



Efficacy of Electronic Versus Traditional Type of Metalinguistic Feedback in Correct Use of Prepositions: An Experimental Study

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Abstract

Background: In education and learning, teaching to write well is still one of the challenges of Iranian English teachers.

Objectives: Since the writing skill has different aspects, this study aimed at investigating the impact of metalinguistic feedback and electronic feedback on the correct use of English prepositions in Iranian learners' writings.

Methods: The study utilized a semi-experimental design. The participants of the study were 84 Iranian language learners. These learners were randomly divided into one control and two experimental groups to take a writing pretest. One of the experimental groups received electronic feedback while the other was exposed to metalinguistic feedback. After the treatment period, the participants took a writing posttest. The writing products of the learners at both pretest and posttest were evaluated and scored in terms of the correct use of prepositions. The scores were analyzed through a combination of statistical tests of Kruskal-Wallis and Mann-Whitney.

Results: The results of the Mann-Whitney test on the gained scores (posttests-pretest) of the three groups indicated that there was a significant difference between the sets of scores ($H = 50.82, P = 0.00$). Nevertheless, the result of Mann-Whitney U test showed that there was no significant difference between electronic and metalinguistic feedback ($U = 433.500, P = 0.642$), which means both types of electronic and metalinguistic feedback were equally effective on the correct use of English prepositions.

Conclusions: In conclusion, the study led to a better understanding of the impact of electronic and metalinguistic feedback on the writing skill, which provided a basis for English as a foreign language (EFL) teachers to integrate them in the teaching and learning process.

Keywords: Feedback, Language Development, Writing, Students

1. Background

With regard to English prepositions, empirical research findings show that some errors made by second language learners are indicative of the difficulty regarding the acquisition of prepositions. In fact Fort and Guillaume (1), asserted that prepositions constitute 14% of all tokens made in most languages and found them to be the most challenging among the highest error class rates across various languages. A study conducted by Hermet et al. (2) showed that preposition selection makes up 17.2% of all errors.

In the same vein, a study conducted by Habash (3) revealed that most errors regarding the application of English prepositions in the written work were more due to the interference of Arabic than to other learning problems. The question that led the current study was how learners

can be instructed in the most convenient way to use prepositions properly. One way of alleviating these problems possibly is through providing the learners with feedback.

In effect, many researchers (4-9) claim that feedback makes an essential contribution to both educational assessment and learning promotion. It is predicted that the majority of the second language (L2) learners are provided with explicit corrective feedback. Therefore, these learners should receive enough feedback in the L2 context (10). In English as a foreign language (EFL), providing corrective feedback has been one of the effective ways to deal with the learners' errors, which means that it has the potential to use for correcting learners' errors in the use of prepositions. The metalinguistic and electronic feedback might be more convenient than other types of feedback. In the electronic and metalinguistic feedback, there is a minimum confrontation between learners and teachers, which

might be found less threatening to the learners. In the electronic feedback, information about learners' errors is conveyed to the learner via Internet-based networks such as social media networks while in the metalinguistic feedback, learners are signaled that their utterances contain errors without explicitly specifying the errors.

Regarding the metalinguistic feedback, the investigations conducted by researchers such as Bitchener and Knoch (11), pointed to no significant impact concerning the incorporation of metalinguistic explanation while the investigations conducted by Abdollahzadeh (12), Barekat and Mehri (13) and Azizi et al. (14) presented a positive impact for the inclusion of metalinguistic feedback in the ELT context. For instance Abdollahzadeh (12), investigated the effect of metalinguistic feedback on grammar accuracy of 60 Iranian EFL learners and found that the use of metalinguistic feedback significantly enhanced the grammar accuracy of learners. Furthermore Barekat and Mehri (13), studied the effect of metalinguistic feedback on the pragmatic competence of the Iranian language learners. The results of their study revealed that the use of metalinguistic feedback significantly affected the pragmatic competence of the learners. Moreover Azizi et al. (14), examined the effect of metalinguistic feedback on the writing performance of Iranian EFL learners and found that metalinguistic feedback has a positive influence on the writing improvement of the Iranian EFL students.

It is generally believed that technology provides flexibility in learning and accessing materials based on learners' needs in terms of time and techniques. This causes the learners to take on a more serious responsibility for their own learning, promoting the student-centeredness (15). The type of electronic feedback is important and can be effective for the better performance of learners writing. A comprehensive overview of the results of studies carried out on computer-mediated corrective feedback was presented by AbuSa'aleek (16).

2. Objectives

Considering the research body that has been published so far, the space to investigate the effects of different types of feedback on writing in the Iranian context is still available and researchers are in a position to deepen the studies in this area because of the importance of writing skills. Therefore, this study was an attempt to compensate for such scarcity on the aforementioned issue; accordingly, the following question was addressed: Is there any difference between the effects of metalinguistic and electronic feedback on the correct use of prepositions in writing?

3. Methods

In order to seek the answer to the research question, the study employed a pretest-posttest design with a con-

trol group in which three groups of language learners were compared.

3.1. Participants

The participants were selected based on a convenience sampling method. They were 84 Iranian students at the intermediate level of language proficiency in their intact classes. They were studying in a private foreign language institute in Tehran between June and July 2017. They were in eight different classrooms with seven to 13 students in each classroom. In terms of age, they were in the range of 18 to 31-years-old. Forty-four students were females and 40 were males. Sixty-seven learners were high school graduates while nine learners were still continuing education at the tertiary level and eight learners were working in various business areas. It should be noted the learners were selected based on convenience sampling and their availability and this form of grouping was the best that could be done.

3.2. Instrument

A list of 150 prepositions was prepared by consulting the English prepositions list (17). Then, experienced teachers of the institute were asked to identify the most common prepositions from the list that are suitable for the level of intermediate proficiency. Next, a set of 35 prepositions appropriate for the target sample of language learners was single out from the initial pool of 150 prepositions. This list of 35 prepositions served as the instrument for scoring the use of prepositions in writing. With regard to the validity of the preposition list, it was completely valid as the list was intended to measure the exact prepositions to be instructed to the learners during the intervention. The reliability of the prepositions measurement tool was established through the inter-rater reliability method. In this method, two raters scored the correct use of prepositions by 30 EFL learners and the degree of relationship between the scores given by the two raters was found to be 0.89.

Another instrument used in the study was a TOEFL based on which, it was established that the students of intact classes were equal in terms of English language proficiency. The TOEFL included a reading section and a written structure section with a total number of 90 items. There was no concern regarding the reliability and validity of the test as the test is considered a standard test and recognized worldwide as a valid test of English language proficiency.

3.3. Procedure

The students took the TOEFL, followed by using the list of English prepositions and writing one sentence for each preposition. The TOEFL scores were compared across the groups using the test of ANOVA to make sure about the

homogeneity of the students in terms of language proficiency. After it was found there was no significant difference between the groups in terms of TOEFL scores, one group of male and female students received electronic feedback and one group of male and female students received metalinguistic feedback. In each session, the students were given a topic and some example sentences on the topic with a deliberate focus on prepositions to make sure that the students would use prepositions in their essays. In the following session, students' essays were collected and appropriate feedback and comments were put on their drafts. In case of metalinguistic feedback, the feedback was indirect and comments such as "how do we use the preposition on when using for time" were put on the students' drafts (18). In the case of electronic feedback, the students received the same feedback content via email from the instructor. In fact, in this group, the students wrote their essays in Microsoft Word, the teacher commented on their errors using the review tool of Microsoft Word, and returned them to the students via email. The two remaining classes were held one for males and one for females served as the control group receiving regular corrective feedback and just practiced writing on the same given topics. The regular corrective feedback in the control group just provided the correct form of structures. The whole treatment period lasted for 12 sessions each lasting for 90 minutes.

4. Results

In the first step of the study, participants were selected and grouped based on the purpose of the study. It should be noted that the participation of the learners was voluntary and they signed a consent form for participating in the study. Table 1 shows the grouping of the study and the number of students in each class.

All the groups in Table 1 took the TOEFL, preposition pretest, and preposition posttest, as follows. Before starting experimentation, the various groups of students were checked for language proficiency to remove any concerns regarding the distortion in the outcome of the study due to the possible effect of unequal language proficiency of participants. Table 2 shows the results of One-way ANOVA on the TOEFL score of the three groups. Since the comparison was between the three groups, One-way ANOVA was a better option than independent samples *t*-test.

According to the output of the ANOVA, there was no significant difference between the three groups ($F = 3.08$, $P = 0.051$), namely, the group receiving electronic feedback, the group receiving metalinguistic feedback, and the group serving as the control receiving no feedback at all. In the next stage, the participants of the study were pretested and after receiving treatments, they were post-tested on

the use of prepositions. Table 3 shows the descriptive statistics of the groups including the mean scores and standard deviations of the use of prepositions in their writings. The highest possible score in the test of prepositions was 35 and the lowest one was zero because the list of prepositions contained 35 prepositions and the learners needed to write 35 sentences containing the prepositions.

Based on the descriptive statistics, both the metalinguistic and electronic groups receiving the corresponding feedback scored much higher in the posttest of preposition use compared to the control group. For instance, the metalinguistic group scored 11.16 ($SD = 2.72$) in the pretest and 18.41 ($SD = 3.27$) in the posttest and the electronic group scored 11.70 ($SD = 2.19$) in the pretest and 19.80 ($SD = 3.22$) in the posttest. However, the control group scored 10.86 ($SD = 3.03$) in the pretest and 11.60 ($SD = 2.40$) in the posttest. In order to understand which method of feedback was more effective, initially, it was decided to run ANCOVA, but one of the assumptions of ANCOVA that is the homogeneity of variances was not met ($F = 8.29$, $P = 0.00$). As an alternative to ANCOVA, the Kruskal Wallis test was run on the computed scores for tracing any effects of treatments. The gains scores were computed by subtracting the pretest scores from the posttest scores. The mean score of the metalinguistic group was 7.25 ($SD = 2.36$), that of the electronic feedback group was 8.10 ($SD = 3.38$), and that of the control group 0.73 ($SD = 2.07$). The Kolmogorov-Smirnov test of normality indicated that the gained scores were not normally distributed ($P \leq 0.05$), which meant that the non-parametric test of Kruskal Wallis would be used for comparison of the groups.

Based on the results of the Kruskal-Wallis test, there was a significant difference between the groups ($Z = 50.82$, $P = 0.00$) (Table 4). In order to track the exact cause of the difference between the groups, pairwise comparisons using the Mann-Whitney U test were made between the groups and the alpha level was adjusted based on the Bonferroni method. Accordingly, the alpha level was changed from 0.05 to 0.01 as the maximum comparisons were three ($\text{sig} = 0.05/\text{number of comparisons} = 0.01$). Table 5 demonstrates the results of pairwise comparisons between the groups.

According to the results of pairwise comparisons, a significant difference was found between the metalinguistic and control groups ($U = 0.00$, $P = 0.00$) and between the electronic and control groups ($U = 0.00$, $P = 0.00$) while no significant difference was found between the metalinguistic and electronic groups ($U = 433.50$, $P = 0.64$). The results suggest that both electronic and metalinguistic feedbacks were significantly effective on the correct use of prepositions by Iranian EFL learners. In addition, it was concluded that the electronic and metalinguistic feedbacks had equal effects, as there was no significant difference between the metalinguistic and electronic groups.

Table 1. Grouping of the Study and the Number of Students in Each Class^a

Gender	Classrooms			
	Female	8 (group 1)	13 (group 2)	9 (group 2)
Male	11 (group 1)	12 (group 1)	8 (group 2)	9 (group 3)

^a Group 1, metalinguistic feedback; group 2, electronic feedback; group 3, control.

Table 2. The Results of One-way ANOVA on the TOEFL Scores of the Three Groups of the Study

	Sum of Squares	df	Mean Square	F	P Value
Between groups	145.676	2	72.838	3.087	0.051
Within groups	1911.027	81	23.593		
Total	2056.702	83			

Table 3. Descriptive Statistics of the Scores on the Use of Prepositions in Their Writings

	N	Mean	Std. Deviation	Std. Error	Minimum	Maximum
Pretest						
Metalinguistic	31	11.16	2.72	0.48	5.00	17.00
Electronic	30	11.70	2.19	0.40	7.00	16.00
Control	23	10.86	3.03	0.63	4.00	16.00
Total	84	11.27	2.63	0.28	4.00	17.00
Posttest						
Metalinguistic	31	18.41	3.27	0.58	12.00	25.00
Electronic	30	19.80	3.22	0.58	13.00	26.00
Control	23	11.60	2.40	0.50	7.00	16.00
Total	84	17.04	4.54	0.49	7.00	26.00

Table 4. The Result of the Kruskal-Wallis Test on the Gained Scores of the Groups

Gain	N	Mean Rank	Chi-Square	df	Asymp. Sig.
Metalinguistic	31	52.98	50.828	2	0.000
Electronic	30	55.05			
Control	23	12.00			
Total	84				

Table 5. The Results of Pairwise Comparisons Between the Groups

	Mann-Whitney U	Asymp. Sig. (2-Tailed)
Metalinguistic-electronic	433.500	0.642
Metalinguistic-control	0.000	0.000
Electronic-control	0.000	0.000

5. Discussion

After comparisons were made on the performances of metalinguistic, electronic, and control groups of the study in terms of the use of prepositions, some signs of progress in the electronic and metalinguistic groups were observed

while the control group did not show such noticeable gain in the use of prepositions after the instructional period. The results of One-way ANOVA on the gained scores of the students indicated that there was a significant difference between the groups in terms of the gained scores and the results of pairwise comparisons indicated that significant differences lied between the metalinguistic and control groups, as well as between the electronic and control groups. Based on the obtained results, it was concluded that both types of feedback were effective equally in the enhancement of the use of English prepositions by Iranian EFL learners.

With regard to the effects of various types of feedback on L2 writing, the literature is mainly positive (18-20). EFL

teachers can take advantage of both metalinguistic and electronic feedback depending on students' preferences. Alternatively, they may use a combination of both to accommodate different styles of learning because of the various conceptualizations of learning styles. For example, learning styles by Kolb (21) and VAK learning styles by Gardner et al. (22) directly or indirectly suggest the match between the instruction type and learning styles of students.

That the metalinguistic and electronic feedback proved to be effective on the proper use of prepositions can be explained by referring to the advantages of both metalinguistic and electronic feedback because both are indirect feedback with a little face-to-face confrontation with the teacher. In the metalinguistic feedback, the teacher does not correct the learners and just signals that the learner has made an error. In the electronic feedback, the learner is not in direct contact with the teacher and just receives the feedback through electronic communication. The little confrontation may reduce the anxiety and fear of negative evaluation and communication apprehension. Lyster and Ranta (18), in their conceptualization of foreign language anxiety highlighted the negative effect of anxiety and maintained that foreign language anxiety has three dimensions of (A) communication apprehension, (B) test anxiety and, (C) fear of negative evaluation. The two types of feedback under investigation caused little contact with the teacher, which could reduce the feeling of negative evaluation by the teacher and peers and communication apprehension.

The electronic feedback has a further advantage of convenience and flexibility. In other words, learners can have access to their teacher's feedback everywhere and at any time. Aside from the non-threatening nature of electronic feedback, it has the advantage of being more in line with development in networking and social media. Nowadays, most students interact through social media and feel more comfortable with electronic and Internet devices. Therefore, the electronic method has more chance of being welcomed by students at the present.

There are various benefits for an electronic type of feedback such as its convenience and legibility of the notes and comments. Researchers found that nearly 70% of the participants preferred electronic feedback for its accessibility, timeliness, and legibility. For instance, the student can access the teacher's feedbacks by going to their emails through their smartphones or laptops in various locations. Nowadays, people can easily access their emails through laptops and smartphones that are portable devices. On the other hand, there are benefits for the use of traditional feedback, too. Some students, especially older ones, may not be comfortable with technologies like smartphones and the Internet and may prefer the classical and nostalgic way of correction by teachers.

After all, the participants of the current study who were

mainly young students could take advantage of both types of feedback equally, which removes any concerns regarding the channel of receiving feedback, traditionally or electronically. This leads us to the conclusion that in the first place, feedback is an essential part of writing courses, generally, and the instruction of more specific components of writing such as prepositions, particularly. However, it needs to be noted that participants of the study were from the capital city of Tehran who are characteristically very different from students from other parts of Iran. This warns us on the immediate generalization of the findings to other contexts of EFL. In other words, more local research needs to be carried out regarding the efficacy of any types of feedback on students' correct use of prepositions or writing in general.

The findings of the study revealed that electronic and metalinguistic types of feedback were effective in instructing the learners to use prepositions correctly. However, there are still questions to be answered in this regard. For instance, it is not known how learners with different cognitive styles, different levels of language proficiency, different academic degrees, etc. react to electronic and metalinguistic feedback. There are possibilities of interactions between such factors and the effect of electronic and metalinguistic feedback. Furthermore, some language learners, particularly older learners, may not be comfortable with electronic forms of feedbacks, which warns us about generalizing the findings to learners with different personalities and age groups. Future studies may disclose more information about such issues particularly by following a mixed method design in which both experimental and introspective aspects are included.

Footnotes

Conflict of Interests: The authors declare that there is no conflict of interest in this study.

Ethical Considerations: The informed consent was obtained from each participant included in the study; the study protocol is consistent with the ethical guidelines of the 1975 Declaration of Helsinki as reflected in a prior approval by the institution's human research committee.

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