

Effects of Feedback Timing and Willingness to Communicate on the Acquisition of Simple Past Form

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Abstract

A remarkable body of empirical research within form-focused language teaching framework has examined the tripartite dimensions of corrective feedback, i.e., linguistic, contextual and individual aspects, in isolation. Nonetheless, a holistic understanding of the role of oral corrective feedback (CF) in the acquisition of L2 forms seems to rely on uncovering how these dimensions function in interaction with each other. The present study aimed to examine the differential effects of immediate and delayed feedback in the acquisition of English simple past form, and the hypothesized moderating effect of Willingness to Communicate (WTC) on the effectiveness of feedback timing. Sixty pre-intermediate-level Iranian EFL learners participated in an experiment as members of immediate and delayed feedback groups, and each learner was differentiated as either high-WTC or low-WTC, based on the result of WTC questionnaire. The pedagogical gains were assessed with a grammaticality judgment test at three different points of time, pre-test, post-test and delayed post-test. The results of a Two-way ANCOVA showed no significant difference between immediate and delayed CF in short-term and long-term acquisition. Despite the insignificant interaction effect witnessed between feedback timing and WTC, the findings demonstrated that learners with high-WTC in both groups outperformed slightly in comparison to low-WTC learners. The results are interpreted in light of the number and duration of feedback treatment sessions as well as the instruments used for measuring the acquisition outcome. It is suggested that further studies be conducted concerning the interactions between instructional, interactional and learner-internal aspects of CF functioning.

Keywords: Feedback Timing, Focus on Form, Individual Differences, Oral CF, Willingness to Communicate

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1. Introduction

Corrective feedback (CF) has been considered as an integral component of form-focused instruction in second language acquisition (SLA). Meta-analyses of previous studies on CF have mainly demonstrated that providing CF, which is defined as the feedback given to learners on their linguistic errors, contributes to the acquisition of language forms (e.g., Li, 2010; Lyster & Saito, 2010; Mackey & Goo, 2007; Russell & Spada, 2006). Meanwhile, interactional feedback or oral corrective feedback, which is theoretically backed by the interaction hypothesis and sociocultural theory of SLA, has been suggested to be constructive in developing the explicit and implicit knowledge of L2 forms (Nassaji, 2016). A growing body of research has shown that oral CF contributes to L2 development though the effects of it may be limited by individual learner differences and contextual factors (Lyster, Saito & Sato, 2013; Pawlak, 2017).

The effectiveness of oral CF has been the subject of remarkable empirical research in the instructed SLA in the past two decades; however, most of the studies in this regard have adopted an atomistic perspective towards CF efficacy, e.g., by comparing the effectiveness of feedback types on the acquisition of individual grammatical forms. Although the value of such analytic investigations cannot be disregarded, a credible answer to the question of CF effectiveness requires that a wider variety of contextual and learner factors in the instructed SLA situation be accommodated into a comprehensive framework. Such a framework must be able to account not only for how and when the CF is provided but also for the nature of the interactional relationships, the type of interactional task and output measurement as well as the individual difference variables including learner's cognitive features such as working memory, learning style, aptitude and proficiency, their affective characteristics, such as emotion, motivation and self-efficacy and their social peculiarities such as attitudes, goals, gender and age (Ellis, 2010).

Recently, there has been an ambitious effort for developing a model of oral CF effectiveness in which instructional, interactional and individual learner variables act upon each other in determining the acquisition of L2 forms (Yu, Wang, & Teo, 2018). In line with these efforts and inspired by Yu, Wang and Teo's (2018) model, the current study aimed to investigate feedback timing, as an instructional aspect of oral CF, and Willingness to Communicate (WTC), as learner-internal factor related to oral CF, and the possible interaction between them with the hope that the findings can contribute to the development of a more comprehensive picture about the way linguistic aspects of CF interact with individual learner differences. Thus, there were three general purposes for conducting this study: First, to

find out whether immediate and delayed oral CF had differential effects on the acquisition of simple past forms in short and long run. Secondly, to probe if willingness to communicate had any moderating effect on the effectiveness of feedback timing in the acquisition of simple past forms. Finally, to see how stable these possible effects are in the course of time. Accordingly, the present study sought to answer the following research questions:

1. Is there any difference between immediate and delayed corrective feedback in terms of short-term effects on the acquisition of English simple past form?
2. Is there any difference between immediate and delayed corrective feedback in terms of long-term effects on the acquisition of English simple past form?
3. Does Willingness to Communicate have a moderating role in the short-term effectiveness of feedback timing on the acquisition of simple past form?
4. Does Willingness to Communicate have a moderating role in the long-term effectiveness of feedback timing on the acquisition of simple past form?

2. Literature Review

Research on the effectiveness of providing some form of feedback to second language learners' errors has substantially contributed to the consolidation of the theoretical assumptions behind corrective feedback (Nassaji, 2016). However, considering the practical details of providing CF in the actual situations of instructed L2 learning has revealed that CF is a complicated process entailing cognitive, behavioral and psychological aspects that cannot be explained through the common empirical methods focusing on one aspect of CF in isolation (Ellis, 2010). As an instance, the abundant number of studies investigating comparative effectiveness of feedback types on the acquisition of L2 forms has followed a "one-size-fits-all policy" where the potential mediating role of individual differences in L2 acquisition is totally disregarded (Pawlak, 2017).

As a breakthrough to the problem of isolated CF studies, Yu, Wang and Teo (2018) proposed a general research framework for studying the effectiveness of oral CF in which the three common perspectives concerning the functioning of oral CF, i.e., cognitivist, interactionalist and social constructivist perspectives are merged together. According to this model, studying each of these dimensions in isolation would mean focusing on a single dimension of CF at the cost of neglecting the others. In the cognitive perspective, CF is seen as an instructional input for the language learner

where such linguistic aspects of feedback as its type, the language form in focus and the feedback timing are highlighted. From a sociocultural interactionist perspective, oral CF is a dialogic process where contextual aspects of CF functioning including student-teacher interactions and the type of the instructional task become important. In the social-constructivist view, oral corrective feedback is seen as an internal process of the learner where the individual learner factors such as learners' motivation, self-confidence, working memory, educational and cultural background play important roles in the variations in CF effects.

In this model, it is hypothesized that linguistic, contextual and individual learner aspects of CF interact with each other in determining the efficacy of CF. Therefore, a synthetic or holistic view of CF research is recommended in which it is the interaction between these aspects of CF that is studied rather than each aspect being researched in isolation. In line with such an argument, the present research chose a linguistic/instructional aspect of CF, i.e., Timing, and an individual learner difference, i.e., L2 learners' Willingness to Communicate (WTC), to probe any possible interactions between them in the functioning of oral CF.

2.1. Research on Corrective Feedback Timing

Feedback timing refers to “the juncture in the instructional sequence when learners' errors are addressed” (Quinn & Nakata, 2017). The issue of feedback timing is an important instructional aspect of oral CF. Ellis (2017) has included feedback timing among the 10 critical topics in the future research within Task-based Language Teaching (TBLT). The issue in feedback timing is whether the corrective feedback must follow immediately the learners' errors throughout the interactional context of a communicative task or it should be delayed until the task or lesson is completed. According to Quinn (2014), the issue of timing was marginalized in SLA literature when communicative-based approaches such as, CLT were at their high. However, the developments in form-focused instruction and interaction hypothesis introduced new theoretical dimensions to the issue of feedback timing (Nassaji, 2016).

Theoretical postulations concerning the relevance of feedback timing to the acquisition of L2 forms have mainly attended to the cognitive and affective phenomena in the learning process. As far as the cognitive processes are concerned, there have been considerable theoretical justifications for the effectiveness of immediate CF including the following ones:

In advocating immediate CF, the Cognitive Comparison Theory (Doughty, 2001) asserts that learners make a comparison between their

deviated output and the reformulated form provided as feedback to them. The contention is that in order for this cognitive comparison to lead to the uptake of the target form, it must be within the scope of working memory or the “cognitive window of opportunity” (Doughty, 2001, p. 257) which is below 60 seconds after the occurrence of the error (Quinn & Nakata, 2017). This postulation, argues particularly for the productiveness of immediate feedback in the form of reformulations, e.g., recast.

Another theory in support of immediate feedback is Skill Acquisition Theory (Dekeyser, 2007). This theory contends that output-provoking feedback in the form of prompts help learners to develop the implicit knowledge of grammatical forms by providing the opportunity to proceduralize the grammatical rules they already possess the explicit knowledge of. For this cognitive mechanism to work well, the prompts should be akin to the erroneous output. In line with this argument, Ranta and Lyster (2007) posited a privilege for prompts in enhancing proceduralization of grammatical forms.

Despite the arguments in favor of the supremacy of immediate CF, a great majority of the theoretical views in cognitive psychology stand for possible effectiveness of both immediate and delayed feedback. The Distributed Practice Effect, Transfer Appropriate Processing and Reconsolidation Theory are among the most frequently-cited ones. According to the theory of Distributed Processing Effect (Cepada, Pashler, Vul, Wixted & Rohert, 2006), allowing longer intervals between learning opportunities leads to better learning compared to condensed learning opportunities. Therefore, the effectiveness of delayed feedback is attributed to the time interval that it inherently allows between error occurrence and CF.

The Transfer Appropriate Processing theory on the acquisition of language forms (Spada & Lightbown, 2008) upholds that learners’ development of the explicit and implicit knowledge of grammatical forms correspond to the type of learning conditions, i.e., the explicit feedback to errors in isolated episodes vis-à-vis the implicit encouragement of using correct forms during authentic communication. According to this argument, delayed feedback confers a more isolated treatment of errors because it often follows the completion of the communicative task or lesson. Subsequently, delayed feedback is more fruitful in the formation of explicit knowledge which is usually measured with grammatical judgment tests. Conversely, the immediate feedback provides more implicit learning opportunities, hence leading to a better performance on communicative tasks eliciting language use.

The Reconsolidation and Reactivation Theory (Nader & Einarsson, 2010) assert that human mind keeps traces of previous learning so that the

reactivation of those memories leads to the reconsolidation of information. In this perspective, delayed feedback may even be privileged to the immediate feedback in that it provides a novel mental representation corresponding to the erroneous form after it has been activated and has become subject to alteration throughout the communicative task. This new representation finds the chance to consolidate when the CF is delayed until the task is completed.

The research framework regarding the affective domain in feedback timing has resorted mainly to the analysis of learners' preferences about immediate or delayed CF. For instance, Li (2017) reported two studies that indicated EFL learners' favor for immediate CF. Farahani and Salagegheh (2015) compared Iranian EFL teachers and learners' perspectives towards the timing of CF and reported a preference for immediate corrective feedback by teachers and an inclination for delayed CF by learners. A similar finding was reported by Olmezer-Ozturk and Ozturk (2016) from the Turkish EFL context. The learners indicated that they felt uncomfortable and discouraged with immediate oral CF and they preferred CF to be delayed until the task is completed. Likewise, Quinn, 2014 reported that Canadian ESL learners preferred immediate CF, and moreover believed that delayed feedback caused embarrassment and anxiety to them. In contrast to this finding, Rahimi and Vahid-Dastjerdi (2012) showed that Iranian learners who received delayed CF experienced a lower level of anxiety when compared to the receivers of immediate CF. In the same way, Shabani and Safari (2016b) reported that immediate CF exerted more anxiety on EFL learners than delayed corrective feedback.

A review of the findings of empirical research on comparative effectiveness of immediate and delayed CF on the acquisition of L2 forms demonstrates mixed results. The results can be classified into the following three types as indicated in Table 1. Therefore, still more empirical studies are required into the timing of feedback to conclude whether immediate CF or delayed CF or both of them are effective on second language acquisition.

2.2. Interaction between Affective Factors and Feedback Timing

Generally speaking, L2 learners react differently to language instruction arrangements emotionally and affectively. According to Galajda (2017), "affective domain as a natural part of language acquisition is essential to understand the learning process of an individual." (p. 27) Affective factors such as anxiety, attitude, motivation, academic emotions and Willingness to Communicate (WTC), among other factors, are assumed to interact with instructional procedures. There have been a few studies that have investigated the interaction effects between affective factors and corrective feedback arrangements in SLA (Goldestein, 2006; Nassaji, 2017; Rassaei, 2015; Shabani & Safari, 2016b; Sheen, 2008). Goldestein (2006)

demonstrated that motivation is an important factor in the effectiveness of written corrective feedback. In another study focusing on the relationship between feedback timing and the motivational level of Iranian EFL learners, Farmani, Akbari and Ghanizadeh (2017), reported a higher level of motivation for the learners who received immediate CF.

In a probe into moderating effect of classroom anxiety on the effectiveness of recasts, Sheen (2008) demonstrated that a lower level of anxiety with learners left them in a privileged position to gain accuracy in using English articles. In a similar follow-up study for testing the hypothesis as to the interactive relationship between the explicit/implicit types of oral CF and second language classroom anxiety, Rassaie (2015) carried out an experimental research in Iranian EFL context, and reported that learners with a high level of anxiety evinced a significant tendency to respond in accuracy development to the implicit CF than metalinguistic clues while low-anxiety learners were responsive to both explicit and recast form of CF.

Table 1

Summary of Research Findings on Feedback Timing

Research Finding	Outstanding Studies
Identical effectiveness of both immediate CF and delayed CF on SLA	Arroyo & Yilmaz, 2018; Lavolette, 2014; Li, et al, 2016; Nakata, 2014; Quinn, 2014; Varnosfadrani, 2006
The effectiveness of immediate CF over delayed CF on SLA	Farmani, Akbari & Ghanizadeh, 2017; Fu & Nassaji, 2016; Shabani & Safari, 2016a; Siyyari, 2005
The effectiveness of delayed CF over immediate CF on SLA	Rahimi & Vahid Dastjerdi , 2012

Regarding the interaction between feedback timing and foreign language anxiety, Shabani and Safari (2016b) carried out a research on both the learners' perceptions on the level of anxiety caused by different immediate and delayed CF and the role anxiety plays in accurate oral production. The result showed that immediate CF group experienced more anxiety than delayed CF group, and it was probable that anxiety to some extent had played a role in developing learners' L2 accuracy.

Willingness to Communicate (WTC) is an important motivational-affective factor when the development of oral communicative skills is at the center. WTC in L2 is defined as the possibility to begin communication when the right time for it arises (McCroskey & Richmond, 1992). In McCroskey and Richmond's words, WTC is "the probability that an individual will choose to initiate communication, more specifically talking, when free to do

so” (p.216). WTC has also been considered as a stable and trait feature of communicators in a language. McCroskey & Richmond (1987), for example regarded WTC as “the person’s general personality orientation towards talking” (P. 120). As a motivational factor, WTC has considerable effects on the outcome of learning by enhancing task engagement. In other words, the more learners engage in communicative task, the more they may benefit from it (Galajda, 2017).

In a complementary quantitative and qualitative-based examination of the interaction between the implicit and explicit types of feedback and learners’ WTC, Tavakoli and Zarrinabadi (2018) were able to show that explicit type of feedback promoted Iranian EFL learners’ WTC through enhancing their self-confidence. Similarly, in an investigation into the effect of feedback timing on Iranian EFL learners’ WTC, Zadkhast and Farahian (2017) demonstrated that both immediate and delayed feedback types improved learners’ WTC; however, the positive effect of the delayed feedback was significantly stronger than its immediate counterpart.

To the researchers’ best knowledge, to date, no studies have targeted the moderating effects of willingness to communicate on the effectiveness of feedback timing in SLA. Therefore, it would be of interest for SLA researchers to learn how an instructional variable (immediate vs. delayed CF), alongside an affective factor, i.e. WTC, influences the outcome of second language acquisition.

3. Methodology

3.1. Research Design

A pretest-posttest-delayed-posttest quasi-experimental design was adopted to conduct this research. Two experimental groups (immediate CF and delayed CF) were chosen as intact groups from two same-level classes. While feedback timing was taken as the independent variable, learners’ willingness to communicate was the moderating variable. The acquisition of simple past form was the dependent variable.

3.2. Participants

In the present study, a sample of 60 Iranian EFL learners with an age range of 13 to17 studying English at Voice of Tabriz Language Institute in Tabriz, Iran were selected. The participants were selected from among pre-intermediate learners in intact classes on the basis of convenient sampling principle. The first language of all participants was Turkish or Persian.

3.3. Instruments and Treatment Materials

To collect the data related to each of the research variables, the following instruments were used:

3.3.1. PET Test

Preliminary English Test (PET), an intermediate-level English proficiency test provided by Cambridge English Language Assessment, was used to examine the sample population's homogeneity. As a standard test of English general proficiency, the reliability and validity of the test had already been established.

3.3.2. Oral Task (Story Retelling)

Two short passages, with approximately 400 words in each text, were given to the learners to read. After reading these passages, the learners were asked to reconstruct them orally. The subjects of stories were *Dinosaur Data* and *Chance*. The stories were extracted from the Family and Friends English Series, Volume 4 (Appendix A).

3.3.3. Willingness to Communicate Questionnaire

Developed by MacIntyre, Baker, Clements, and Conrod (2001), this questionnaire measures participants' tendency to get involved in L2 communication inside and outside the classroom. It contains 27 items which ranges from 1 to 5 (1= almost never willing, 2= sometimes willing, 3= willing half of the time, 4= usually willing, 5= almost always willing) on Likert scale.

3.3.4. Grammaticality Judgment Test

This test, designed by the researchers of this study, was given to the learners in order to check their acquisition of simple past forms. The test asked the participants to judge whether the sentence in each item is grammatically correct or incorrect. The reliability and validity of this test were established through a pilot administration (Internal reliability =.89) and asking for two university professors' confirmation of construct validity.

3.4. Procedure

The following steps were followed in order to achieve the purpose of the study. The two intact classes were randomly designated as the immediate CF and delayed CF groups. This study did not intend to include a control group because the functional efficacy of both immediate and delayed CF has already been established by a good number of experimental studies (Arroyo

& Yilmaz, 2018; Lavolette, 2014; Li, et al, 2016; Nakata, 2014; Quinn, 2014; Varnosfadrani, 2006). The main purpose of the present study was restricted to assessing the hypothetical effect of feedback timing by controlling for the comparative effects of immediate and delayed CF. In week one, the PET test and Grammaticality Judgment Test (GJT1) as the Pretest and WTC questionnaire were administered to the learners in both classes (Table 2). The PET test was administered to examine the sample population's homogeneity. Seventy-one participants were initially recruited for the purpose of this study from among whom, 60 participants were selected based on the results of PET.

Following the PET test, the first version of the Grammaticality Judgment Test (GJT1) as the Pretest was administered to both groups in order to assess their current knowledge on simple past (regular and irregular) forms. Based on the results of the WTC questionnaire, the participants in each group were assigned into high WTC and low WTC groups. The grouping was based on considering the median score in each class as the cut point. Then, during the two treatment sessions for each group, two distinctive treatments (immediate CF and delayed CF) were provided to the two experimental groups. Therefore, virtually four groups were exposed to corrective feedback in two intact classes, respectively, High WTC immediate CF, Low WTC immediate CF, High WTC delayed CF, and Low WTC delayed CF. One treatment session was arranged for the purpose of this study.

The instructional session for the two experimental groups began with a mini-lesson of about ten minutes in which the researcher taught how different forms of regular and irregular simple past forms are formed. The teacher used pictorial story for teaching simple past grammatical forms (Appendix B). It should be noted that almost all of the students had been exposed to simple past forms in their preceding level, Family and Friends Series 3. The mini-instruction showed that they had some prior knowledge on the grammatical forms of simple past.

The main task was a Retelling Task which required learners to read a featured expository text and then take turns in retelling the information about the topic. Learners' errors of simple past forms while doing the task provided the teacher with the opportunities of CF. The type of feedback provided was a combination of prompt (ranging from elicitation questions to metalinguistic clues) and recast in turn. In the case of the Immediate Feedback Group, all feedback provisions were done during the learners' talking. However, for the Delayed Feedback Group, no feedback was provided during the speaking task. Rather, the teacher took notes of their erroneous uses of past verbs while doing the task. Then the learners were invited to the teacher's table for

short delayed feedback sessions. Each learner was reminded of the sentential context of their deviations and was provided with the same type of feedback as it was provided to the Immediate Feedback Group, i.e., a combination of recast and prompt. Care was taken to make the task performance time and the length of feedback sessions almost equal for both groups.

Table 2

Summary of Procedure

	First week	Second week	Fourth week	
Immediate CF Group	PET Test	Mini lesson (10 min)		
	Pre-test (GJT 1)	Oral task - Immediate CF (60 min)		
	WTC Questionnaire	Immediate (GJT2)	Post-test (GJT3)	Post-test
Delayed CF Group	PET Test	Mini lesson (10 min)		
	Pre-test (GJT 1)	Oral task - Delayed CF (60 min)		
	WTC Questionnaire	Immediate (GJT2)	Post-test (GJT3)	Post-test

Immediate post-test (GJT2) was administered to both groups immediately after treatment ended in order to see the durability of learning from feedback timing and after two weeks delayed post-test (GJT3) were administered to the groups in order to assess learners' lasting knowledge in simple past forms.

3.5. Data Analysis

The obtained scores from pretest, WTC questionnaire and immediate and delayed post-tests were run on the SPSS Version 20. The method of analysis was two-way analysis of covariance (ANCOVA), where pretest scores were submitted as covariate, WTC as the moderating variable and CF timing as the main independent variable and immediate and delayed post-test scores as the dependent variables. Two distinctive ANCOVA analyses were conducted for immediate and delayed tests on the accuracy of grammatical forms.

4. Results and Discussion

4.1. Results

4.1.1. Testing Assumptions

Before doing the main analysis, the three assumptions of an ANCOVA, i.e., the reliability of covariate, linearity between dependent variable and covariate and homogeneity of regression slopes (Pallant, 2016)

were tested to see whether this parametric test was valid. To ascertain the reliability of pretest scores, the Cronbach Alpha for pretest scores turned out to be 0.731 which is a relatively high value for reliability.

The second assumption of ANCOVA required that the relationship between the dependent variable and the covariate must be linear (straight-line). The violation of this assumption is likely to reduce the sensitivity of the test. As shown in Figure 1, there is a linear relationship (R^2 Linear=0.490) between the pretest and immediate posttest, and another linear relationship (R^2 Linear=0.373) between the pretest and delayed posttest.

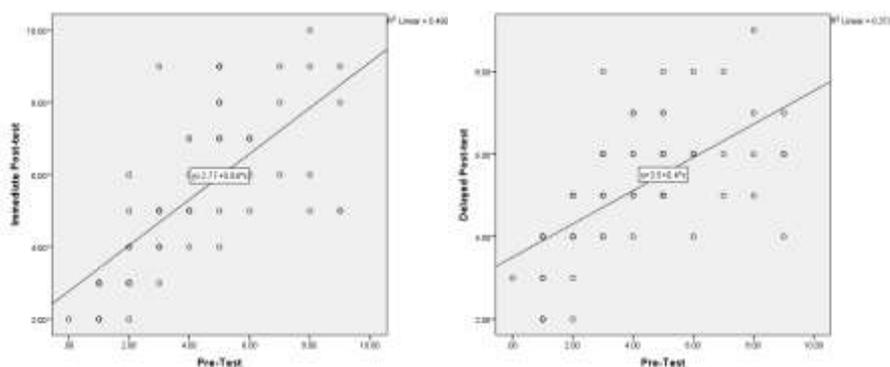


Figure 1. Scatter Plot of Linearity between Pretest and the Two Posttests

According to the third assumption, i.e., the homogeneity of regression slopes, there must be no interaction between the covariate and the treatment or the independent variable. This requires testing the statistical significance for the interaction between the covariate and the treatment. The linearity of the relationship between the pretest and posttest scores must be the same for both of the experimental groups. If the interaction is significant at an alpha level of .05, then we have violated the assumption. Tests of between-subjects effects indicated that the level of significance for Feedback*WTC*Pre.T was Sig. = 0.528 and Sig. = 0.943 for the immediate and delayed posttests, respectively. Therefore, the two experimental groups enjoyed homogeneous regression slopes.

4.1.2. Descriptive Statistics

The descriptive data about the mean scores on the two grammaticality judgment tests are displayed in Table 3. On the immediate posttest, the highest mean belongs to the immediate feedback group with high WTC ($M=20.18$), and the lowest mean belongs to delayed feedback group with low WTC ($M=16.61$). On the delayed posttest, the highest mean belongs to the immediate feedback group with high WTC ($M=18.93$), and the lowest mean belongs to delayed feedback group with low WTC ($M=15.95$).

Table 3

Mean Scores on Immediate and Delayed Posttests across Groups

Feedback Timing	Immediate Posttest			Delayed Posttest		Number
	WTC	Mean	SD	Mean	SD	
Immediate	High	20.18	3.038	18.93	3.237	16
	Low	17.92	2.674	16.28	2.466	14
Delayed	High	18.41	3.22217	17.33	3.75297	17
	Low	16.61	3.70896	15.95	2.76436	13

4.1.3. Main Effects

A two-way analysis of covariance was conducted to assess the effectiveness of feedback timing and Willingness to Communicate on the acquisition of simple past forms. The independent variable was Feedback (Immediate and Delayed) and the moderating variable was Willingness to Communicate (High and Low WTC). Two separate ANCOVA tests of between-subjects effects were carried out to examine possible effects of feedback timing on the acquisition of simple past form upon both immediate post-test (GJT2) and delayed post-test (GJT3). The reason for including pretest results as covariate was to ensure that the effects of pre-treatment differences between subjects in the experimental groups were neutralized and excluded.

ANCOVA results concerning the scores on the immediate posttest indicated no significant difference between the participants in the delayed and immediate feedback groups.

Table 4

Test of between Subjects Effects in Immediate Posttest

Source	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	4	23.388	2.297	.071	.143
Intercept	1	4720.726	463.603	.000	.894
Pre.T	1	2.512	.247	.621	.004
Feedback	1	2.205	.217	.643	.014
WTC	1	16.095	1.581	.214	.013
Feedback*WTC*PreT	1	76.282	7.491	.288	.021

R Squared = .143 (Adjusted R Squared = .081)

As shown in Table 4, the rates of $F(1, 55) = 0.217$ and $\text{Sig.} = 0.643$ show that there is not a significant main effect for feedback groups in short run. Furthermore, the partial Eta Squared value (.014) for Feedback indicates

that only 1.4% of variance in the dependent variable (Immediate Post-Test) is explained by the independent variable (feedback timing).

Similarly, the results of a second ANCOVA on the delayed posttest indicated no significant difference between the participants in the delayed and immediate feedback groups.

As shown in Table 5, the rates of $F(1, 55) = 0.010$ and $\text{Sig.} = 0.921$ show that there is not a significant main effect for feedback groups in the long run. Furthermore, the partial Eta Squared value (.008) for Feedback indicates that only 0.8% of variance in the Delayed Post-Test is explained by feedback timing.

Table 5

Test of between Subjects Effects in the Delayed Posttest

Source	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	4	3.792	.330	.857	.023
Intercept	1	4727.809	410.942	.000	.882
Pre.T	1	.424	.037	.848	.001
Feedback	1	.114	.010	.921	.008
WTC	1	13.613	1.183	.281	.004
Feedback*WTC*PreT	1	1.988	.086	.771	.005

R Squared = .023 (Adjusted R Squared = .048)

4.1.4. Interaction Effects

The third and fourth research questions involved the interactions between feedback timing and WTC in short-term and long-term acquisition of L2 forms. As evident in Table 3 above, the rates of $F(1, 55) = 7.491$ and $\text{Sig.} = .288$ for Feedback*WTC*PreT show that there was not a significant interaction effect in short-term acquisition of simple past forms. Furthermore, the partial Eta Squared value (.021) for Feedback*WTC indicates that only 2.1% of variance in the dependent variable (Immediate Post-Test) is explained by the independent variables (Feedback*WTC).

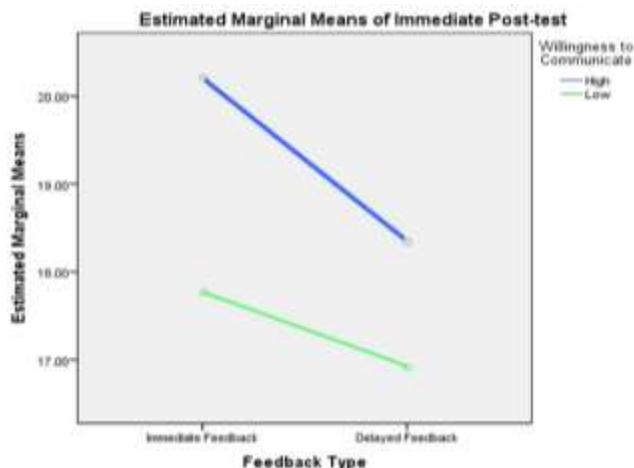


Figure 2. Interaction Effect between Feedback Timing and WTC on Immediate Posttest Scores

According to Figure 2 and Table 3, no interaction effect is confirmed between the two independent variables. The interactional mean of L WTC * IM CF is (17.91) and the interactional mean of L WTC * DL CF is (16.59). The interactional mean of H WTC * IM CF is (20.27) and the interactional mean of H WTC * DL CF is (18.39). The interactional means of four groups (L WTC * IM, L WTC * DL CF, H WTC * IM CF, & H WTC * DL CF) shows the approximately close relation between the score means. Based on the close relation between means of scores and scatter plot in figure 2, it can be interpreted that learners with high or low WTC alongside corrective feedback timing (immediate & delayed) responded almost similarly to the measurement tool (GJT2), and no interaction was witnessed.

The fourth research question concerned possible interaction effects between feedback timing and the level of WTC in the long-term acquisition of L2 forms. As shown in Table 4, the rates of $F(1.55) = .086$ and $Sig. = .771$ for Feedback*WTC show that there was not a significant interaction effect between them in the long run, either. Furthermore, the partial Eta Squared value (.005) for Feedback*WTC indicates that only 0.5% of variance in dependent variable (Delayed Post-test) is explained by the independent variables (Feedback*WTC). According to Figure 3 and Table 4, there was no interaction between independent variables.

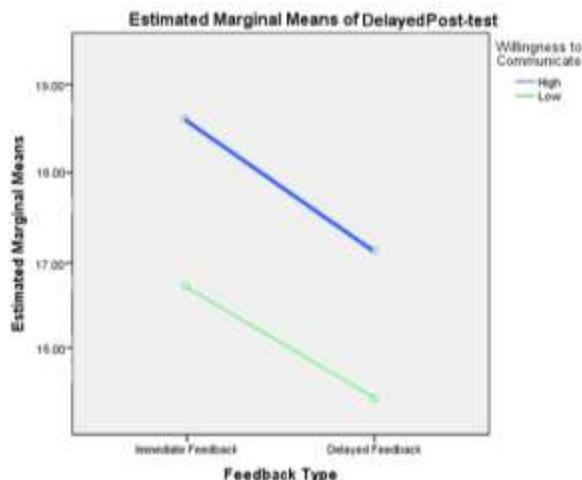


Figure 3. Interaction Effect between Feedback Timing and WTC on Delayed Posttest Scores

The interactional mean of L WTC * IM CF is (16.74) and the interactional mean of L WTC * DL CF is (15.41). The interactional mean of H WTC * IM CF is (18.73) and the interactional mean of H WTC * DL CF is (17.11). The interactional means of four groups (L WTC * IM, L WTC * DL CF, H WTC * IM CF, & H WTC * DL CF) shows the approximately close relation between the means. Based on the close relation between means and scatter plot in Figure 3, it can be interpreted that learners with high or low WTC alongside immediate or delayed corrective feedback provision responded almost similarly to the measurement tool (GJT3), and there was no interaction between the two independent variables.

4.2. Discussion

The findings of the study did not bear witness to the effectiveness of feedback timing as a linguistic element in the type of feedback treatments provided in this research. Immediate and delayed feedback did not have differential effects on the acquisition of simple past form in the short and long run. This finding is in line with a growing number of empirical investigations (e.g., Arroyo & Yilmaz, 2018; Lavolette, 2014; Li, et al, 2016; Quinn, 2014; Varnosfadrani, 2006) that have indicated identical effectiveness for both immediate CF and delayed CF on the acquisition of second language. However, this result is in contrast with another set of studies attesting to an advantage whether to the immediate CF (e.g., Farmani, Akbari & Ghanizadeh, 2017; Fu & Nassaji, 2016; Shabani & Safari, 2016a; Shintani & Aubrey, 2016; Siyyari, 2005) or delayed CF (e.g., Rahimi & Vahid Dastjerdi, 2012).

The observed variability concerning the effectiveness of feedback timing can be discussed in light of three important elements in CF research situations, i.e., the type of feedback, the length of the treatment and the type of outcome measures. The type of feedback used by the instructor in this study was a hybrid CF strategy composed of input-providing and output-provoking implicit techniques which entailed implicit prompts followed by recast. The undifferentiated acquisition from immediate and delayed CF observed here is compatible with the claims raised by the Transfer Appropriate Processing theory. Since both types of CF employed here as treatment involved implicit processing while the output measurement (GJT) involved explicit knowledge of English forms, we should not have expected significant developmental differences. Therefore, both immediate and delayed CF resulted in identical outcomes. However, delayed CF seems to be more congruent with explicit processing because it is believed that delayed CF encourages explicit learning and metalinguistic processing (Li, et al., 2016). Had explicit CF been employed as delayed CF, different results might have been achieved.

As far as the outcome measurement instrument is concerned, the findings of this study withstand previous research. Most of the empirical studies have highlighted the acquisition measurement tool as a source of variation. For example, Arroyo and Yilmaz (2018) reported that the developmental gains of Spanish L2 forms due to immediate CF were significantly higher than delayed CF when the acquisition was measured with an oral production task. However, no differential effect was observed when the outcome was measured with a grammaticality judgment test. On the other hand, the type of CF and the outcome measurement seem to be interacting with each other here. According to Sarandi (2017), treating learners' errors with a combination of prompts followed by recasts led to remarkable improvement in the accurate use of grammatical forms measured by oral narrative task with no improvement witnessed when the learners' acquired knowledge was measured with Elicited Imitation task. Accordingly, the identical acquisition resulting from both immediate and delayed feedback can be attributed to using GJTs as the outcome measurement tools in this study.

The duration of CF treatment is another issue that must be taken into account when interpreting the results here. One of the limitations in the current study was the relative inadequacy of a single-session treatment of CF. Lasting effects of CF on the acquisition of L2 forms is more awaited from a lengthier procedure of CF provision. The length and frequency of CF treatment is another factor that might exert some dynamics with feedback timing. This interactive effect is of course justifiable with regard to Skill

Learning theories which advocate an incremental process of proceduralization of partially-learned forms (Lyster, 2004).

The second purpose of the study concerned any possible interaction between linguistic and individual aspects of CF. Notwithstanding, no interaction effect was witnessed between learners' WTC as an individual dimension of CF and feedback timing as a linguistic aspect of it neither in short-term nor in long-term acquisition of simple past forms. The results related to the third and fourth question indicated that both high WTC and low WTC learners benefited similarly to some extent from immediate and delayed CF. This would mean that Iranian EFL learners' WTC had little to explain the variations reported in the previous empirical research concerning the effectiveness of feedback timing on the acquisition of simple past forms in short and long run.

As far as the literature on affective and motivational dimensions of corrective feedback are concerned (Ellis, 2010; Galajda, 2017; Goldstein, 2006; Pawlak, 2012; Sheen, 2008; Yu, et al., 2018), the results as to the interaction between feedback timing and WTC are surprising. In the general framework posed by Ellis (2010) for CF, learners' individual differences, in general, and their affective and motivational states, in particular, have been proposed to act in association with contextual issues of CF in determining the level of learners' engagement with the feedback. In this sense, L2 learners' agency state plays a key role in regulating the extent to which they benefit from the CF occasions. Nevertheless, the findings of this study did not display any significant learning differences between high-WTC and low-WTC participants, which somehow contradict current literature. To the present researchers' belief, this incongruence is attributed to the methodological specifications of the study, including the short duration of CF session and GJT used as the measurement of learning. These limitations need to be accounted for in future research.

Another important point concerning WTC results was that the descriptive statistics on immediate posttest revealed a considerable increase in learners' knowledge of simple past forms in comparison to pretest though not reaching the statistical significance. This finding has already been supported by Arroyo and Yilmaz (2018) whose findings indicated an improvement in the knowledge of grammatical structures from pre-test to post-test. Despite this promotional change, the analysis of delayed posttest revealed that the durability of learning of simple past form from the immediate posttest to delayed posttest slightly decreased. The researchers believe that the slight downturn in the long run may be due to the lack of long treatment sessions. By and large, the affective and motivational aspects of language learning such as WTC should be treated and observed across more

longitudinal procedures, and they are not normally responsive to cross-sectional experiments.

5. Conclusion and Implications

This study, firstly, examined the role of feedback timing on the acquisition of simple past forms, and it was found that there was no significant differences in the effectiveness of immediate CF and delayed CF on the acquisition of simple past forms. Furthermore, the study indicated that willingness to communicate (WTC) had only slight moderating effect on the effectiveness of feedback timing on the acquisition of simple past forms without reaching the significant level.

A growing body of studies has supported the hypothesis cherished in this study that affective factors have a moderating effect on the acquisition of target language features (Shabani & Safari, 2016b; Rassaei, 2015; Sheen, 2008; Zadkhast & Farahian, 2017). This study was meant to highlight the importance of learners' affective features in second language teaching, which has been an overlooked issue in language classrooms. Regarding the inconsistent results about feedback timing and the relevance of WTC, still more empirical research into both the timing issue and the affective associations is required before coming to a definitive jurisprudence. Some pedagogical implications based on the findings of this study can be suggested.

First, the results of the study suggest that both immediate and delayed corrective feedback can turn out to be effective under certain contextual, interactional and learner-specific psychological conditions. The relative superiority of immediate or delayed feedback seems to be dependent on such contextual factors as detailed nature of CF technique and the expected learning outcome. Delayed CF is more effective when real-life performance is expected from learners by using authentic production tasks (Arroyo & Yilmaz, 2018). The absence of timing effect in this study is attributed to using GJT as the outcome measure. Scrivener (2005) has already recommended that delayed feedback is more congenial to a fluency activity while immediate feedback is predicted to be useful when the pedagogical activity is accuracy-based.

Secondly, the findings showed that the durability of the effect of corrective feedback in a long term period slightly decreased. It is suggested for teachers to expect long-term productiveness from CF treatments only when enough sessions of feedback provision are arranged. Increasing the number of feedback sessions can help students to improve the durability of acquisition.

This study made an attempt to complete a small piece of a huge puzzle, i.e., the hypothetical interaction between a broad set of instructional, interactional and learner-internal variables with regard to the effectiveness of CF. So far, many feedback studies have been conducted which revealed controversial findings. Thus, Different methodologies and research designs could be the cause of probable differences of all these findings. Because of the limitations of this study, few proposals for further research are advisable. The size of the participating sample and the duration and frequency of feedback sessions in this study turned out to be actively operative in CF functioning. Future research should take this variable into account in a systematic manner. In addition, a hybrid type of CF strategy was provided here in treating learners' errors. Due to the importance of feedback types in exerting a butterfly effect on the overall efficacy of CF, research designs focusing on the interplay between feedback types, timing, learner-internal variables and outcome tasks are needed for drawing a general picture of CF functionality like the one presented in Yu, et al.'s (2018) model.

Affective and motivational aspects of language learners are integral to learners' engagement with CF. Any kind of fallacy in ignoring learner agency by downplaying the influential role of learners' affective and motivational world would be contrary to the pedagogical reality of L2 learning.

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Appendix 1. Oral Communicative Task

Read the following text and then introduce dinosaurs to a friend.

Dinosaur data



Dinosaurs lived on Earth for millions of years.
Scientists study dinosaur bones to find out how they lived and what they looked like.

There were more than 700 different types of dinosaur! Some dinosaurs ate plants and others ate meat. Some walked on two legs and others walked on four legs. Some could fly and others lived in the sea. We know they were all different but no one knows what colour or pattern they were. This is because there is no dinosaur skin left to study.

Dinosaurs disappeared 65 million years ago. Why was this? Some scientists think that a large rock called an asteroid fell to Earth from space. This made the Earth much colder and there was no longer any food for the dinosaurs to eat.

The most famous dinosaur is the T-Rex (Tyrannosaurus Rex). It was 14 metres long and 5.5m high: bigger than a house! Its strong tail helped it move quickly. But no one knows how fast it could run. Its teeth were 36 centimetres long and it ate meat. You can see T-Rex skeletons in some museums.



Appendix 2. Mini Instruction



1. Little Red Riding Hood said goodbye to her mother and went to the woods to visit Grandma.
2. Little Red Riding Hood picked some flowers on the way. A Wolf saw her and asked her where she is going.
3. The Wolf took a shortcut and went to Grandma's house first. He locked Grandma in a cupboard.



4. Little Red Riding Hood **ran** out of the house as fast as she **could**. The woodcutter **came** along with an axe.
5. Little Red Riding Hood **saw** Grandma in bed. "Grandma, what big teeth you have."
6. The woodcutter **killed** the Wolf and Little Red Riding Hood **had** a nice lunch with Grandma.

Structure of simple past grammatical forms:

Regular simple past: ask + ed
Irregular simple past: run : ran

Extracted from: (<https://www.tes.com/teaching-resource/little-red-riding-hood-630007>)

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