The Effect of Direct, Indirect, and Negotiated Feedback on the Linguistic Accuracy of EFL Learners in Writing

Moussa Ahmadian*
Associate Professor of Applied Linguistics, Arak University

Ehsan Mehri
Ph.D. Candidate of Applied Linguistics, Arak University

Rozhin Ghaslani
Ph.D. Candidate of Applied Linguistics, Arak University

Abstract
L2 written corrective feedback has been investigated from different perspectives in SLA research (e.g. Ahmadian & Tajabadi, 2015; Bitchener & Knoch, 2010; Ferris, 2006). Taking the cognitive and sociocultural paradigms into account, the aims of the current study are twofold: Firstly, it attempts to find if corrective feedback is effective in improving the linguistic accuracy of L2 learners' tense/aspect use in writing. Secondly, it tries to measure which feedback type (direct, indirect, and negotiated) has a more significant effect on the mentioned linguistic structures. Seventy-five pre-intermediate university EFL learners were selected and asked to participate in the study; they were randomly divided into direct, indirect, negotiated feedback groups, and a control group. During six-week sessions of providing feedback on tenses/aspects, the participants were required to write diary journals on their academic life. The direct and indirect groups received feedback on their diaries, having 10 minutes time in the class to observe the feedback. The negotiated feedback group received 10 minutes one-to-one contingent feedback on the errors. After comparing the four groups, the results showed that all the treatment groups did outperform the control group which indicated that feedback was effective. Moreover, the findings showed no significant difference among the feedback types. This implies that teachers can provide any of the feedback types for learners so far as tense/aspect errors are concerned in their writing.

Keywords: Feedback types: direct, indirect, negotiate; writing; tense/aspect

Authors’ emails: m-ahmadian@araku.ac.ir* (corresponding author); e-mehri@phd.araku.ac.ir; rozhin.ghaslani@yahoo.com
INTRODUCTION

The basic assumption for providing L2 learners with feedback is that it can help them become aware of their errors and, consequently, to produce the correct L2 forms. However, when Truscott (1996) suggested his disagreement with grammar correction in L2 writing classes, debates on the effect of feedback raised significant interest among L2 researchers and practitioners. In response to Truscott’s (1996) claim, Ferris (1999) argued that there is an increasing body of research evidence showing ways through which some learners can benefit from receiving error correction. Truscott (1999), responding to Ferris, persisted that grammar correction is generally a "bad idea" unless more research proves special cases in support of grammar correction.

Despite Truscott's claim against grammatical corrective feedback (henceforth CF), studies on error feedback have demonstrated that L2 learners ask for feedback from their teachers on their errors (Ferris, Chaney, Komura, Roberts & McKee, 2000). Some studies have also explored if certain types of CF are more effective than others to assist L2 learners develop their writing accuracy (e.g. Goldstein, 2005; Hyland & Hyland, 2006); whereas others suggested that the results regarding the efficacy of CF are not conclusive (Truscott & Hsu, 2008). In addition, different research projects have been done on the efficacy of two types of CF: Direct and indirect. Some (e.g. Ferris & Roberts, 2001) have found direct feedback to be preferable, while others (e.g. Ferris & Helt, 2000) have provided evidence for the indirect feedback to improve the learners’ writing accuracy. Still, researchers like Truscott (2004) indicate that neither type has any effect on the learners’ writing accuracy.

Although, theoretically, it has been argued that CF encourages L2 development by providing negative evidence required for making errors more prominent (Gass & Mackey, 2007), and offering learners with opportunities for noticing and consciously analyzing the structures (Schmidt, 1990), research-based evidence in support of CF has remained
controversial. More recently, to resolve these controversies, a different perspective has been followed on the issue of feedback in L2 learning through the Vygotskian sociocultural theory of learning (Ahmadian & Tajabadi, 2015; Aljaafreh & Lantolf, 1994; Swain, 1997). Drawing on the Vygotskian sociocultural perspective and his notion of the zone of proximal development (ZPD) (Vygotsky, 1978; 1986), Aljaafreh and Lantolf (1994), for instance, maintained that the focus of CF should be more on the social relationship engaged in the context of interaction and on the ways CF can lead to learning, not the types of CF. The main tenet of the Vygotskian sociocultural perspective is that knowledge is social and it is constructed through a process of joint participation, collaboration, interaction, and communication among learners in their social settings. One general approach to explain the process of learning is that of Ausubel's assimilation theory (2000). It indicates that learning occurs through development of new cognitive structures. The cognitive structures are a person’s organization of knowledge in a special subject matter at any given time which is hierarchically organized in a pyramidal shape, putting the more general ideas and concepts at the top and the more specific ones at the bottom of the pyramid. According to this theory, new knowledge is assimilated in this hierarchy by linking new concepts to already existing concepts.

Nevertheless, many questions have remained unaddressed in relation to which CF type provokes more effect on English learners' writing accuracy in general and the learning of tense/aspect of English as an L2 in particular. No specific study can be found to have focused on the effect and comparison of the three common feedback types on tenses/aspects of English. Therefore, this study was designed to see if the three types of CF, namely, direct, indirect and negotiated, have any effect on the learners' linguistic accuracy of tenses/aspects in writing, and then measure their possible effectiveness on learning the same linguistic categories.
LITERATURE REVIEW

Since Truscott's (1996) argument against CF, there have been debates on whether and how to give L2 learners feedback on their written grammatical errors (Ferris, 2002; 2004). A number of researchers have intensely disagreed with Truscott's disagreement (Chandler, 2003; Ferris, 2004; Ferris & Helt, 2000). Ferris (2004), for example, claimed that Truscott's conclusion is based on insufficient data and is "premature". Her criticism supported the positions of Lyster, Lightbown and Spada (1999) and Chandler (2003) on the need and significance of grammar correction for L2 instruction (see also Bitchener & Knoch, 2009; Sachs & Polio, 2000).

Despite the findings of these studies and some others (e.g. Polio, Fleck & Leder, 1998), there is not yet a conclusive agreement on the use of grammar correction and the degree of effectiveness of types of CF on L2 grammar learning (Truscott & Hsu, 2008; Sachs & Polio, 2007). Moreover, the lack of a control group has been cautioned to be a major weakness of the early research on CF mentioned above (see Bitchener & Ferris, 2012). Therefore, the control group, i.e. providing no feedback on learners' writing, is one of the critical aspects of a high-quality research design in written CF studies (for a thorough discussion, see Bitchener & Ferris, 2012).

Studies on Direct and Indirect Feedback Types

There are some contributive and highly referenced studies which have focused on direct and indirect feedback types and examined the extent to which these two feedback types improve writing accuracy (Bitchener & Knoch, 2008a; 2008b; 2010; Van Beuningen, de Jong & Kuiken, 2012). Direct feedback is provided when the instructor gives the correct form to the learner, while in indirect feedback, the instructor shows in some ways (for example, by underlining the error or mentioning the type of error in the learner's writing) that there is an error but does not reveal the correct form and lets the writer self-correct the error. Studies that have examined the relative advantages of various types of feedback can be categorized into
three groups; those that have compared: 1) direct and indirect feedback types (Chandler, 2003; Ellis, Loewen & Erlam, 2005; Ferris, 2006, among others); 2) different indirect feedback types (Ferris et al., 2000; Ferris & Roberts, 2003; Robb, Ross & Shortreed, 1986, to name a few); and, 3) different kinds of direct feedback (Bitchener, 2008; Bitchener & Knoch, 2009; Bitchener et al., 2005; Sheen, 2007, among others).

Regarding the first type of studies on direct and indirect feedback types, Chandler (2003) revealed that direct feedback was more effective because the learners are provided with the correct form, and because more cognitive effort is required when students are provided with indirect feedback. Some other researchers have reported a major effect for feedback that only signifies the source of the errors (Ferris, 2006) or a more positive effect for feedback that both recognize and supply the correct form (Bitchener, 2008; Bitchener & Knoch, 2008a; 2008b; Sheen, 2007). Ferris (2002) also concluded that direct error correction feedback could develop students' writing accuracy more than indirect feedback in revision tasks, but after the course of the semester, it was revealed that students who were provided with indirect feedback decreased their error frequency significantly more than those who were given direct feedback, showing indirect feedback's persistence over time due to the cognitive involvement of the learners.

The researchers more in favor of a direct feedback type have found that teachers and students prefer this feedback type because direct feedback decreases students' confusion that results from the students' failure to recognize, understand or remember the meaning of error codes when teachers provide indirect (or coded) feedback (Ferris et al., 2000; Ferris & Roberts, 2001). Ferris and Roberts (2001) mentioned how this can simply happen with low proficient learners. Roberts (1999) has also claimed that students sometimes feel that indirect feedback does not supply them with adequate information to correct more complex errors such as idiosyncratic and syntactic errors. However, Ferris and Helt (2000) have reported that indirect feedback assists students to develop accuracy "over time" more than, or at least equally as well as, direct feedback.
Concerning the second type of studies examining various types of indirect feedback, it should be noted that such studies have distinguished between those that do or do not apply a code. Some groups of studies have investigated the effectiveness of two indirect feedback types (coded and uncoded); almost none of them (Ferris & Roberts, 2001; Ferris et al., 2000; Robb et al., 1986) have found any significant difference between coded and uncoded indirect feedback types. Nevertheless, Robb et al. (1986) investigated the effect of indirect CF types on new writings over time, while the two others (Ferris & Roberts, 2001; Ferris et al., 2000) could only estimate the effect of CF on text revisions.

Finally, for examining various direct feedback types, several current studies have investigated the relative usefulness of types of direct CF on the development of written accuracy. Bitchener et al. (2005), for example, investigated the effect of 1) direct CF and oral meta-linguistic clarification; 2) direct CF; and, 3) no CF. They reported that students who received direct CF plus oral meta-linguistic explanation had better performance than those who were given only direct feedback. They concluded that adding meta-linguistic clarification makes a difference to the decrease of error frequency, and that adding oral meta-linguistic explanation to the feedback may be an important factor in improving increased accuracy.

In the Iranian context, Salami and Moini (2013) also tried to examine whether indirect focused corrective feedback and indirect unfocused corrective feedback provide any differential effects on the accurate use of grammatical forms by 54 high intermediate EFL female learners. The findings of the study revealed that indirect focused and unfocused corrective feedback produced significantly positive effects on written accuracy in comparison to a control group that received no particular feedback. In addition, it was observed that the unfocused group who were provided with feedback on a range of grammatical structures significantly outperformed the focused group and the control group. It was also found that the unfocused feedback group could achieve grammatical accuracy but its long-
term effectiveness was not quite as significant as its short-term effectiveness.

Rahimi and Asadi (2014) investigated the effect of different types of written corrective feedback on accuracy and overall quality of learners’ writing. The learners were randomly assigned to three groups including an indirect feedback, a direct feedback, and a content feedback group. The first two groups received both content and form feedback, while the last group only received content feedback. The obtained results showed that there was a significant but small difference between formal feedback groups (direct and indirect), and only the content feedback group regarding the long-term development of their writing accuracy. However, no significant difference was found among the three groups with respect to the development observed in their overall writing quality in the long period.

Aghajanloo, Mobini and Khosravi (2016) conducted a study to investigate the effects of four types of written corrective feedback including focused direct corrective feedback, unfocused direct corrective feedback, focused indirect corrective feedback, and unfocused indirect corrective feedback on 120 intermediate EFL learners’ writing performance. It was revealed that all four types of written corrective feedback could positively affect intermediate EFL learners’ writing performance, and that unfocused direct corrective feedback was the most effective technique for intermediate EFL learners’ writing performance.

Lastly, comparing the effect of indirect feedback on the development of L2 writing, Tajabadi and Ahmadian (2017) found that peer-editing could improve the accuracy and fluency of the learners' writing skill significantly (for other related studies, see Nosratzadegan, Seifoori & Maftoon, 2016; Azizi & Nemati, 2018).

Studies on the Effect of CF on Tense/Aspect

So far as the literature on CF and tenses/aspect is concerned, some studies are at hand. McDonough (2006) investigated the effects of recasts and
clarification requests on the use of past tense verbs in English on 74 Thai students. He found that both recasts and clarification requests were equally useful when compared with the group that is provided with no feedback at all. In another investigation, Bitchener, Young and Cameron (2005) conducted a longitudinal study on 53 adult ESL students in New Zealand in order to find the most effective way in providing focused direct feedback on three different grammatical forms (prepositions, definite articles, and the past simple tense). The results indicated no significant difference among the groups after measuring the three features altogether; however, they found that those who received direct CF plus five minutes of interaction with the teacher significantly improved their accuracy in the use of articles and simple past tense, though not for prepositions.

Bitchener et al. (2005) compared the effect of three types of feedback (direct written feedback plus teacher–student conference, only direct written feedback, and no feedback) on how well the students corrected the errors relating to the application of three grammatical categories, i.e., prepositions, the simple past tense, and the definite article. The findings showed no significant difference between the three feedback groups when the total students’ errors were considered. However, it was demonstrated that in so far as the students' errors in any of the linguistic structures are concerned (Bitchener et al., 2005), the feedback groups made more development in their writing than the no-feedback group.

Finally, Sheen, Wright and Moldawa (2009) explored the effects of the direct focused and direct unfocused feedbacks on both single grammatical targets (articles) and on a broader range of grammatical structures (i.e., articles, copula ‘be’, regular past tense, irregular past tense, and preposition) on 80 ESL students. Four groups namely, focused written CF group, unfocused written CF group, writing practice group, and a control group took part in their study. They concluded that the focused CF group obtained the highest accuracy scores for both articles and the other four grammatical structures.
Overall, it seems that studies have been sporadic in design. Mostly, they have focused on the past tense and concluded that this category was improved in learners' performance due to receiving recast and clarification (McDonough, 2006), direct feedback, and a 5-minute interaction (Bitchener et al. 2005), unfocused coded feedback (Ferris, 2006), direct feedback (Chandler, 2003), focused feedback (Sheen, Wright & Moldawa, 2009), and group activity (Dobao, 2012). However, little research could be found focusing specifically on tense/aspect.

**Studies on the Effect of Negotiated CF**

In recent years, in an effort to solve some of the contradictory conclusions concerning the effect of direct and indirect feedback, some researchers shifted their attention to employing the sociocultural theory of learning in CF studies (Ahmadian & Tajabadi, 2015; Swain, 1997). Compared with the mounting body of research on the written CF types reviewed above, the sociocultural-oriented studies are still evolving.

In addition to the above reasons, it seems that most studies on written CF have concentrated on direct feedback without any learner-teacher negotiation. In such cases, the learner has a passive role because it is the teacher who provides the feedback, and the learner receives it. Such feedback, it is argued for example by Aljaafreh and Lantolf (1994), may not be inevitably helpful because it does not take into consideration the learner's needs and only answers to feedback and is not fine-tuned and adjusted to the learner’s level of development. Therefore, if the feedback is supplied in an interactive and negotiated manner, it may become more useful because in such cases, the learners can identify and detect their errors themselves. This may provide a discovery-based approach to error correction, which can not only motivate learners but also assist them to make inferences, make hypotheses about the target language structure, and help them modify their understanding in their long-term memories (Ferrish & Roberts, 2001; Hendrickson, 1978).
Studies focusing on the role of negotiation have indicated the positive effects for this kind of feedback (e.g. Lyster, 1998, 2002; Nassaji, 2007, 2009; Ohta, 2000). However, they have generally addressed oral errors. Fewer studies have investigated possible effect of negotiation for addressing written errors.

Nassaji (2007) tried to examine the role of negotiation in feedback in response to written errors in an adult ESL classroom. The feedback happened in the context of a routine classroom activity, in which students wrote weekly journals in order to examine its effect on learners' ability to recognize and correct the same errors after interaction. The results of this study supported the significance of negotiated feedback on written errors, that is, when the feedback consisted of negotiation, it led to more successful correction of the same error by the learners than the feedback type that included no, or limited, negotiation. However, research on collaborative processing of CF is insufficient. The current literature consists of rather small-scale case studies (e.g. Storch & Wigglesworth, 2010; Swain & Lapkin, 1995; Watanabe & Swain, 2008) done within a sociocultural framework to examine the nature of interaction and the response to the feedback, considering cognitive and affective factors.

**PURPOSE OF THE STUDY**

As the above literature review shows, despite the studies carried out on CF in the past two decades, there are still gaps to be filled. Some of the studies have not included any control group or they have not compared pre-test and post-test scores on students' writing. Furthermore, some others have evaluated students' writing improvement on the same text revisions rather than writing a new text. It seems that there is few, if any, research in which all the three CF types (direct, indirect, and negotiated) have been studied and compared, particularly on the linguistic category of tenses/aspects of EFL learners. Therefore, this piece of research was carried out to fill in the
existing gap and to shed some light on this effect. As such, the following research questions were raised:

1. Does CF have any significant effect on developing EFL learners' tenses/aspects accuracy in writing?
2. Is there any significant difference between the effect of direct, indirect, and negotiated CF on developing EFL learners' tenses/aspects accuracy in writing?

From the general findings of the studies, it seems that feedback can have an effect on some of the linguistic categories. Thus, to provide objective answers to the questions, the following hypotheses were constructed to be tested:

1. Providing CF has a significant effect on developing EFL learners' tenses/aspects accuracy in writing.
2. There is a significant difference between the effect of direct, indirect, and negotiated CF on developing EFL learners' tenses/aspects accuracy in writing.

**METHOD**

The study participants comprised of 75 freshman EFL students, aged 18 to 22, who were studying *Oxford English Grammar* written by Swan and Walter (2011) for their grammar course at Arak University, Iran. The results of the Oxford Placement Test suggested that their level was pre-intermediate. All the participants were instructed by the same teacher.

The participants were divided into three treatment groups and one control group. The same amount of time was spent to teaching grammar to each group. Because the focus of the study was on writing in general, all groups received the same amount of attention in this skill. The aim of the study was to investigate primarily whether feedback has any effect, and secondly, which type of feedback, if any, is more effective in developing students' accuracy regarding use of tense/aspect. To achieve this goal, group one, the treatment class of 17 participants, received direct written CF. Group
two, 18 participants, received indirect written CF. Group three, 20 participants, received negotiated CF. Finally, group four, the control group of 20 participants, received no CF. The treatment took six sessions. The first writing assignment of the participants was assumed as their pre-test data and the sixth writing was taken as the post-test in the analysis of the data. The participants were expected to write weekly diaries of at least three to four pages long as their assignments on their issues of concern related to the new educational experience at the university. In the treatment phase, direct CF took the form of the most explicit corrections, i.e. the correct form was provided, above the underlined errors (see Appendix A for a sample). Students' errors in tense and aspect features were underlined and their corrections were provided as direct feedback. The indirect CF group received the form of the most implicit corrections and students' errors in tense and aspect features were underlined only (see Appendix B for a sample). In the negotiated CF group, the teacher underlined the whole sentence having an error and then gave the students one-to-one scaffolding in the form of the most implicit to the most explicit contingent feedback (see Appendix C for a sample). The teacher attuned his feedback according to the participants' response and reaction when they were engaged in self-correction. In other words, the participants were provided first with the most implicit feedback, and, if they could not correct their errors via this assistance, they gradually received more explicit ones. The teacher negotiated with the participants for 10 minutes. This was at the same time counted as the criterion for making learners attend the feedback through negotiated feedback. Therefore, in order to attract the participants' attention in the other two treatment groups and in order to have the same time spent on task for them, they were also asked to attend to the feedback provided in their diary journals for 10 minutes. As for the control group, no feedback of any type was provided to them. The participants merely wrote diary journals weekly without receiving any response (oral or written) from the course instructor.
DATA ANALYSIS

After collecting the data from the participants, the students' writings were carefully scrutinized. Before feeding the data into the SPSS software, the participants' writing scores were calculated by the researchers based on calculating the number of their errors and the whole number of words written in each participant’s writing. The formula used was dividing the number of errors by the number of words written, and then multiplying it by 1000 (Van Beuningen et al., 2012). The reason for selecting this formula was to avoid any possible effect of word count in the participants' writing product. Through employing the above-mentioned formula, the current study could control the effect of the word count, thus, the scores could be compared on a standard scale. The papers were randomly rescored by the researchers and no areas of conflict were found. The participants' scores were fed into SPSS. To analyze the data, ANCOVA statistical test was employed.

RESULTS

To examine the first research question as to whether CF impacts students' writing accuracy, the participants' scores in the experimental groups and the control group were compared. Table 1 shows descriptive statistics related to the mean and standard deviation of the participants' written scores (scores of written errors) in both pre-test and post-test.

The descriptive statistics above indicates that the mean and standard deviation for the control group in the pretest were 12.00 and 11.73, respectively and, in the posttest, the mean and standard deviation for the same group were 11.97 and 11.34, respectively. In addition, it is indicated that the direct group had a mean and standard deviation of 12.84 and 8.48 in the pretest and of 7.18 and 8.33 in the posttest, respectively. Moreover, the indirect group had a mean and standard deviation of 15.46 and 14.11, respectively in their pretest, and of 8.77 and 9.27 in their posttest. Finally, the mean and standard deviation of the negotiated feedback group were
17.41 and 13.25 in the pretest, respectively, and 9.75 and 8.43 in the posttest.

**Table 1.** Descriptive statistics of the control, direct, indirect, and negotiated groups

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Min.</th>
<th>Max.</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pretest</td>
<td>20</td>
<td>1.60</td>
<td>47.40</td>
<td>12.00</td>
<td>11.73</td>
</tr>
<tr>
<td>Posttest</td>
<td>20</td>
<td>2.00</td>
<td>44.00</td>
<td>11.97</td>
<td>11.34</td>
</tr>
<tr>
<td>Direct</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pretest</td>
<td>17</td>
<td>4.30</td>
<td>38.90</td>
<td>12.84</td>
<td>8.48</td>
</tr>
<tr>
<td>Posttest</td>
<td>17</td>
<td>1.30</td>
<td>35.80</td>
<td>7.18</td>
<td>8.33</td>
</tr>
<tr>
<td>Indirect</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pretest</td>
<td>18</td>
<td>2.30</td>
<td>42.70</td>
<td>15.46</td>
<td>14.11</td>
</tr>
<tr>
<td>Posttest</td>
<td>18</td>
<td>.00</td>
<td>27.50</td>
<td>8.77</td>
<td>9.27</td>
</tr>
<tr>
<td>Negotiate</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pretest</td>
<td>20</td>
<td>.00</td>
<td>47.40</td>
<td>17.41</td>
<td>13.25</td>
</tr>
<tr>
<td>Posttest</td>
<td>20</td>
<td>.00</td>
<td>29.70</td>
<td>9.75</td>
<td>8.43</td>
</tr>
</tbody>
</table>

Table 2 shows the results of Leven’s test. Leven’s test was applied to investigate the equality of error variances related to the dependent variable.

**Table 2.** Leven’s test of equality of error variances

<table>
<thead>
<tr>
<th>F</th>
<th>df1</th>
<th>df2</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.305</td>
<td>3</td>
<td>71</td>
<td>.280</td>
</tr>
</tbody>
</table>

As indicated in Table 2, the F value is 1.30 with the significant level of .28 which is smaller than 0.05. Therefore, it can be concluded that Leven’s test was not significant and the hypothesis, indicating the equality of error variances of the dependent variable, was not rejected. This means that the assumption of equality of error variances was not violated, and the error variance of the dependent variable is equal across groups.

In Table 3, the result of the analysis of the equality of regression slope has been demonstrated. It should be noted that the main assumption of
covariance analysis is to make sure that the regression analysis is done on a solid ground.

**Table 3.** The equality of regression slope as the main assumption of covariance analysis

<table>
<thead>
<tr>
<th>Source</th>
<th>Type III Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group* pretest</td>
<td>409.34</td>
<td>3</td>
<td>136.44</td>
<td>2.126</td>
<td>.105</td>
</tr>
</tbody>
</table>

To this end, the equality of regression slope was analyzed and, as it can be observed in Table 3, the significant level of interaction effect between the pre-test and the groups is .10, which is greater than 0.5. Therefore, it can be concluded that the equality of the regression slope was not violated.

To compare the written errors among different groups in the post-test of the study, tests of Between-Subjects Effects was run. Table 4 presents the results to this test.

**Table 4.** Tests of between-subjects effects

<table>
<thead>
<tr>
<th>Source</th>
<th>Type III Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
<th>Partial Eta Squared</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pretest</td>
<td>3199.23</td>
<td>1</td>
<td>3199.23</td>
<td>70.59</td>
<td>.000</td>
<td>.502</td>
</tr>
<tr>
<td>Group</td>
<td>389.62</td>
<td>3</td>
<td>129.87</td>
<td>2.86</td>
<td>.043</td>
<td>.109</td>
</tr>
<tr>
<td>Error</td>
<td>3172.47</td>
<td>70</td>
<td>45.32</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>6596.31</td>
<td>74</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note:* a. R Squared = .519 (Adjusted R Squared = .492)

As shown in Table 4, the results show that, F is 2.86 with the significant level of .00 which is smaller than 0.05 (F = 2.86, p < 0.05). Therefore, it can be concluded that, with respect to written error scores, a significant difference was observed in the post-test scores between the control group and the three experimental groups. As a result, the first research hypothesis...
is confirmed, suggesting that CF has a significant effect on the development L2 English learners' tenses/aspects accuracy in writing.

In addition, to compare different groups of the study in pairs, a post-hoc test (Bonferroni) was run. The results are presented in Table 5.

Table 5. Pairwise comparisons of the control, direct, indirect, and negotiated groups

<table>
<thead>
<tr>
<th>Group (1)</th>
<th>Group (2)</th>
<th>Mean Difference (Group 1-2)*</th>
<th>Std. Error</th>
<th>Sig.</th>
<th>95% Confidence Interval for Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control</td>
<td>Direct</td>
<td>5.25*</td>
<td>2.22</td>
<td>.021</td>
<td>.82 to 9.68</td>
</tr>
<tr>
<td></td>
<td>Indirect</td>
<td>5.11*</td>
<td>2.19</td>
<td>.023</td>
<td>.72 to 9.49</td>
</tr>
<tr>
<td></td>
<td>Negotiate</td>
<td>5.20*</td>
<td>2.15</td>
<td>.018</td>
<td>.90 to 9.51</td>
</tr>
<tr>
<td>Direct</td>
<td>Indirect</td>
<td>-1.14</td>
<td>2.28</td>
<td>.949</td>
<td>-4.70 to 4.40</td>
</tr>
<tr>
<td></td>
<td>Negotiate</td>
<td>-.05</td>
<td>2.24</td>
<td>.982</td>
<td>-4.51 to 4.42</td>
</tr>
<tr>
<td>Indirect</td>
<td>Negotiate</td>
<td>.09</td>
<td>2.19</td>
<td>.965</td>
<td>-4.27 to 4.46</td>
</tr>
</tbody>
</table>

*: Mean difference between 'group (1)' variables in the first column and 'group (2)' in the second column of the table

Accordingly, the difference between the mean scores of the control group and the experimental groups in the post-test after adjusting the pre-test scores is significant. It can be observed that no significant difference exists between the mean score of the control group in the pre- and post-tests, but in all three experimental groups, the scores of students' writings in the post-test have been reduced in comparison with their scores in the pre-test (from 5.52, 5.11, and 5.20 to -.14, -.05, and .09).

However, regarding the second research question whether there is a significant difference in participants' writing score of the three experimental groups in the pre- and post-tests, the findings of the post-hoc test showed that there was no significant difference between the three experimental groups of direct, indirect, and negotiated feedback; thus, the second hypothesis is rejected.
DISCUSSION

This study firstly investigated the effect of different types of CF on English L2 students' writing. Moreover, it tried to test out the degree of the effects of the three feedback types, namely: direct, indirect, and negotiated feedback, to see which type has a better probability of improving the L2 writers' accuracy. The results did show the immediate influence of written CF on new pieces of writing, and this could be counted as evidence in favor of feedback debate (Ferris, 1999, 2004; Truscott, 1996, 1999, 2004). The positive effect of written CF can be understood as a promising technique for teachers to possibly modify the internal representation of the learners' interlanguage.

The analysis of the effect of CF on the writing performance of the three experimental groups suggests that the learners in these groups enjoyed a more statistically significant score. They outperformed all those in the control group. This becomes a pleasing finding for researchers and teachers who, in spite of Truscott's (1996, 1999, 2004) claim that CF should be abandoned because it is unproductive, have suggested that it is actually facilitative in developing written accuracy. This can be taken as a legitimate cause for spending the time and effort for the sake of improving learners' writing accuracy.

The findings of the study confirm those of Chandler (2003), Bitchener et al. (2005); Bitchener (2008), Lee (2008), Bitchener and Knoch (2008a, 2008b, 2009), and Sheen et al., (2009), who found that L2 learners' writing accuracy in all the different groups of their study improved due to the impact of CF. Comparing written CF on new texts with no written CF, some studies (Aghajanloo, Mobini & Khosravi, 2016; Bitchener & Knoch, 2010; Sheen, Wright & Moldawa, 2009; Van Beuningen, de Jong & Kuiken, 2012) revealed that written CF was effective on learners' writing accuracy over targeted structures. While these studies have considered new writings, other studies have investigated if written CF is effective for assisting learners revising their texts, and if this effort may benefit L2 development
over time (e.g. Van Beuningen et al. 2012). Our study was also in line with this latter argument.

In explaining and supporting our results, we can refer to Schmidt's (1990) noticing hypothesis, according to which only items noticed by the learners will be prone to be acquired. Thus, error feedback (whether direct, indirect or negotiated) can encourage the students towards noticing the errors they are challenged with. By providing CF, students can improve their interlanguage knowledge in line with the feedbacks provided. This was particularly followed in the current study when learners were encouraged to notice the feedback, by allocating 10 minutes in direct and indirect feedback groups, and negotiating a response in the negotiated feedback group.

In addition, the findings of the study can be explained according to the assimilation theory (Ausubel, 1968, 2000) in which an effective way of learning happens through linking new concepts to existing concepts and propositional systems held by the learners. If we take CF as a kind of teaching/learning resource that assists the knowledge to be organized, structured and modified, it can lead the new knowledge to be accommodated into the existing knowledge and can encourage the learners to keep the learnt knowledge in their long term memory as the significant effect of CF groups showed. This means that based on the assimilation theory, feedback assimilates the correct target language form into the current stage of the learners' (erroneous) writing production. So, when the learner is engaged, via feedback, in noticing the teachers' reaction (i.e. CF), the internal mechanism tries to move toward or assimilates the internal system through available resources (i.e. CF) to the target language. This becomes increasingly evident when the second part of the study suggested that all feedback types could enhance the linguistic accuracy of the learners. Therefore, in this light, it could be argued that the learner's interlanguage, at least in so far as it is related to tense/aspect, needs triggering to be modified. This seems to happen through providing feedback, and the tense/aspect for the L2 English learners is responsive to the three feedback types focused in this study. Furthermore, according to the cognitive load theory proposed by
Sweller (1988), for learning to occur ideally, a link should be established between the long-term memory's schematic structures and new data provided for the learners; otherwise, learners will most probably forget the new input. In a similar line, CF can be useful in the sense that it attracts learners' attention especially to the areas they are struggling with while releasing their minds to process language content. Of course, the long-term effect has to be tested in a further study. However, it should be noted that this happened under circumstances in which the errors were of the same category. In other words, the errors targeted by the feedback types were all tense related. The positive effect of these feedback types could be different when a variety of errors (i.e. unfocused) were targeted.

As Hyland (1990) claims, “teacher-response is an essential step in the writing process” (p. 279). Giving feedback provides students with an idea of the criteria by which their work is evaluated, and suggests beneficial information that will assist them prevent similar errors in the future. Students can very possibly learn from their errors, but this is based on applying suitable feedback types that encourage them to reassess and redraft their writing after being evaluated, which, all in all, can lead to remarkable developments in the students' final drafts. This was particularly evident in the significant difference between the pre- and post-test scores of the participants of this study, which showed an overall development in the accuracy of tenses/aspects used in writing. The participants were asked to attend the feedback types for 10 minutes that could push them to evaluate their performance in the light of the guidance (feedback) provided, and thus, move toward a better writing product in their next writing opportunity. When learners realized their sources of errors, they seemed to integrate information provided by feedback to modify their understanding of the tenses/aspects uses, or possibly develop their level of understanding in the light of the context of use of the tenses/aspects. One should remember that this path of linguistic development or modification does not happen suddenly, but with constant feedback (through six sessions of treatment for this study) that lets the learner test his/her understanding and internal
modification. At the same time, it is necessary not to forget that by the end of the treatment, the level of errors was not equal to zero, but there was still space for development.

Concerning the second research question of different types of CF (direct, indirect and negotiated), the findings of the study indicated that there was no significant difference among these different types of feedback and none of them had superiority over the others as far as the learners' writing progress was concerned. One reason that can explain our findings may be the type of errors, which according to Van Beuningen et al. (2012), could affect the long-term impact of CF. It is required to be aware that CF is likely to be productive with some linguistic features comparing with others. Due to the provision of CF, students may be able to recognize the correct form of some of their errors but not others and the teacher should not consequently expect CF to be equally successful in all types of feedback types. The linguistic features focused, here, were tenses and aspects. However, it might also be that the effect of these three types of CF was not measured in a delayed post-test and doing so might reveal the possible differentiation. Deciding on the effectiveness of the kind of CF is an important pedagogical issue because it needs different amounts of time and teaching skill. The pedagogical decision for spending time and effort on providing feedback to the learners in general and for improving writing accuracy in particular should be based on the reliable findings that the feedback can have a long-term effect on improving the linguistic accuracy. Although the current study did not have a delayed test, the similar effect the three types of feedback had could have some pedagogical implications that will be elaborated shortly.

Another reason may be related to the students' proficiency. It should be noted that the learners were still in the process of forming/modifying their grammatical understanding of the target language as, on the one hand, they were pre-intermediate learners, and on the other, they were passing a particular grammar course for their academic studies. No matter how we look at the findings, there is no simple explanation for this lack of
significance among feedback types since the same treatment could provide a different outcome for other proficiency levels. According to the results of the second research question, it can generally be argued that providing learners specifically with one type of CF is simply unrealistic, and different types of CF may be effective almost equally at least for tenses/aspects.

This follows the findings which examined whether direct forms of feedback are more effective than indirect forms (Robb, Ross & Shortreed, 1986; Semke, 1984) and found no difference between the two categories. In Sheen’s (2007) study, there was an evident difference in the delayed post-test but not in the immediate post-test. In addition, it is in line with that of Rahimi and Asadi (2014) in which they investigated the effect of different types of feedback (indirect feedback, direct feedback, and content feedback) on writing accuracy of the EFL learners' revisions of the same text. No significant difference was found in their study between direct and indirect feedback on students' text revision. Nevertheless, the results of their study indicated that students who were provided with direct and coded feedback wrote significantly more accurately than those who received content feedback only. They also found that those who received indirect feedback over time wrote more accurate essays than those who only received content feedback.

So far as the negotiated feedback is concerned, the study can also find support in the results of studies conducted by Aljaafreh and Lantolf (1994), Nassaji and Swain (2000), and Ahmadian and Tajabadi (2015) who concluded that appropriate scaffolding can help learners improve from other regulation (scaffolding through another more-expert person) to self-regulation (independently accomplishing the task at hand).

As for the linguistic accuracy of tense in general, the current research seems to support the findings of previous studies. McDonough (2007), Bitchener et al. (2005), Bitchener, Young and Cameron (2005), Ferris (2006), and Chandler (2003) in the ESL context, and Salami and Moini (2013), Maleki and Eslami (2013), Pakbaz (2014), Alipanahi and Mahmoodi (2015), and Tajabadi and Ahmadian (2017) in the Iranian
contexts, found that feedback (of different types) can have a significant effect on developing the accurate use of past tense in L2 learners' performance. Nonetheless, these studies focused on past tense along with other linguistic categories (e.g. preposition, article, etc.). This could be why some of the categories in their research other than past tense were not developed (e.g. Ferris, 2006); however, in the current study, in which the focus was on similar linguistic category (tenses/aspects), all three feedback types were almost equally effective without any significant difference.

One explanation for supporting this finding can be related to Ferris' (1999) claim about treatable and untreatable errors. Ferris suggests that feedback may be most useful if it is provided for what she terms 'treatable' errors. Treatable errors (e.g. verb tense and form) happen in a rule-governed way, and may, therefore, be more agreeable to feedback and self-correction. On the other hand, 'untreatable' errors (e.g. word choice errors) are idiosyncratic and thus less agreeable to feedback. The findings of this study can be a contribution to the existing literature regarding the efficiency of CF on treatable errors, suggesting that CF should target such types of errors.

CONCLUSION AND IMPLICATIONS

In summary, this research investigated the effect of three different types of CF (direct, indirect and negotiated) on English L2 students' written linguistic errors (focused on tenses/aspects). The second aim was to measure the possible effect of the three feedback types. Generally speaking, the results of the study suggest that written CF can have positive effects on students' writing accuracy at least in tenses/aspects, but there is no significant effect of these three types of feedback on students' writing accuracy over the same grammatical categories. The two general findings can have certain pedagogical implications for the L2 writing classes. Firstly, they suggest that teachers can, and, further than that, are encouraged to provide feedback on the grammatical aspects of the learners' writing as it can improve, push, modify, and basically assimilate their internal
representation of the L2 structures to the next stages of development and ideally L2 norms. However, since the study focused on a narrowed number of structures, it might not be possible to generalize this latter implication to all grammatical structures. Also, the lack of a significant difference among feedback types indicates that L2 teachers have a variety of pedagogical options and resources, in so far as feedback is concerned, at their disposal to facilitate their learners' language learning. This decision could be attuned to the target context, learners' needs and proficiency, as well as the available time and resources. The positive effect of the three feedback types on tenses/aspects can be a relief in teachers' decision making, meaning that they can use any of the feedback types focused in this study to treat learners' errors of tenses/aspects in English. But there can be more detailed studies to shed light on the peculiarities of the field. The role of different learner and context-specific factors which change the degree of the effectiveness of different feedback types should be taken into account in future research. Further studies may also benefit from investigating the effects of CF on new pieces of academic writing in delayed post-tests and on different linguistic error categories that were not taken into account in this study. Finally, learners of different proficiency levels and L1 backgrounds, provided with different feedback types, could help open up new horizons in this field.

REFERENCES


Appendix A. A sample of direct CF

( in the name of God)

Actually, there is nothing to write, I mean nothing
interesting happened that I can write about it.
So I think I can write about everything that
come in my mind: bad, good, interesting or not. I
just want to write. I have one sentence for
myself and It’s when you move the pen on the paper
words come easily. I wrote this sentence in my
last diary too. and I think I write this sentence
in all of my diary, because It’s encourage me
to write more faster, and think about words in
my mind. Think about what should I write?
How can I write? or how can I think about
more them. Why should I moving the pen on the paper?
why pen has an ink! Why I think pen and paper
Appendix B. A sample of indirect CF

I think life is a challenge, that has so many different agreements for each person. My life isn't a separate thing from others. Until now I had challenges and different events, whether they were easy sometimes strange or difficult or laughable and even maybe full of stress and etc. Such as others human sometime I could do these challenges without any problem, and sometimes I couldn't.

One of the most important and stressful challenges in my life was a test. You know, I mean the university test. I think it was the worst challenge in my life because I was full of stress everyday and every time, because I didn't know what's going to be... You know, I born in 1997 so that was the second year when I wanted to took my test, but it was so stressful for me.

I wanna saying you about the first year that I took the test. I went to school everyday and I should do all of my tasks in the school, and besides it I should do some tasks about my institute that I registered in it, and also I should prepare my self for weekend exams, that they were similar to our original test. So you can guess that all of my time was
Appendix C. A sample of negotiated CF

Today is another Saturday. The second week of university.
I start off my day at five-thirty in order to catch the
bus which was supposed to leave seven at that time.
I get to make at 7:30. First, I went to dormitory to take
a nap and release my tiredness I was going to be at
university at ten o’clock for Grammar and writing classes.
After class it was lunch time, suddenly I remembered.
I haven’t reserved my lunch it means there is no lunch.
My friend Babak said ‘don’t worry I have reserved this
and we can share it with each other’. What a great
friend I’m sure he is one of those friends who ever
will be appear once in a century. In the afternoon.
there was another class called “inhematoye zender”
which can be translate to ‘life skills’. Being in that
class was just wasting time but fortunately we have
a group of funny students in our class who are always funny in such classes so it is not too much
Transcript of the negotiated feedback of the sample in Appendix C.

(T: Teacher / S: Student)
T: ok, take a look at your diary and the feedback.
S: I start off my day at (pause 0.5 sec) five-thirty in order to catch (paused 1 sec) the bus. Started.
T: Good.
S: I get to Arak at (pause 0.5 sec) 7.30. I got to Arak.
T: Aha. Next please.
S: suddenly I remembered (pause 1 sec) I hadn't. Suddenly I remembered I hadn't.
T: that's it.
S: I hadn't reserved my lunch it means (pause 0.5 sec) there was no lunch? It means there are not going to be any lunch?
T: isn't it past tense?
S: yes
T: so?
S: when I have used past tense. I said, I hadn't reserved my lunch
T: so it means...
S: there was not lunch.
T: ye, there was no lunch. Ok.
S: there was another class called (pause 1 sec, laughs) maharat-haye zendegi (life skills) which can be translate to life skills. Which could be trans- oh no, why?
T: why? Which can be...
S: which can be TRANSLATED...
T: aha, good.
S: ye.