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Oral Corrective Feedback on Pronunciation Errors: The Mediating Effects of Learners' Engagement with Feedback

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ABSTRACT

This study examined low-proficiency Iranian EFL students' affective, behavioral, and cognitive engagement with oral corrective feedback (OCF) on interdental fricative errors: /θ/and/ð/. The data were collected from 27 learners with favorable and unfavorable perceptions about OCF. After receiving OCF on 30 tested and 30 untested lexical items in tutoring sessions, the participants took a posttest. The analysis of the data showed that the learners with positive perceptions about OCF had significantly higher accuracy gains, as shown by their posttest results. The interviews showed that the learners' positive perceptions about OCF had positive affective engagement. Also, the learners who perceived pronunciation accuracy as an important component of their language development showed positive patterns of affective engagement with OCF. Additionally, the learners who affectively engaged with direct OCF positively tended to show positive behavioral and cognitive engagement with feedback. These learners reviewed the provided OCF and practiced the correction by employing an array of cognitive strategies (e.g., repetition). Overall, our findings show that positive engagement with feedback can result in higher pronunciation accuracy gains. Therefore, teachers should familiarize themselves with their students' perceptions about feedback on their pronunciation errors, since these perceptions may impact the way students engage with feedback affectively, behaviorally, and cognitively. For instance, students who value pronunciation accuracy may be more likely to positively engage with feedback on pronunciation errors, while students who emphasize effective communication may negatively engage with such feedback.

INTRODUCTION

Pronunciation is considered an inescapable component of communication in a second language (L2), as it is impossible to speak a language without pronouncing it (Levis & Mccrocklin, 2018). Although pronunciation was relegated to a subordinate language skill during the Communicative Language Teaching era (Thomson & Derwing, 2015; Levis & Sonasaat, 2017), there has been a resurgence of interest in pronunciation instruction (PI) over the past 10 years (Lee, Plonsky, & Saito, 2020; Gordon & Darcy, 2016; Saito & Lyster, 2012; Galante & Thomson, 2017). Many scholars have documented that explicit PI conceptualized as provision of articulatory (how to produce) and auditory (how to listen) meta-linguistic information about L2 segmentals and suprasegmentals would enhance L2 pronunciation proficiency (e.g., Gordon & Darcy, 2016; Kennedy & Trofimovich, 2010; Trofimovich, Kennedy, & Blanchet, 2017). Lee et al.'s (2019) meta-analysis of 86 pronunciation studies revealed a medium effect of PI (d =.80, 95% CI [.77.,81]) relative to the comparison group who had not received form-focused PI. Similar findings were replicated in Saito and Plonsky's (2019) meta-analysis of 77 articles published between 1982-2017 (*d* =.73, 95% CI [.69,.78]).

In discussing the importance of PI, Saito (in press) and Lyster and Saito (2010) underscore the mediating effects of oral corrective feedback (OCF) as a pedagogical tool that can facilitate the acquisition of both segmentals and suprasegmentals. OCF can affect both speech production (e.g., Saito, 2013; Saito & Lyster, 2013) and perception (e.g., Lee & Lyster, 2016). Although the previous research has investigated the effects of OCF on the accurate production of segmentals (e.g., Derwing, Munro, & Wiebe, 1998; /ɹ/in Gooch, Saito & Lyster, 2016; /ɹ/in Saito, 2013; /ɹ/in Saito & Lyster, 2012), these studies have only examined the acquisition of a few segmentals. To the authors' best knowledge, no previous study has explored the impact of OCF on the acquisition of the English interdental fricatives: /θ/ and/ð/. These two phonemes are rather difficult for L2 learners to acquire (e.g., Rau, Chang, & Tarone, 2009) and are

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important English. We, therefore, investigated the effects of L2 learners' engagement with feedback on the effectiveness of OCF, while focusing on /θ/and/ð/.

Learners' Individual Differences: Engagement with Feedback

Several studies (Crowther et al., 2015; Derwing & Munro, 2015; Munro, Derwing, & Thomson, 2015) suggest that L2 learners' individual differences have significant effects on their pronunciation accuracy, specifically /θ/. In his review, Saito (in press) argues for the investigation of L2 learners' "social and cognitive individual differences in the effectiveness of CF" (p. 2). Here, we examine the effects of learners' engagement with feedback on the working of OCF. However, because the OCF literature lacks empirical studies on learners' engagement with OCF, we review the studies which have explored the effect of OCF on the acquisition of the English segmentals. Saito and Lyster (2012) explored the effects of OCF on the acquisition of /ɹ/ by Japanese learners of English. Their results showed that feedback and instruction improved the acquisition of /ɹ/. Also, Saito (2013) investigated the effects of OCF on the acquisition of /ɹ/ among Japanese L2 learners. His results highlighted the role of OCF in improving the accurate production of /ɹ/. These studies have identified OCF as a tool to improve L2 pronunciation development, although the effects of OCF on the accurate production of /θ/ and /ð/ have yet to be explored.

A considerably smaller body of literature has linked the efficacy of OCF to L2 learners' engagement with feedback. Ellis (2010) operationalizes the construct of learner engagement by assuming three components to it: Affective (e.g., learners' perceptions, attitudes, and/or reactions), behavioral (e.g., learners' review/practice of feedback), and cognitive (e.g., learners' cognitive strategies in using feedback). The only empirical study that has investigated the effects of learner engagement with OCF on L2 pronunciation development was done by Saeli, Dalman, and Rahmati (2020). The authors concluded that L2 learners' positive affective engagement with feedback led to positive behavioral and cognitive engagement with feedback, and that these patterns of positive engagement with feedback resulted in higher accuracy gains in lexical stress. To our best knowledge, all the other studies on learner engagement with feedback are conducted on written feedback. We, nonetheless, review them here. Han and Hyland (2015) examined patterns of learner engagement with written feedback. Their results showed that learners' feedback-related perceptions shaped their affective, behavioral, and cognitive engagement with feedback, thereby feedback efficacy. Han (2017) explored Chinese learners' engagement with written feedback and concluded that learner engagement affected the efficacy of feedback. Specifically, Han showed that learners' beliefs about self, tasks, and strategies mediated the effectiveness of written feedback. Zheng and Yu (2018) studied low-proficiency learners' engagement with feedback and showed that, although some learners positively engaged with feedback, low-proficiency learners had low accuracy gains. Although the majority of these studies have investigated learner engagement with written feedback, Ellis' (2010) model can also be applied to the working of OCF. Therefore, we apply this model to explore the effects of learner engagement with OCF on L2 pronunciation development.

Target Structures: /θ/ and /ð

The English interdental fricatives are rather difficult to acquire for L2 learners. This has motivated researchers to empirically explore the acquisition of these sounds. Huang and Evanini (2016) examined the accurate production of /θ/ among Mandarin learners of English. This study concluded that these learners frequently resorted to their L1 in finding replacements for /θ/, and that their individual differences (e.g., language aptitude) helped determine the accuracy of/θ/. Rau et al. (2009) showed that the acquisition of /θ/ was relatively difficult for Chinese learners of English, and that learners' individual differences (e.g., learning strategies) affected the accurate production of /θ/. In another study, Wester, Gilbers, and Lowie (2007) showed that Dutch learners of English resorted to their L1 and frequently replaced /θ/ with /t/,/s/, and/f/in initial and ending positions. These studies show that L2 learners may utilize their L1 repertoire when producing /θ/ and /ð/, and that L2 learners' individual differences have an important role to play in the acquisition of these sounds.

Our study is focused on the acquisition of /θ/ and /ð/. Munro (2018) points out that "The dental fricative /θ/ is rare as a phoneme in the world's languages, so from a contrastive standpoint, its occurrence in English poses a potential challenge to learners from many L1 backgrounds" (p. 272). He adds that /θ/ is usually replaced by phonemes in learners' L1s. Similarly, Huang and Evanini (2016) conclude that "learners' difficulties with /θ/ may be partly attributed to the fact that it is rare cross-linguistically" (p. 256). Rau et al. (2009) suggest that learners' individual differences further complicate the acquisition of /θ/. These studies show that the English interdental fricatives are nonexistent in many languages, which can make their acquisition difficult for English learners. The Persian sound system does not include interdental fricatives, so /θ/ and /ð/may be difficult for Persian learners of English to acquire. In addition, Munro (2018) highlights the importance of learners' L1 pronunciation properties in their L2 pronunciation, so we assume that Persian participants may draw upon their L1 sound system for the pronunciation of /θ/ and /ð/.

The Present Study

The available literature points to the scant attention paid to the effects of OCF on L2 learners' pronunciation development (see Saito & Lyster, 2013, for a few exceptions). Huang and Evanini (2016) also suggest that "little research has been devoted to understanding the factors that contribute to the individual differences in the long-term /θ/ pronunciation outcomes" (p. 257). Saito (in press) identifies considerable variation among L2 learners as a reason why the feedback literature is far from being conclusive. Here, we identify an

important individual difference, learners' engagement with feedback, to see whether it affects the acquisition of /θ/ and /ð/ among L2 learners. Although some research (e.g., Han, 2017; Han & Hyland, 2015) has addressed learner engagement with written feedback, to our best knowledge, learner engagement with OCF has yet to be explored (see Saeli et al., 2020, for an exception). The present study, therefore, aimed to answer the following question:

- To what extent does learners' engagement with feedback mediate the efficacy of OCF on the erroneous production of English interdental fricatives?

METHODOLOGY

Operationalization of Variables

We operationalized the following variables:

- Direct OCF: Direct notification of pronunciation errors and direct correction of them;
- Immediate OCF: Immediate correction of pronunciation errors;
- Teacher OCF: Teacher-centered correction of pronunciation errors (Lyster, Saito, & Sato, 2013);
- Affective engagement: Learners' post-feedback reactions, feelings, and emotions;
- Behavioral engagement: Learners' review of errors and practice of correct forms;
- Cognitive engagement: Learners' allocation of cognitive resources to processing OCF (Ellis, 2010).

Study Sample

The participants for this study were recruited from an English school in Iran. The school offered textbook-based four-skills classes for various proficiency levels. 25% of the final grades was allocated to learners' speaking proficiency determined by an interview, where the assessment criteria included accurate production of the English segmentals. Because pronunciation instruction and assessment in low-proficiency classes (i.e., beginner, by institutional standards) heavily involved the English segmentals, we only invited these learners to participate in our study. Previous research (e.g., Saito, 2015) suggests that learners' proficiency levels should be sufficiently high for them to benefit from OCF. In addition, Saito (in press) stresses "learner readiness" (p. 7) in selecting participants for feedback studies and concludes that "providing explicit phonetic instruction before CF treatment may help these less experienced learners" (p. 8). Our participant selection criteria were, therefore, in line with these recommendations, because we assumed that our participants received instruction on the English segmentals in their classes which prepared them to benefit from OCF.

Our participants reported Persian as their first language and were willingly enrolled in four intact English-as-a-foreign-language (EFL) classes. The classes met twice a week for a total of 180 minutes during 10-week terms. The learners were studying Interchange Intro (Richards, 2004), the first book in The Interchange series. We selected the learners who 1) had low accuracy in the English segmentals and 2) held perceptions (i.e., favorable or unfavorable) about direct OCF on their pronunciation errors. To determine the learners' accuracy scores, we administered a pretest, and to explore the learners' feedback-related perceptions, we utilized a survey. The pretest results identified 27 learners with low accuracy scores. Out of these 27 students, 14 reported favorable, and 13 showed unfavorable perceptions about direct OCF on their pronunciation errors.

Data Collection Instruments

We used four data collection instruments. First, a questionnaire was employed to ascertain the learners' perceptions about the necessity and effectiveness of direct OCF (Appendix 1). This instrument categorized the learners into favorable and unfavorable groups (Cronbach's α =.89). Our second instrument was a pretest (Cronbach's α =.86) which contained 30 words (Appendix 2), 15 including /θ/ and 15 including /ð/: five with /θ/ and /ð/ in initial, five in medial, and five in ending positions. The posttest (Cronbach's α =.97) comprised two sections (Appendix 2): 1) a counterbalanced version of the pretest (hereafter, the wordlist section) and 2) two passages (hereafter, the passages section) in which the 30 pretest words were embedded (one passage with the 15 /θ/ items, and another with the 15 /ð/ items). The fourth data collection instrument was a semi-structured, qualitative interview designed to explore the learners' affective, behavioral, and cognitive engagement with direct OCF. Out of our 27 participants, we randomly selected six to take part in the interviews. Table 1 provides some information on these participants:

Instruction on /θ/ and /ð

Before the pretest, we provided two instruction sessions on /θ/ and /ð/ to the learners. We used Persian to maximize the learners' understanding of the place and manner of articulation. In the first session, /θ/, and in the second, /ð/, were covered. The instruction was completed in several steps:

- Two recordings were made; each recording included 10 monosyllabic words with /θ/ and /ð/ in different positions (e.g., thing and bathe);

Table 1. The participants' background information

Name	Gender	Age	Academic major	Years of studying English	OCF-related perceptions
Ali	Male	25	Ph.D. in History	1	Favorable
Ebi	Male	27	M.S. in Engineering	1.5	Favorable
Hani	Female	19	B.A. in Painting	2	Unfavorable
Pari	Female	31	M.A. in Sociology	1.5	Unfavorable
Tara	Female	21	B.A. in Medical Sciences	3	Unfavorable
Zoha	Female	24	M.A. in Arts	2	Favorable

- Each recording was played once, and the learners repeated each word;
- Teacher modelling was provided using a picture of the human vocal tract, including instruction on the position of tongue and the vibration of vocal cords;
- The learners listened to the recording and repeated the words for a second time;
- No feedback was provided on any pronunciation errors.

The length of each session was 20 minutes. The two sessions were two days apart, and the second session was two days before the study pretest. The instruction sessions were hypothesized to 1) familiarize the learners with the phonetic properties of the interdental fricatives, 2) facilitate the use of OCF on pronunciation errors, and 3) rule out the mediating effects of instruction on any accuracy gains.

Data Collection and Scoring Procedure

During the first week of the term, we administered the printed questionnaires in Persian to maximize the validity and reliability of the results. We used this instrument to categorize the learners into those who held favorable and unfavorable perceptions about direct OCF (hereafter, favorable and unfavorable, respectively). Next, the participants took the pretest individually. We asked them to pause briefly after each word to allow us to assess their accuracy of /θ/ and /ð/ production using a checklist. The pretests were rated by the first author and an experienced EFL teacher (r =.78). The raters then resolved any disagreements, and the final checklist showed 100% agreement. As mentioned before, we identified 27 learners with low pronunciation accuracy (i.e., equal to/lower than five/30): 14 in the favorable and 13 in the unfavorable group. After the participants took the final exams in their classes, we administered the posttests. Again, we asked the learners to pause briefly after each word in the wordlist section, and after each statement in the passages section. We utilized a similar checklist to record the learners' accurate production of /θ/ and /ð/. The posttests were rated by the first author and the same experienced EFL teacher (r =.71). After a meeting, the differences between the two checklists were resolved. We scored the pretests out of 30 and posttests out of 60 (the wordlist section out of 30, and the passages section out of 30): The learners would lose one point for every /θ/ or /ð/ error. Next, we coded the interview data, using the main questions as the guidelines. The interview findings helped identify the learners' affective, behavioral, and cognitive engagement with feedback.

Tutoring Sessions: OCF on Learners' Errors

We offered the learners three individual tutoring sessions. The first session was 25 minutes long, and the second and third sessions were 20 minutes. In the first session, general information was provided on the content of each session, learner and teacher roles, and other logistical questions. We informed the learners that each session would be audio-recorded, and that the recordings would be shared with them after each session. However, we did not provide any instructions as to what the learners should do with the recordings, because any such instruction would affect the learners' behavioral engagement with feedback. Therefore, it was hypothesized that, if the learners reviewed and/or practiced the provided OCF and the correct forms, they did so because of their positive behavioral engagement with feedback.

In each session, 20 words, containing /θ/ and /ð/ in initial, medial, and ending positions were presented. 10 of these 20 words were tested (i.e., included in the pretests and posttests), and the other 10 were untested (i.e., not included in the pretests and posttests). The untested words helped reduce the test and practice effects. See Appendix 2 for a numbered list of the words. The following summarizes the contents of each session:

- Session one: Lexical items one to 10, and 10 untested words;
- Session two: Lexical items 11 to 20, and 10 untested words;
- Session three: Lexical items 21 to 30, and 10 untested words.

In these sessions, although we provided no instruction or teacher modelling, OCF was given on the /θ/ and /ð/ errors. This was completed in the following steps:

1. The 20 lexical items were presented to the learners (1-2 minutes);
2. The learners were asked to read the words quietly and define them, using an American English dictionary (4-5 minutes);
3. The learners were asked to read the words aloud (1-3 minutes);
4. OCF was provided on the /θ/ and /ð/ errors (6-15 minutes);
5. Only immediate, direct, teacher-generated OCF was provided to control for the mediating effects of feedback timing, methods, and providers.

Here, we provide an example in which OCF was provided on an error:

Teacher (T): "Can you pronounce the word again?"
Learner (L): "FaDer* [instead of father]."
T: "The correct form is faTHer [emphasis added to /ð/]. It's not /d/. It's /ð/. Remember when we talked about the pronunciation of /ð/ in class?"
L: "Oh yeah. I remember. /ð/. FaTHer."
T: "Great! So, faTHer, not faDer*."

It should be noted that Persian was used to provide some corrections, if necessary, and that the OCF was provided on both the tested and untested /θ/ and /ð/ errors. The analysis showed that the number of corrections provided in each session was not significantly different between the favorable (M = 15.21, SD = 3.60) and unfavorable groups (M = 13.46, SD = 2.76): t (25) = 1.41, p =.17.

Data Analysis

We adopted a mixed-methods approach with a primary focus on quantitative analysis. We used qualitative data to reinforce and provide further insights into the quantitative findings. A series of one-way ANOVAs were conducted to determine whether (1) there were significant differences between the two groups' perceptions about direct feedback

and OCF, (2) there were significant differences between the two groups at the pretest, and (3) there were significant differences between the two groups at the posttest for each one of the three dependent variables: (a) wordlist, (b) passages, and (c) total. A Bonferroni adjusted alpha of. 01 (.05/5) was used for all the one-way ANOVA tests. A series of t-Tests were also conducted to determine whether (1) there were significant differences between the pre- and posttest of the favorable group on wordlist, (2) there were significant differences between the pre- and posttest of the favorable group on passages, (3) there were significant differences between the pre- and posttest of the unfavorable group on wordlist, and (4) there were significant differences between the pre- and posttest of the unfavorable group on passages. A Bonferroni adjusted alpha of. 0125 (.05/4) was used for all the t-Tests.

We analyzed the interview data to identify the thematic categories pertaining to the learners' affective, behavioral, and cognitive engagement. The interviews were first transcribed in Farsi, and then, most parts of them were translated into English. We first focused on the individual interviews, took numerous notes of the important ideas, and organized these notes into larger categories. We then developed the first draft of our coding scheme, which was then compared to the individual ideas to ensure the validity of the scheme. The interview data were co-coded, and the two coding schemes showed strong overall agreement (r =.78). After a briefing session between the two coders, the areas of conflict were resolved. A second analysis showed that the agreement between the two coding schemes improved (r =.94). We have provided the coding scheme for the patterns of affective, behavioral, and cognitive engagement in the Findings section and corroborated it by representative excerpts.

FINDINGS AND DISCUSSION

The questionnaire results showed that the learners held different perceptions about OCF on pronunciation errors. Table 2 presents these results:

As shown in Table 2, the favorable group held significantly more positive perceptions about direct feedback and OCF (M = 4.70, SD = 0.20) than the unfavorable group (M = 1.50, SD = 0.34).

Pretests and Posttests: L2 Pronunciation Development

As Table 3 shows, the pretest results confirmed that the favorable and the unfavorable groups did not display significantly different /θ/ and /ð/ pronunciation accuracies. These results helped us attribute any pretest-posttest differences to the provided OCF, because the learners in the two groups did not have significantly different accuracy scores.

Table 4 presents the posttest results (scored out of 60): The wordlist section scored out of 30, and the passages section scored out of 30. These results showed that the favorable group had significantly higher scores than the unfavorable group in the wordlist and passages sections.

Table 4 shows that the favorable group outperformed the unfavorable group in their pronunciation accuracy gains. The favorable group's scores were higher than those of the unfavorable group in the wordlist and passages sections of the posttest, thereby the total posttest scores. The positive effects of OCF on increasing learners' pronunciation accuracy have been reported in the literature. Specifically, several studies on the acquisition of the American English /ɹ/ have attested to the efficacy of teacher OCF in improving learners' accurate production of this phoneme (e.g., Gooch, Saito & Lyster, 2016; Saito, 2013; Saito & Lyster, 2012). Although a few investigations have scrutinized the role of instruction in the acquisition of /θ/ and /ð/ (e.g., Huang & Evanini, 2016), our study provides further evidence for the incorporation of feedback in the acquisition of these two phonemes.

Here, we present the t-Test analysis for the within-group pretest-posttest differences for the favorable and unfavorable groups. In Table 5, you see the differences between the pretests (scored out of 30) and the posttests (i.e., the wordlist and passages sections, each scored out of 30):

Table 6 presents the t-Test results for the unfavorable group, focusing on the differences between the pretest and posttest scores (i.e., wordlist and passages):

Tables 5 and 6 show that the favorable group had higher accuracy gains, compared with the unfavorable group. However, the accuracy gains of the unfavorable group were also significant. Again, these results show that OCF can be an effective tool in increasing L2 learners' pronunciation accuracy. However, as also shown in Saeli, Dalman, and Rahmati (2020), learners' positive perceptions about feedback

Table 2. The participants' perceptions about direct feedback and OCF

Groups	*N*	*M*	*SD*	*df*	*F*	*p*	Partial η^2
Favorable	14	4.70	0.20	1, 26	907.48	< .001	0.97
Unfavorable	13	1.50	0.34				

Table 3. The participants' pretest scores

Groups	*N*	*M*	*SD*	*df*	*F*	*p*	Partial η^2
Favorable	14	3.36	0.63	1, 26	0.47	0.50	0.02
Unfavorable	13	3.15	0.90				

Table 4. The participants' posttest scores

Groups	Posttest: Wordlist					
	M	*SD*	*F*	*df*	*p*	partial η^2
Favorable	16.43	4.20				
Unfavorable	7.31	2.43	41.70	1, 26	> .001	.64
Groups	**Posttest: Passages**					
	M	*SD*	*F*	*df*	*p*	partial η^2
Favorable	17.57	3.44				
Unfavorable	6.92	2.63	80.85	1, 26	> .001	.76
Groups	**Posttest: Total**					
	M	*SD*	*F*	*df*	*p*	partial η^2
Favorable	33.71	7.05	69.45	1, 26	> .001	.74
Unfavorable	14.23	5.78				

can further enhance the acquisition of pronunciation target structures. This finding has also been reported in several L2 writing studies (e.g., Han, 2017; Han & Hyland, 2015).

Our analysis revealed that the participants' pronunciation errors were most frequently in multisyllabic words (e.g., birthday), and in medial (e.g., weather) and ending (e.g., smooth) positions. However, these errors were less frequent in monosyllabic words and words with θ/ and /ð/ in initial positions. The detailed analysis of these errors merits a separate investigation.

Interview Findings: Learner Engagement with Feedback

Here, we present the findings for the favorable and unfavorable groups. We identify and discuss the learners' affective, behavioral, and cognitive engagement with OCF. You can refer to Table 1 for some background information on the six learners who took part in the interviews. Table 7 provides an overview of these six learners' patterns of engagement with OCF. All names are pseudonyms:

Table 5. The favorable group's pretest and posttest differences

Between-test Differences	Favorable				
	M	***SD***	***t***	***df***	***p***
Pretests	16.43	4.52	10.10	13	> .001
Posttests: *Wordlist*	3.36	0.63			
Between-test Differences					
Pretests	17.57	3.44	15.05	13	> .001
Posttests: *Passages*	3.36	0.63			

Table 6. The unfavorable group's pretest and posttest differences

Between-test Differences	Unfavorable				
	M	***SD***	***t***	***df***	***p***
Pretests	7.31	2.43	5.33	12	> .001
Posttests: *Wordlist*	3.08	0.95			
Between-test Differences					
Pretests	6.92	2.63	4.76	12	> .001
Posttests: *Passages*	3.08	0.95			

Affective engagement with OCF

Our analysis revealed two components to the learners' affective engagement with OCF: 1) The importance of L2 pronunciation accuracy, and 2) the effectiveness of direct feedback and OCF in general learning and English learning. We corroborate these thematic categories below.

The importance of L2 pronunciation accuracy

The first component of our learners' affective engagement with OCF was their perceptions about the importance of pronunciation accuracy. Overall, the favorable group (Ali, Ebi, and Zoha) tended to view L2 pronunciation accuracy as both important and necessary. In Excerpt 1, Zoha explained why she perceived accurate pronunciation as an important factor in successful communication:

> Excerpt 1 (Zoha): "I think you need to pronounce sounds right if you want to have successful communication with English-speakers. [Why?] I have seen foreigners who speak Persian, and if they do not pronounce the sounds right, it becomes so hard to understand what they are saying. I think the same is true about English… I mean, if you cannot pronounce things right, how can you talk about your ideas? It cannot happen."

In Excerpt 2, Ali made a similar point, explaining why the accurate pronunciation of the English sound system was important in maintaining a conversation. He also added a point by referring to the TOEFL iBT and the assessment criteria in its speaking section:

> Excerpt 2 (Ali): "I think you need to pronounce sounds correctly. If the appearance [pronunciation] is not good, no matter how much you work on the content, you may not be able to communicate [the ideas effectively]… For the TOEFL, too. Based on what I know, the speaking section depends on your pronunciation [accuracy]…

Table 7. The participants' patterns of engagement with OCF

Name	Questionnaire perceptions	Affective engagement		Behavioral engagement	Cognitive engagement
		Relevance of /θ/ and /ð/	Effectiveness of direct OCF		
Ali	Favorable	Relevant	Effective	Review and practice	Positive
Ebi	Favorable	Relevant	Effective	Review and practice	Positive
Hani	Unfavorable	Irrelevant	Ineffective	Minimal review	Negative
Pari	Unfavorable	Mostly irrelevant	Mostly ineffective	Neither	Negative
Tara	Unfavorable	Irrelevant	Ineffective	Neither	Negative
Zoha	Favorable	Relevant	Effective	Review and practice	Somehow positive

Overall, I think correct pronunciation is an important component of English proficiency."

On the other hand, the unfavorable group (Hani, Pari, and Tara) reported that accurate L2 pronunciation was not important to them. For instance, Hani believed that accurate pronunciation was not a priority in her career as a student and a painter. She added that, as long as she could communicate her ideas effectively, accurate pronunciation of "every sound" was not necessary:

> Excerpt 3 (Hani): "I don't think you need to pronounce every sound correctly, as long as you can communicate your ideas. That's my priority… What I think is that accurate pronunciation at every cost is not realistic. At my age, I don't think I can achieve that [nativelike pronunciation of the English sound system], and like I said, I don't want to do that… It is a waste of time."

Overall, the learners in the favorable group thought that accurate pronunciation was important in their English learning. However, the unfavorable group tended to prioritize the communication of ideas over pronunciation accuracy.

The effectiveness of direct feedback and OCF in general learning and English learning

The second component of our learners' affective engagement with OCF was the perceived value of feedback in learning. In particular, Ali, Ebi, and Zoha, the favorable group, valued direct feedback in both their English and non-English classes. In Excerpt 4, Ebi stated that direct feedback helped increase his uptake in both English and non-English classes. He explained that, without his teachers' direct feedback, his learning would be incomplete:

> Excerpt 4 (Ebi): "Direct feedback is very important to me. How can you learn if there is no feedback on your work? Especially on my projects. I need to do many experiments, so without my professors' supervision and feedback, I might keep repeating the same problems… [How about English classes?] This is the same thing. Feedback shows me when I get something wrong. [How about pronunciation?] If you receive feedback on your issues, you can improve your pronunciation accuracy. But without feedback, you just repeat the same errors."

On the other hand, Hani and Tara, members of the unfavorable group, discussed why direct feedback was not desirable in their English and non-English classes. Tara, in Excerpt 5, stated that direct feedback makes students "lazy" and "less involved" in the learning process. She added that passive involvement caused by direct feedback would lead to unsatisfactory learning outcomes:

> Excerpt 5 (Tara): "I think direct feedback is not good. Especially too much of it. [Why?] It makes students lazy. If you receive whatever you need directly from your teacher, then you will not try to find things out on your own. If feedback is more engaging, it may be better. But when it is direct, you will not get involved. I do not think you can learn things in a satisfactory way by receiving direct feedback. [How about English classes?] I see a lot of similarities [between English and non-English classes]. Again, direct feedback will make you lazy."

In the unfavorable group, Pari was the only participant who placed some importance on direct feedback, but only in her non-English classes. In Excerpt 6, Pari stated that direct feedback was desirable in her academic field, Sociology, only when she was starting to learn about research methodologies. She, otherwise, believed that direct feedback would make her "negatively dependent" on teachers, and that she needed to be independent when designing a methodology for her own thesis. Pari added that indirect OCF was more effective in her English classes, since this feedback type promoted "self-learning:"

> Excerpt 6 (Pari): "The only area where direct feedback is good is when I am learning about research methodologies. I am not that familiar with the details yet, so direct feedback will be good. Other than that, I think direct feedback will make you negatively dependent on your teachers. Eventually, I will need to design my own study to conduct my thesis, so I want to be independent. [How about English classes?] Indirect feedback is better. [Why?] Because I think it [indirect feedback] creates a sense of self-learning in you. It encourages you to learn pronunciation on your own and practice more."

Overall, the favorable group, Ali, Ebi, and Zoha, showed positive affective engagement with direct OCF by reporting its benefits in both English and non-English classes. In addition, these learners believed that accurate pronunciation was an important component of their English learning endeavors. On the other hand, two members of the unfavorable group, Hani and Tara, did not prioritize accurate pronunciation in learning English. These two participants also believed that direct feedback was ineffective in both English and non-English classes. Pari's (the third member of the unfavorable group) perceptions about accurate pronunciation and direct feedback were mostly in line with those of Hani and Tara's, although she made an exception about the importance of direct feedback in learning about research methodologies in Sociology. These findings suggest that the learners' perceptions about the usefulness of direct feedback in learning were important determinants of their affective engagement with feedback. These findings have also been reported by Saeli, Dalman, Rahmati (2020) who studied the relationship between learners' engagement with feedback and their acquisition of lexical stress. Again, several L2 writing studies have also attested to the positive impact of learners' engagement with feedback on the acquisition of grammatical features (e.g., Han & Hyland, 2017).

Behavioral and cognitive engagement with OCF

Again, we should point out that, although we provided the learners with the recordings of the tutoring sessions, they were not given any instructions on whether/how to review their errors or practice the accurate forms. Here, we noticed a relationship among the learners' affective, behavioral, and cognitive engagement with OCF: The learners with positive affective engagement tended to positively engage with feedback behaviorally and cognitively. Ali, Ebi, and Zoha, the favorable group, reported that they referred back to the recordings to review their pronunciation errors and practice

the provided corrections. In Excerpt 7, Ebi mentioned that he reviewed the recordings after each session, and that he practiced the pronunciation of /θ/ and /ð/ using the recordings:

> Excerpt 7 (Ebi): "I listened to the recordings carefully after each session was over. [What did you pay attention to?] Specifically, my errors. I think I was pronouncing /θ/as/s/ and /t/a lot. So, I listened to your corrections and tried to pronounce them [/θ/ and /ð/] like you. I think I made some progress, too. The recordings were very helpful!"

As shown in Excerpt 7, Ebi's cognitive engagement with feedback was probably positive, since he paid focal attention to his errors and corrections. He also incorporated such learning strategies as repetition to facilitate the use of OCF. In Excerpt 8, Zoha reported that she reviewed the recorded sessions, making sure that she had a clear understanding of her errors and the provided corrections. She also associated her positive behavioral and cognitive engagement with her positive affective engagement with feedback:

> Excerpt 8 (Zoha): "I did my best to pay close attention to the errors and corrections… I reviewed the recordings. [How did you do that?] I listened to my errors and your corrections a few times. I think this kind of feedback is important in improving my pronunciation, and I want to improve, so I made sure to review the recordings… I took notes of the errors to review them later, too… Also, I used a lot of repetition. Both the errors and the corrections."

As Excerpt 8 shows, Zoha reviewed the recordings, which shows her positive behavioral engagement with feedback. She also employed such strategies as repetition and note-taking, along with paying focal special attention to both the errors and corrections, thereby positively engaging with the direct OCF cognitively.

In the unfavorable group, Hani was the only learner who showed some degree of behavioral engagement with OCF by listening to one of the three recordings. She, however, did so because she thought she was required to review the recordings. After realizing that she did not have to listen to the recordings, she stopped reviewing them. Excerpt 9 describes Hani's behavioral engagement with the provided OCF:

> Excerpt 9 (Hani): "I mistakenly realized that I had to review the recordings for the next session. So, I listened to it once. [Did you also practice the correct forms?] I did not… After realizing that reviewing the recordings was not necessary, I did not go back to the recordings. [Why?] I do not think it is that important to pronounce all the sounds accurately. Some errors are normal. I do not think it is necessary to correct all of my errors… Also, this type of parrot-like [accuracy-based drills] error correction and practice is not my thing."

Excerpt 9 shows that, although Hani listened to one recording, her cognitive engagement remained negative, since she neither paid attention to the errors and corrections, nor did she employ any cognitive strategies to increase her pronunciation accuracy.

Pari and Tara, the learners with negative affective engagement with feedback, reported their negative behavioral and cognitive engagement with the provided direct OCF. They stated that they did not listen to the recordings, since they did not aim to increase their pronunciation accuracy. Tara, as shown in Excerpt 10, mentioned that direct feedback was not her favorite approach to learning; therefore, she was not enthusiastic about listening to the recorded sessions:

> Excerpt 10 (Tara): "I do not think it is that necessary to have correct pronunciation for everything [every sound], so I did not go back to the recordings… And I was not very enthusiastic about direct feedback, so that is another reason. The feedback was a little too direct, which I do not prefer that much… This type of feedback is not good for my self-confidence."

Overall, these findings suggest that the learners' positive affective engagement with feedback usually led to their positive behavioral and cognitive engagement. By contrast, the learners with negative affective engagement were less likely to behaviorally and cognitively engage with OCF. These findings provide empirical insights into the conceptual model provided by Ellis (2010) in which positive perceptions about feedback can be conducive to positive patterns of affective, behavioral, and cognitive engagement. Such empirical evidence has been provided by a few similar studies (e.g., Han, 2017; Saeli, Dalman, Rahmati, 2020). Our study is, however, unique in that it adds a novel angle into the working of OCF. In particular, we have shown that positive engagement with feedback can aid learners in the acquisition of the English interdental fricatives.

GENERAL DISCUSSION AND CONCLUSION

This study identified an important shortcoming in the feedback literature: Lack of empirical studies which investigate the effects of learner engagement with feedback on the acquisition of the English interdental fricatives. We, therefore, explored Iranian EFL learners' engagement with direct OCF on their pronunciation errors. The data collected from 27 low-proficiency learners showed that OCF can be an important tool in increasing learners' accuracy of segmentals. This finding has also been reported in Saito and Lyster (2012), although, unlike Saito and Lyster, we controlled for the effects of instruction. Additionally, the learners' individual engagement with feedback was explored to provide insights into the efficacy of OCF. Our results suggest that favorable learner perceptions about direct OCF on pronunciation errors can lead to positive engagement with feedback affectively, behaviorally, and cognitively. The impact of learners' perceptions on their engagement with feedback has been acknowledged in a few written feedback studies (e.g., Han, 2017). As a novel contribution, we showed that learners' positive engagement with feedback can result in higher pronunciation accuracy gains.

Our findings can be translated to several pedagogical implications. Firstly, teachers need to increase their awareness of their students' perceptions and beliefs about feedback, OCF, different methods of OCF, and pronunciation accuracy. Although OCF on learners' pronunciation errors can lead to accuracy gains, the working of CF, as shown by Ellis (2010), is mediated by learners' engagement with feedback. There-

fore, a thorough understanding of learners' perceptions can improve the effectiveness of feedback. Secondly, our results suggest that learners hold various feedback-related perceptions, so teachers may need to provide individualized feedback to different students. We can, for instance, assume that students with negative perceptions about direct OCF may benefit from less direct correction methods, such as recasts. Receiving the type of feedback which learners perceive positively can in turn facilitate the better attainment of learning objectives. Thirdly, our findings indicate that, although learners may show negative affective, behavioral, and cognitive engagement with feedback, their accuracy gains may be higher after receiving OCF. Therefore, negative engagement with feedback should not be synonymized with low levels of accuracy gains, and the benefits of OCF should not be categorically disregarded.

Fourthly, our study shows that some learners may over/underemphasize the importance of accuracy in their L2 pronunciation development. Here, teachers should raise learners' awareness about the importance of other features of L2 speech. This can result in the development of more balanced perceptions about the importance of pronunciation accuracy among learners. Finally, it should be noted that our learners received instruction on /θ/and/ð/prior to taking the pretest; the fact that these learners had low pretest scores suggests that instruction alone may not be sufficient in developing learners' L2 pronunciation. This finding underscores the importance of feedback as a valuable teaching tool in the L2 classroom, especially when used in conjunction with instruction, as also shown by Saito and Lyster (2012).

Although our study provides evidence for the impact of learners' perceptions and their engagement on the ultimate efficacy of feedback, especially if feedback is aimed at increasing learners' pronunciation accuracy, the results should be regarded as exploratory, and the findings should not be generalized. The pedagogical implications also need to be contextually interpreted because students of various backgrounds may have distinct feedback-related perceptions. In future research projects, we plan to investigate learners' perceptions about recasts to show whether such perceptions will lead to specific patterns of learner engagement with indirect OCF, and whether learners' different engagement patterns can lead to higher accuracy gains. Coupled with the findings of the current study, this future project will hopefully provide more learner-centered insights into the efficacy and working of OCF. We also hope to conduct a thorough analysis of the replacements for /θ/and/ð/among Persian-speaking L2 learners, and to examine any relationship between these replacements and the position of /θ/and/ð/in words.

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APPENDICES

Appendix 1: Questionnaire

1. I want my teacher to directly correct my pronunciation errors.
   (strongly disagree)… to 5 (strongly agree)
2. I feel embarrassed when my teacher corrects my word pronunciation errors in class.
   (strongly agree)… to 5 (strongly disagree)
3. If my teacher does not directly correct my pronunciation errors, I will not learn the correct forms.
   (strongly disagree)… to 5 (strongly agree)
4. I want my teacher to both show me my pronunciation errors and correct them.
   (strongly disagree)… to 5 (strongly agree)

Appendix 2: Pretest and Posttest

Table 8. The wordlist section

/θ/			/ð/		
Initial	**Medial**	**Ending**	**Initial**	**Medial**	**Ending**
1. Think	2. Toothbrush	3. Math	4. Their	5. Weather	6. Breathe
7. Three	8. Panther	9. Booth	10. Therefore	11. Brother	12. Loathe
13. Thigh	14. Truthful	15. Strength	16. Those	17. Another	18. Soothe
19. Thirty	20. Birthday	21. Earth	22. Themselves	23. Rather	24. Smooth
25. Thief	26. Bathroom	27. North	28. That	29. Mother	30. Bathe

The passage section (posttest only):

The passages were adapted from home-speech-home.com.

The passage for /θ/:

We have three birthdays on Thursday. Importantly, my sister will turn thirty. We want to get her a thick coat, and a toothbrush and toothpaste for her bathroom. After traveling north to take a math exam, she thinks going to South Asia is something good, because she can see wild panthers. She likes their strength, and thinks they are the most interesting animals on earth. But I have been truthful to her about her injured thigh. Last year, when she was buying tickets at a booth, a thief stole her purse and hurt her thigh.

The passage for /ð/:

It was Mother's Day, but I did not have a gift for my mother. So, I went to my father and asked him about my brothers. I offered them some money, and we decided to get something rather cheap together. The weather was so bad, and the smoke in the city made it hard to breathe. We looked at their bathing section at the store. There, we found cream for smooth skin and some of those feather pillows that help you soothe. We also found a leather belt, but my brothers loathed that belt. Therefore, they bought her another gift by themselves.

Appendix 3: Interview Protocol

1. How do you evaluate the role of direct feedback in your English and non-English classes? Discuss.
2. Did you perceive this OCF effective? Discuss. Do you think you can use it effectively? Discuss.
3. After receiving the OCF, how did you feel? Discuss.
4. Did you think about/review the corrections after the session? Discuss. Do you think it can help you gain pronunciation accuracy? Discuss.
5. Did you practice your pronunciation using the corrections? Discuss. Do you think practice can help with your accuracy? Discuss.
6. Overall, what factors can help you produce more accurate pronunciation? Discuss. How about other feedback types? Discuss.