka, 2007; Rahimi & Dastjerdi, 2012; Taipale, 2012). Indeed the role of corrective feedback in second language writing has been one of highly controversial issues, and different opinions have been cited about the effectiveness of its use. (Ferris, 2003, 2006; Lee, 2009).

Prior to Truscott (1996), most teachers and researchers believed that written corrective feedback (WCF) is effective to help learners in acquiring targeted linguistic forms. Truscott claimed that error correction is ineffective and also harmful for learners since it has negative impact on their writing. On the other hand, however, Ferris (1999, 2003) maintained that error correction have positive impacts on students' improvement of their writing accuracy. Since then, a bulk of studies conducted on the effectiveness of corrective feedback; mostly on different types and contexts of corrective feedback to examine the hypothesis that certain types and contexts of corrections are more effective than others to improve students' writing accuracy.

In recent years, along with the development of computers and the Internet, computer-mediated communication (CMC) has been promoted as a very important tool for communication and has had remarkable impact on education (Beatty & Nunan, 2004; Pfaffman, 2008). In addition to face-to-face (FTF) interaction, writing and printed material, CMC with specific characteristics has changed the means of knowledge production provided new methods of teaching and learning to revolutionize the educational system on a number of grounds (Boon, 2001). Much research on the pedagogical role of technology has been conducted during recent years, and positive outcomes have been reported (e.g. Lee, 2004; Schwienhorst, 2004; Smith, 2003).

Regarding the improvement of writing, that is the focus of the present study; CMC can be greatly applied since according to Goodman and Graddol (1996), computer-mediated technologies are mostly based on written texts through English language, and therefore have beneficial effects on increasing learners' writing accuracy.

## 2. Review of the Literature

One of the common phenomena in writing is students' errors, which is usually followed by teachers' corrective feedback. Ellis (2009) is of the opinion that in both behaviorist and cognitive theories of language learning and communicative approaches, corrective feedback is viewed as a means of fostering learners' motivation, and ensuring linguistic accuracy. Therefore, the role of feedback has a place in most theories of language learning and pedagogy**.** The studies however shown to be controversial on a number of issues such as when and how to correct learners, which errors to correct, and even who should correct them.

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In recent years, researchers have discussed the role of corrective feedback in both EFL and ESL contexts (Ellis, 2001; Ellis and Sheen, 2006; Lowen and Erlam, 2006). Brown (2001) believes that corrective feedback strategies need to be valued by teachers. He also stated that ignorance of interlanguage errors would lead to fossilization, which may be the result of lack of corrective feedback.

Lots of studies have been done to investigate the effectiveness of corrective feedback each relating the success or failure of the types of feedback each with a focus on different taxonomies (e.g. Carrol and Swain, 1993; Lyster and Ranta, 1997; Sauro, 2007). Some others have mentioned the level of students proficiency (Philp, 2003; Van Patten, 1990), the readiness of students for certain linguistic features (Han, 2002; Mackey and Philp, 2003), the linguistic features targeted (Schmidt, 1995; Van Patten, 1994; Gass, Stevics & Lemelin, 2003), and the contexts where feedback is provided (Ellis et al, 2001; Oliver and Mackey, 2003). Regarding contexts for providing feedback, some scholars and researchers have conducted research on computer-mediated communication (e.g. Thorne, 2003; Kitade, 2006, to name but a few). The pedagogical features of CMC have been investigated from different angles. Regarding its effects on learners' writing, a large body of research has been conducted (e.g. Lee, 2004; Schwienhorst, 2004; Smith, 2003). Findings of these studies suggested CMC increases learners' writing enhancement and so did their motivation. Similarly, some studies on the relationship between applying CMC and promoting reflective learning showed that learners have more time to reflect on others' work in CMC environments than in FTF conversations (e.g. Jonassen, 2004; Swaffar, Romano, Markley, & Arens, 1998; Weasenforth, Biesenbach-Lucas, & Meloni, 2002). CMC is known as a student-centered means in language learning to facilitate interaction and discussion among learners. According to Jonassen (2004), this increases social aspects of courses and allows learners to access multiple perspectives.

Benefits of CMC in language areas and components have been investigated by many researchers (Chiu, 2008; Darhower, 2002), among which; a study by Shang (2007) examined the effect of using email on the improvement of writing performance of 40 non-traditional EFL students in Taiwan in aspects of syntactic complexity, grammatical accuracy and lexical density, as well as investigating the relation between the number of email exchanges and writing performance. The major finding demonstrates that students made improvements on syntactic complexity and grammatical accuracy. An increase in lexical density, however, was not observed in this study. Another finding suggests that exchanging email messages with their peers at least four times might have a greater overall improvement on their writing performance. Findings from students' self-reports reveal that the e-mail approach was a positive strategy that helped to improve students' foreign language learning and attitudes towards learning English.

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As noted earlier, many scholars, teachers, and researchers believe that error correction is an inevitable part of language teaching, and during many years, teachers and researchers have been trying to find ways to facilitate the error correction process in order to make it more effective. As technology has become more and more important in academic environments, one of the means that can facilitate the process of error correction can be computers and mainly the Internet. As such, the focus of this study was to investigate the efficiency of using asynchronous corrective feedback via e-mail on learners' writing accuracy compared to conventional corrective feedback within an EFL context.

## 3. Method

This study was conducted with 54 adult Iranian students learning English as a foreign language. Before the study begins, an Oxford Placement Test (2007) was given to the students, and their proficiency level was identified as pre-intermediate. The study was done considering explicit corrective feedback in two different contexts, namely asynchronous and conventional to investigate which one is more effective to enhance the writing accuracy of the learners.

### 3.1. Design

The focus of this study was on correcting students' written work. The researcher targeted English preposition as a grammatical category and made correction on errors related to this element. This target structure was chosen because as Swan (2005) stated, first, “It is difficult to learn to use prepositions correctly in a foreign language”. Second, “different prepositions can have very similar uses, for instance; in the morning, on Monday morning, at night, Thus, confusing for EFL learners. Third, “English has no preposition which may be used in another language; in other expressions the opposite is true” (p. 42).

### 3.2. Participants

The current study was conducted with 54 students who were chosen randomly among English learners studying in private language institutes in Iran, Shiraz, and were assigned into three groups of 18. All the participants were studying English as their foreign language, and were all Persian native speakers. In order to homogenize the participants, Oxford Placement Test (2007) was given before the writing assignment starts, and proficiency level of participants were identified as pre-intermediate. They were adults among which, 29 were female and 25 were male. Their age ranges from 18 to 25.The students attended their English classes two times per week.

### 3.3. Procedure

Participants of the study were randomly assigned to either one of the two contexts of error treatment, or the control group. Asynchronous computer-mediated corrective feedback was applied using e-mail, and explicit corrective feedback was provided using word processor comment and highlight features. Conventional corrective feedback, on the other hand was applied using red pen, and error correction was provided explicitly. The study was done during three sessions, each lasted about 40 minutes. During each session students were given a topic and were asked to write a minimum of 150 word composition in 40 minutes. The participants were asked to write an essay on a new topic instead of revising the first essay every session, because as it is argued by Hyland and Hyland (2006), students might closely follow their teacher's comments in revisions, and therefore they may lose the opportunity of thinking creatively which is essential in developing writing skills. While researcher was correcting the compositions, only errors related to the targeted structure were treated until the last session. A week after each session, compositions with correction on targeted structure were delivered to students.

### 3.4. Treatment

Students of asynchronous group were randomly chosen to send and receive their compositions via e-mail. Errors related to the targeted structure were provided using highlights and comments. Students of the conventional group were asked to hand their compositions in hard copies, and to receive them in hard copies as well. Errors related to the targeted structure were treated using red pen. Students of the control group also handed their essays in hard copies to their instructor. Explicit feedback was provided with both the exact location and the correct form of the error.

## 4. Results

To find out if providing computer-mediated corrective feedback affects learners' writing performance, the researcher ran the paired sample *t*-test to compare the pre and post-test scores. Tables 4.1 and 4.2 show the results.

**Table 4.1**

**Descriptive Statistics of the Pretest and Post-test Scores**

| | | Mean | N | Std. Deviation | Std. Error Mean |
|---|---|---|---|---|---|
| Pair 1 | No feedback pretest | 64.722 | 18 | 9.6211 | 2.2677 |
| | No feedback post-test | 65.556 | 18 | 7.8382 | 1.8475 |
| Pair 2 | Conventional group pretest | 68.333 | 18 | 9.3934 | 2.2140 |

| | | | | | |
|---|---|---|---|---|---|
| | Conventional group post-test | 72.500 | 18 | 10.6066 | 2.5000 |
| Pair 3 | computer-mediated group pretest | 66.111 | 18 | 8.1449 | 1.9198 |
| | computer-mediated group post-test | 80.556 | 18 | 7.4536 | 1.7568 |

**Table 4.2**

**Paired Samples *t*-test to Compare the Pretest and Post-test Scores**

| | | Paired Differences | | | | | t | df | Sig. (2-tailed) |
|---|---|---|---|---|---|---|---|---|---|
| | | Mean | Std. Deviation | Std. Error Mean | 95% Confidence Interval of the Difference | | | | |
| | | | | | Lower | Upper | | | |
| Pair 1 | No feedback pretest - No feedback post-test | -.83333 | 5.49063 | 1.29415 | -3.56376 | 1.89709 | -.644 | 17 | .528 |
| Pair 2 | Conventional group pretest - Conventional group post-test | -4.16667 | 6.00245 | 1.41479 | -7.15162 | -1.18172 | -2.945 | 17 | .115 |

ISSN: 2278-4012, Volume:5, Issue:2, April 2016

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Pair 3 | computer-mediated group pretest - computer-mediated group feedback post-test | -14.44444 | 9.37595 | 2.20993 | -19.10700 | -9.78189 | -6.536 | 17 | .000 |

The results of the paired *t*-test in table 4.2 indicate that there is a significant difference between the pretest and post-test scores of the computer-mediated corrective feedback group (sig. =.000, $p<.05$). As table 4.1 shows, the participants of the computer-mediated corrective feedback group gained higher mean score in the post-test (mean = 80.5) than the pretest (mean = 66.1). It can be inferred that computer-mediated corrective feedback has a positive effect on learners' writing performance. The difference between the pretest scores and the post-test scores of participants of the conventional feedback group is not statistically significant (sig. =.115). The difference between the pre and post-test scores of the control group (no feedback) is not significant (sig. = .52).

In the next step, Ono-way ANOVA was run on the post-test scores of the three groups. The results are presented in Table 4.3:

**Table 4.3**

**Ono-way ANOVA to Compare the pretest and Post-test Scores of the Three Groups**

**ANOVA**

| | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| Pretest Scores | Between Groups | 119.444 | 2 | 59.722 | .725 | .489 |
| | Within Groups | 4201.389 | 51 | 82.380 | | |
| | Total | 4320.833 | 53 | | | |

ISSN: 2278-4012, Volume:5, Issue:2, April 2016

| | | | | | | |
|---|---|---|---|---|---|---|
| Post-test Scores | Between Groups | 1502.778 | 2 | 75.1389 | 8.577 | .001 |
| | Within Groups | 4468.056 | 51 | 87.609 | | |
| | Total | 5970.833 | 53 | | | |

According to table 4.3, the difference between groups in terms of pretest scores is not significant (sig. = .48).Concerning the post-test scores, table 4.3 indicates that the difference between groups is significant (sig. =.001, $p< .05$). Table 4.4 shows the result of the post hoc test.

**Table 4.4**

**Scheffe test to Compare the Differences among Groups**

| Dependent Variable | (I) Groups | (J) Groups | Mean Difference (I-J) | Std. Error | Sig. | 95% Confidence Interval | |
|---|---|---|---|---|---|---|---|
| | | | | | | Lower Bound | Upper Bound |
| Post-test Scores | Computer-mediated corrective feedback | conventional corrective feedback | 8.05556* | 3.11999 | .044 | 1.887 | 15.9224 |
| | | no corrective feedback | 12.77778* | 3.11999 | .001 | 4.9110 | 20.6446 |
| | conventional corrective feedback | Computer-mediated corrective feedback | -8.05556* | 3.11999 | .044 | -15.9224 | -.1887 |
| | | no corrective feedback | 4.72222 | 3.11999 | .326 | -3.1446 | 12.5890 |

| | | | | | | |
|---|---|---|---|---|---|---|
| no corrective feedback | Computer-mediated corrective feedback | -12.77778* | 3.11999 | .001 | -20.6446 | -4.9110 |
| | conventional corrective feedback | -4.72222 | 3.11999 | .326 | -12.5890 | 3.1446 |

*. The mean difference is significant at the 0.05 level.

According to table 4.4, the mean difference in two of the comparisons is significant. The comparison of three groups indicated that the participants of the computer-mediated feedback group (mean = 80.5) did significantly better than the conventional (mean = 72.5, sig. =.04, $p<.05$) and control (no feedback) (mean = 65.5, sig. =.001, $p<.05$) groups. But the comparison between other groups did not show any significant difference among them.

The second objective of this study was to determine if providing conventional corrective feedback affects learners' writing performance. Based on the results presented in table 4.2, the difference between the pretest and post-test scores of the conventional corrective feedback group is not significant (sig. = .115). Therefore, it can be concluded that providing conventional corrective feedback does not affect learners' writing performance.

The third research question asks if the participants' writing performance receiving computer-mediated corrective feedback differ from the participants' writing performance receiving conventional feedback. Tables 4.7 and 4.8 show the results of the *t*-test for the pretest scores.

**Table 4.5**

**Descriptive Statistic of the Pretest Scores of Online and Conventional Corrective Feedback Groups**

**Group Statistics**

| | Groups | N | Mean | Std. Deviation | Std. Error Mean |
|---|---|---|---|---|---|

| | | | | | |
|---|---|---|---|---|---|
| Pretest Scores | Computer-mediated corrective feedback | 18 | 66.111 | 8.1449 | 1.9198 |
| | conventional corrective feedback | 18 | 68.333 | 9.3934 | 2.2140 |

**Table 4.6**

**Independent Sample t-test to compare the Pretest Scores of computer-mediated and Conventional Corrective Feedback Groups**

**Independent Samples Test**

| | | Levene's Test for Equality of Variances | | t-test for Equality of Means | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | F | Sig. | t | df | Sig. (2-tailed) | Mean Difference | Std. Error Difference | 95% Confidence Interval of the Difference | |
| | | | | | | | | | Lower | Upper |
| Pretest Scores | Equal variances assumed | 1.471 | .234 | -.758 | 34 | .453 | -2.2222 | 2.9304 | -8.1776 | 3.7332 |
| | Equal variances not assumed | | | -.758 | 33.331 | .454 | -2.2222 | 2.9304 | -8.1820 | 3.7376 |

ISSN: 2278-4012, Volume:5, Issue:2, April 2016

According to table 4.6, there is not any significant difference between the pretest scores of computer-mediated and conventional corrective feedback groups (sig. = .453).

**5. Discussion**

Findings of the current study was generally in line with the results of the following research (e.g., Li, 2000; Nezami, 2012; Razagifard and Razaghifard; Yeh and Lo, 2009).

Li (2000) found that, by the use of online task-based activities, students were able to produce more syntactically and lexically complex essays. Li also reported that students were more receptive to receiving feedback via e-mail compared to the conventional corrective feedback method using pen and paper.

Nezami (2012) also found that online corrective feedback, mainly recasts and metalinguistic feedbacks, was beneficial to learners.

Razagifard and Razzaghifard (2011) also reported that students who were given computer mediated corrective feedback outperformed those without feedbacks.

Yeh and Lo (2009) concluded that the participants who received online corrective feedback performed significantly better than those who received the paper-based error correction feedback on recognizing writing errors. However, Vaezi and Abbaspour (2015) came to a different conclusion. They conducted a study to investigate whether there is any significant difference between the effect of asynchronous online peer corrective feedback and face-to-face peer corrective feedback. They reported that there was not any significant difference between the effect of asynchronous online peer corrective feedback and face-to-face peer corrective feedback.

**5. Implication and suggestions for further research**

The results of this study can be used to inform ESL/EFL teachers and researchers interested in applying or investigating teacher various types of written corrective feedback strategies, including corrective feedback via e-mail, as used in this study of positive effects of asynchronous computer-mediated corrective feedback. The finding of this study also indicates that teacher written corrective feedback can be provided using readily available technology such as word processing software as editing and revising tools and email as electronic delivery medium, in comparison to traditional pen-and-paper approach.

The current study was carried out in Iran, where few studies on online corrective feedback have been conducted before; therefore it is still much room for future research to be done to investigate the effects of online corrective feedback on Iranian students; and of course a

replication of this study can be conducted using a larger population selected from different regions within Iran to allow for more generalizability. Moreover, some other instruments can be used along, such as audio recordings of some interviews where students could have a chance to speak freely on what kind of corrective feedback they prefer and to express their own reasons.
In the present study, Microsoft Word's comment and highlight features were used as a tool to provide teacher written corrective feedback on students' essay and email was used as a medium to deliver the feedback from the teacher. Additional research focusing more on the use of other features of word processing software and email, electronic discussion groups and message boards, social networking sites and blogs, tablet or mobile devices, as feedback tools and media may be needed to determine their effectiveness in facilitating teacher feedback for learners. In future studies, it is recommended that online social networking sites like facebook or blogs be tested to be used in the academic writing classroom.

It is hoped that with more research on the topic controversies can end up with some agreements to help teachers, educators and the learners to work efficiently.

## 6. Conclusion

To arrive to the correct conclusion the researcher has rechecked the data given to the computer and the analysis of the data was done twice. On the basis of the results and discussion presented previously, it became evident that students who received asynchronous corrective feedback outperformed those who received conventional paper based feedback and the control group. Therefore, Asynchronous feedback can be concluded as more effective way of providing feedback since in the post-test, students who received feedback via e-mail gained higher scores. This also supports previous studies (Hosseini, 2012; Li, 2000; Razaghifard & Razzaghifard, 2011) which showed that using computers had significant effect on students' writing performance.

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