






Implicit Theories of Intelligence and Corrective Feedback Preferences

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Abstract

Considering the facilitative role of corrective feedback in language learning, the impact of learners' noticing on its effectiveness, and the significant contributions of individual attributes in learners' noticing the corrective feedback, this study is designed to examine how learners' implicit theories of intelligence (Mindset), an individual attribute, predict their preferences for oral corrective feedback (henceforth, OCF). A total of 143 Iranian EFL learners participated in the study. The participants were assigned to groups of fixed mindset (N=26) and growth mindset (N=26) based on their scores on Language Mindset Inventory (LMI) scale. The data obtained from the questionnaires were analyzed quantitatively. The results indicated that there were significant differences between the fixed-mindset and the growth-mindset groups in their beliefs toward some aspects of OCF. All in all, it can be claimed that language mindset (henceforth, LM) has a significant role in EFL learners' beliefs about OCF. Pedagogical implications for considering learners' LM in providing OCF are also discussed.

Keywords: oral corrective feedback, corrective feedback preferences, language mindset, implicit theories, learners' beliefs

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1. Introduction

The role of error correction has been a matter of considerable debate in second language acquisition. This debate stems from two of the most common language teaching approaches, namely form-focused instruction and meaning-focused instruction. The assumption underlying the meaning-focused approach is that L2 acquisition, the same as L1 acquisition, occurs unconsciously and implicitly, through communication without any explicit attention to linguistic forms, and thus, error correction is unhelpful (e.g., Krashen, 1985; Newmark & Reibel, 1968; Terrell, 1977; Truscott, 1999). Form-focused instruction, on the other hand, emphasizes making learners pay attention to linguistic forms in either planned or incidental instructional activity, often in the form of error correction (Ellis, 2001).

Corrective feedback (CF), an error correction technique in the context of second language (L2) teaching, is defined as the kind of “feedback that learners receive on the linguistic errors they make in their oral and written production in a second language” (Sheen & Ellis, 2011, p. 293), and it has been the subject of much prior research, suggesting its facilitative role in second language learning (Bitchener et al., 2005; Ellis et al., 2006; Li, 2010; Lyster & Saito, 2010b; Russell & Spada, 2006). Additionally, scholars have long explored the effectiveness of CF on language learning, with contradictory results being found (Ammar & Spada, 2006; Loewen & Nabei, 2007; Lyster, 2004; Lyster & Izquierdo, 2009; Lyster & Mori, 2006; Panova & Lyster, 2002). The contradictory findings of the studies on the effectiveness of CF caused scholars to explore the issue further and identify the variables mediating the effect of CF (e.g., Ammar & Spada, 2006; Kartchava & Ammar, 2014a, 2014b; Lyster & Saito, 2010a; Yoshida, 2010).

Some ELT professionals posit that the effectiveness of CF depends largely on students’ noticing, and consequently, their reactions to OCF (Kartchava & Ammar, 2014a, 2014b; Loewen, 2004; Lyster, 1998). A comprehensive review of previous studies indicates that various factors can have significant contributions to students’ attending to the CF they receive, including linguistic factors (Ellis, 2007; Katayama, 2007; Lee, 2013; Lyster & Mori, 2006; Lyster & Ranta, 1997; Mackey et al., 2000; Sheen, 2007), contextual factors (Karp & Yoels, 1976; Long, 2000; Lyster & Saito, 2010a; Mori, 2002; Weissberg, 2006; Yoshida, 2010), and individual attributes (Ellis, 2010a; Mackey & Philip, 1998; Panova & Lyster, 2002; Schulz, 1996, 2001; Yang, 2016). Out of the listed factors, the most significant is learners’ attributes including self-efficacy, anxiety, and beliefs about CF (Ellis, 2010a), since they may hinder or facilitate learners to attend to, and in the same vein to uptake the received CF (Zhang & Rahimi, 2014).

Numerous research studies have explored learners’ preferences for CF (e.g., Jean & Simard, 2011; Lee, 2013; Li, 2013; Loewen et al., 2009; Sakiroglu, 2020; Yang, 2016). Some research studies have addressed the mediating role of linguistic and contextual factors in learners’ CF preferences (e.g., Kim & Han, 2007; Lee, 2013; Lyster & Mori, 2006; Lyster & Ranta, 1997; Rassaei, 2013; Rassaei & Moinzadeh, 2014; Weissberg, 2006; Yoshida, 2008, 2010). Some other studies have

focused their attention on learners' individual differences (e.g., Mackey et al., 2002; Park, 2010; Sagarra, 2007; Zhang & Rahimi, 2014).

Given the active role of learners in the CF process (Papi et al., 2019), and in turn the significance of students' preferences as one of the key factors in the effectiveness of teachers' OCF (Lyster & Saito, 2010a; Pawlak, 2014), there is an urgent call for addressing learners' CF preferences. Additionally, investigating how learners' feedback preferences are affected by their individual attributes (Yu et al., 2018) gives some precious insight into the reasons underlying the failure of the feedback process (Papi et al., 2021) and helps teachers move beyond their intuitions on opting the appropriate technique when providing CF (Sato & Loewen, 2019; Zhang & Rahimi, 2014). Furthermore, the brief review of the literature mentioned reveals that learners' beliefs as an individual attribute, despite their influence on teachers' behaviors (Loewen et al., 2009), have received scant attention in the related literature (Yu et al., 2018). To bridge this gap in the field and to highlight the involvement of learners in the CF process as a learning resource (Papi et al., 2019), the current study intends to investigate learners' OCF preferences and the likely effect of learners' mindset, as an individual attribute, on their OCF preferences.

1.1. Oral Corrective Feedback Preferences

Learners' preference for CF has won the attention of researchers over almost the three past decades. A vast bulk of CF studies have shed some light on learners' CF preferences, investigating learners' attitudes toward CF provision, and the particular error types on which they prefer to get CF. Studies on CF revealed that the majority of learners' view CF as a necessary element of language learning (Agudo, 2015; Jean & Simard, 2011; Oladejo, 1993; Schulz, 1996, 2001) and that they desire to get feedback on their errors.

On the learners' CF preferences, prior research offers some contradictory results. For example, some studies depicted that learners prefer to get feedback on all the speaking errors they make (Amrhein & Nassaji, 2010; Jean & Simard, 2011; Schulz, 2001) while some other studies showed that learners want to be corrected selectively (Katayama, 2007; Lasagabaster & Sierra, 2005; Lee, 2013). As for the types of errors, Tasdemir and Yalcin's (2018) research displayed that most learners expect to receive CF on serious spoken errors as well as frequent ones. This higher preference of learners for receiving CF on serious spoken errors was also found in Park's (2010) and Rashti and Tous' (2016) studies.

Given the contribution of learners' preferences to the effectiveness of CF, some scholars have investigated the effect of some mediating factors underlying learners' preferences including language proficiency (e.g., Brown, 2009; Kaivanpanah et al., 2012; Kazemi et al., 2013; Philp, 2003), anxiety (e.g., Lee, 2016; Yang, 2016; Zhang & Rahimi, 2014), as well as L1 cultural background (e.g., Schulz, 1996, 2001; Sheen, 2016; Yang, 2016). However, there is still a lack of research on the

potential factors affecting learners' CF preferences, particularly learners' individual attributes (Yu, et al., 2018). Therefore, this study focuses on learners' LM as an individual attribute.

1.2. Language Mindset

The individual-specific dimension of beliefs about the likely learnability of an attribute is referred to as implicit theories or mindsets (Dweck et al., 1993). Having extended mindset beliefs to the language learning domain, scholars consider LM as distinct from other academic mindsets (Mercer & Ryan, 2010; Lou & Noels, 2017; Ryan & Mercer, 2012). LM refers to individuals' implicit beliefs about language learning (Lou & Noels, 2017; Mercer & Ryan, 2010; Ryan & Mercer, 2012). According to Dweck et al. (1993), individuals' mindsets reside along a continuum, ranging from a fixed mindset to a growth mindset. Individuals who hold a fixed mindset toward a particular attribute believe that specific attribute is a set one and, consequently, cannot be improved - 'you have what you have' (Pal et al., 2019) - and those who have a growth mindset hold the belief that a particular attribute is developmental and, therefore, can be learned - 'you have what you have learned' (Pal et al., 2019).

1.3. Mindset and L2 Learning

Much previous research conducted focusing on mindset revealed that mindset influences learning (e.g., Dweck et al., 1995; Butler, 2000; Rattan et al., 2012). For example, students with a growth mindset are more likely to preserve effort in the learning process (Dweck et al., 1995). Mangels et al. (2006) found that receiving feedback increases brain activity in growth mindset learners whereas it does not cause much brain activity in fixed mindset learners. Some studies also displayed that mindset influences learners' feedback-seeking behaviors (Delvoo et al., 2011; Waller & Papi, 2017). In a recent study on 537 Spanish learners, Papi et al. (2021) found that LM predicts learners' preferences for CF types. Although the mentioned studies have shed light on the role of mindset in learners' beliefs about CF and their feedback-seeking behaviors, the factors underlying learners' preferences for different aspects of CF remain uninvestigated. Besides, there is, to the authors' knowledge, no study conducted investigating the impact of mindset on Iranian language learners' CF preferences. To fill in these gaps, the current study investigates the influence of LM beliefs on Iranian learners' CF preferences.

1.4. Research Questions and Hypotheses

Based on the related literature reviewed, the present study seeks to find answers to the following research questions:

1. Do learners in a fixed mindset group and learners in a growth mindset group differ significantly in their beliefs about the necessity of OCF?

2. Do learners in a fixed mindset group and learners in a growth mindset group differ significantly in their beliefs about the frequency of OCF?
3. Do learners in a fixed mindset group and learners in a growth mindset group differ significantly in their beliefs about the types of errors that should be corrected?
4. Do learners in a fixed mindset group and learners in a growth mindset group differ significantly in their beliefs about the types of OCF?
5. Do learners in a fixed mindset group and learners in a growth mindset group differ significantly in their beliefs about the choice of correctors?
6. Do learners in a fixed mindset group and learners in a growth mindset group differ significantly in their beliefs about the appropriate time of providing OCF?

2. Method

2.1. Participants

A total of 143 (86 females, 57 males) Iranian EFL learners was selected conveniently to take the survey. Participants voluntarily took part in the study, and they were assured of the anonymity and confidentiality of the information they provided. Participants, all undergraduate university students, were all taking a general English course. They were enrolled in various university programs (123 Bachelors and 20 M.D.s) and represented a diverse range of fields, including medical sciences, social sciences, and engineering. Participants ranged in age from 18 to 40, with an average age of 21. A majority of the participants (95%) were L1 speakers of Persian, and the other participants' L1 was Arabic the participants, as detailed in the procedure section, were classified into two groups.

2.2. Instruments

The current study employed two questionnaires, particularly the *Corrective Feedback Belief Scale* (CFBS; Fukuda, 2004) and *Language Mindset Inventory* (LMI; Lou & Noels, 2016), and a background demographic questionnaire to collect the required data. The reliability and validity of the questionnaires were established in prior research; therefore, they were not piloted in the present study. The reliability and the construct validity of the *Language Mindset Inventory* was reported to be .91 and .89, respectively (Lou & Noels, 2017) and the reliability and the construct validity of the *Corrective Feedback Belief Scale* was .86 and .97, respectively (Zhang & Rahimi, 2014).

Corrective Feedback Belief Scale (CFBS)

The CFBS (Fukuda, 2004), employed to record students' beliefs regarding OCF, is composed of 21 items which are scored on a 5-point Likert scale, ranging from "strongly agree" (5) to "strongly disagree" (1). Thus, the minimum possible score on the scale is 34 and the maximum score extends

to 105. The scale is designed to explore learners' preferences for different aspects of OCF. For example, the items regarding preferences for OCF types required learners to rate each OCF type, as it is displayed in the following excerpt from the questionnaire:

How do you rate each type of spoken error correction below?

Teacher: where did you go yesterday?

Student: I go to the park.

- a. Teacher: could you say that again?
- b. Teacher: I go?
- c. Teacher: "Go" is in the present tense. You need to use the past tense "went" here.
- d. Teacher: Yesterday, I....
- e. Teacher: Really? What did you do there?
- f. Teacher: How does the verb change when we talk about the past?
- g. Teacher: I went to the park.

Based on this example, learners were asked to rate how effective each OCF type is. The calculated reliability of the questionnaire in the current study, based on Cronbach alpha, was approximately .80, suggesting a very good internal consistency reliability for the scale.

Language Mindset Inventory (LMI)

The LMI (Lou & Noels, 2016) was administered to explore students' mindset beliefs. The scale includes 18 items, half of which are reversely scored. The scale measures learners' beliefs on all three aspects of LM beliefs, that is general language intelligence beliefs (GLB; e.g., "No matter how much language intelligence you have, you can always change it quite a bit."), L2 aptitude beliefs (L2B; e.g., "It is difficult to change how good you are at foreign languages."), and age sensitivity beliefs about language learning (ASB; e.g., "People can't really learn a new language well after they reach adulthood."). The responses are scored on a 6-point Likert scale from "*strongly disagree*" to "*strongly agree*". Therefore, the minimum score on the scale is 18 and the maximum score extends to 108. The Cronbach reliability of the scale is reported to be .91 in previous research and .86 in the current study, indicating an acceptable internal consistency reliability (DeVellis, 1991).

2.3. Procedure

The data collection procedure included an internet-based questionnaire, including a brief description of the research aims and an assurance of confidentiality, which was distributed to participating EFL learners over the course of four subsequent semesters in 2020 and 2022. A total of 46 open-ended and Likert-type items elicited information on three principal areas. It commenced with a demographic section (7 questions), which was followed by the 18 items of LMI to elicit participants' LM. Lastly, participants were required to respond to 21 items aiming to elicit

learners' OCF preferences in terms of the necessity of OCF, frequency of OCF, the timing of OCF, types of errors to be corrected, OCF types, and choice of correctors.

Based on the participants' responses to the LMI scale, they were assigned to groups of fixed mindset or growth mindset using the total mean score ($M = 50$ out of 108) and the standard deviation ($SD=14.15$) for the whole sample. As far as a high score on LMI indicates a fixed mindset, learners ($N=26$) who scored one standard deviation above the mean were assigned to the fixed mindset group ($M=70.73$, $SD=9.89$) and those ($N=26$) whose scores lay one standard deviation below the mean were assigned to growth mindset group ($M=31.23$, $SD=3.06$). Those learners whose scores fell within one standard deviation of the mean were excluded from further analysis. An independent-samples t-test was conducted, and its results showed that the two groups differ significantly in their mindset scores $t(50)=-19.44$, $p=.00$. The obtained data from the questionnaires were transformed into the Statistical Package for Social Sciences (SPSS version 24) for the purpose of data analysis.

3. Results

As it was mentioned earlier, participants in the current study were assigned to the groups of fixed mindset ($N=26$) and growth mindset ($N=26$) based on their scores on the LMI scale. Participants' responses are reported with regard to their beliefs about OCF in the following sections.

3.1. Necessity of Oral Corrective Feedback

The first question was posed to investigate the extent to which fixed mindset learners and growth mindset learners differ in their beliefs about the necessity of OCF. A normality test was run to determine the right statistic. Due to the violation of the assumption of normality (Kolmogrov-Smirnov=.0; Shapiro-Wilk=.0), the non-parametric statistical technique was run to test the first null hypothesis. A Mann-Whitney U test, the results of which are demonstrated in Table 1, was run. The results revealed a non-significant difference in fixed mindset learners' ($Md=4$, $n=26$) and growth mindset learners' ($Md=5$, $n=26$; $U=244$, $z=-1.89$, $p=.059$, $r=.37$) beliefs about the necessity of OCF. Therefore, the first null hypothesis is supported.

Table 1

Mann-Whitney U Test Results for Learners' Beliefs about the Necessity of OCF

	The Necessity of OCF
Mann-Whitney U	244.000
Wilcoxon W	595.000
Z	-1.892
Asymp. Sig. (2-tailed)	.059

a. Grouping Variable: LMI (fixed, growth)

3.2. Frequency of Oral Corrective Feedback

The second question was addressed to investigate if fixed mindset learners and growth mindset learners differ significantly in their beliefs about the frequency of OCF. As the results of the normality test illustrated, the data were not normally distributed (Kolmogrov-Smirnov=.0; Shapiro-Wilk=.0); therefore, a Mann-Whitney U test was also conducted to investigate whether fixed mindset learners and growth mindset learners differ significantly in their beliefs about the frequency of OCF. The results, as illustrated in Table 2, showed a significant difference in beliefs about the frequency of OCF between learners in the fixed mindset group ($Md=4.06$, $n=26$) and learners in the growth mindset group ($Md=4.38$, $n=26$), $U=225.5$, $z=-2.26$, $p=.024$, with a medium effect size ($r=.45$). The related mean ranks reported for learners in the growth mindset group and learners in the fixed mindset group are 30.83 and 22.17, respectively.

Table 2

Mann-Whitney U Test Results for Learners' Beliefs about Frequency of OCF

Groups	Frequency of OCF
Mann-Whitney U	225.500
Wilcoxon W	576.500
Z	-2.260
Asymp. Sig. (2-tailed)	.024

a. Grouping Variable: LMI (fixed, growth)

3.3. Types of Errors to be Corrected

The third research question was concerned with identifying the differences between learners in the fixed mindset group and learners in the growth mindset group in their beliefs about the types of errors on which corrective feedback should be provided. To find an answer to this research question, a normality test was run to investigate if the related data enjoy the normality assumption.

Table 3

Mann-Whitney U Test Results for Learners' Beliefs about Types of Errors to be Corrected

	Serious spoken errors.	Less serious spoken errors	Frequent spoken errors	Infrequent spoken errors	individual errors
Mann-Whitney U	176.000	178.500	181.000	272.500	144.500
Wilcoxon W	527.000	529.500	532.000	623.500	495.500
Z	-3.201	-3.121	-3.161	-1.250	-3.882
Asymp. Sig. (2-tailed)	.001	.002	.002	.211	.000

a. Grouping Variable: LMI (Binned)

The distribution of data is not normal (Kolmogrov-Smirnov=.00; Shapiro-Wilk=.00); consequently, a non-parametric statistical technique was selected to test the research hypothesis. A Mann-Whitney U test was conducted to investigate whether learners in the fixed mindset group and learners in the growth mindset group differ significantly in their beliefs about the types of errors to be corrected. The results, demonstrated in Table 3, indicate significant differences between learners in the fixed mindset group and learners in the growth mindset group in their beliefs about types of

errors to be corrected, particularly “serious spoken errors” (fixed: $Md=4, n=26$, growth: $Md=5, n=26; U=176, z=-3.201, p=.001, r=.64$), “less serious spoken errors” (fixed: $Md=4, n=26$, growth: $Md=4, n=26; U=178.5, z=-3.121, p=.002, r=.62$), “frequent spoken errors” (fixed: $Md=4, n=26$, growth: $Md=5, n=26; U=181, z=-3.161, p=.002, r=.63$), and “individual errors” (fixed: $Md=4, n=26$, growth: $Md=5, n=26; U=144.5, z=-3.882, p=.00, r=.77$). The results also show that there was no significant difference in the beliefs of learners in the fixed mindset group ($Md=4, n=26$) and the growth mindset group ($Md=4, n=26; U=272.5, z=-1.25, p=.21, r=.25$) about getting feedback on “infrequent spoken errors”

Table 4
Mean Ranks for Learners’ Beliefs about Types of Errors to be Corrected

	LMI	Mean Rank
Serious spoken errors	growth mindset	32.73
	fixed mindset	20.27
Less serious spoken errors.	growth mindset	32.63
	fixed mindset	20.37
Frequent spoken errors	growth mindset	32.54
	fixed mindset	20.46
Infrequent spoken errors	growth mindset	29.02
	fixed mindset	23.98
My individual errors	growth mindset	33.94
	fixed mindset	19.06

As far as the beliefs of learners in the fixed and the growth mindset groups about “the types of errors to be corrected” are concerned, the mean ranks of learners’ responses in the growth mindset group were higher than the mean ranks of their counterparts in the fixed mindset group regarding all types of errors. In the growth mindset group, the mean ranks, in descending order, are devoted to “individual errors” ($M=33.94$), “serious spoken errors” ($M=32.73$), “less serious spoken errors” ($M=32.63$), and “frequent spoken errors” ($M=32.54$), “infrequent spoken errors” ($M=29.02$). whereas, “infrequent errors” ($M=23.98$) received the highest mean rank from learners in the fixed mindset group. The two error types of “frequent spoken errors” ($M=20.46$) and “less serious errors” ($M=20.37$) gained, respectively, the second and the third highest mean ranks from learners in the fixed mindset group. Learners in the fixed mindset group ranked “serious spoken errors” ($M=20.27$) and “individual errors” ($M=19.06$) as having the lowest means.

3.4. Types of Oral Corrective Feedback

The fourth research question aimed at determining the potential difference in beliefs toward various types of OCF between learners in the fixed mindset group and learners in the growth mindset group. In order to choose the best statistic to find the answer to this research question, a normality test was conducted, the results of which revealed a violation of the assumption of normality (Kolmogrov-Smirnov = .00; Shapiro-Wilk = .00); therefore, the non-parametric statistical technique was run to test the fourth hypothesis.

Table 5

Mann-Whitney U Test Results for Learners' Beliefs about Types of OCF

	Clarification request	repetition	Explicit feedback	Elicitation	No CF	metalinguistic feedback	recast
Mann-Whitney U	210.000	279.000	218.000	203.000	216.000	317.500	238.000
Wilcoxon W	561.000	630.000	569.000	554.000	567.000	668.500	589.000
Z	-2.473	-1.114	-2.311	-2.658	-2.311	-.396	-1.891
Asymp. Sig. (2-tailed)	.013	.265	.021	.008	.021	.692	.059

a. Grouping Variable: LMI (Binned)

A Mann-Whitney U test was run to compare learners' beliefs toward various types of OCF for the fixed mindset and the growth mindset learners (See Table 5). There were significant differences between the fixed mindset learners and the growth mindset learners in their beliefs toward some OCF types, including clarification request (fixed: $Md=4, n=26$, growth: $Md=4, n=26$; $U=210, z=-2.47, r=.49$), explicit feedback (fixed: $Md=4, n=26$, growth: $Md=5, n=26$; $U=218, z=-2.31, r=.46$), elicitation (fixed: $Md=4, n=26$, growth: $Md=4, n=26$; $U=203, z=-2.65, r=.16$), no corrective feedback (fixed: $Md=3, n=26$, growth: $Md=2, n=26$; $U=216, z=-2.31, r=.46$). The results of Mann-Whitney U test indicate that there are non-significant differences between learners in two groups in some other OCF types, namely repetition (fixed: $Md=3, n=26$, growth: $Md=4, n=26$; $U=279, z=-1.114, r=.22$), metalinguistic feedback (fixed: $Md=4, n=26$, growth: $Md=4, n=26$; $U=317.5, z=-.396, r=.08$), and recast (fixed: $Md=4, n=26$, growth: $Md=3.5, n=26$; $U=238, z=-1.891, r=.37$).

As for the fixed- and the growth mindset groups' mean responses on the OCF types, 'clarification request' ($M=31.42$), 'explicit feedback' ($M=31.12$), and 'elicitation' ($M=31.69$) received higher ranks from the growth mindset group than the fixed mindset group. While, 'no corrective feedback' ($M=31.19$), 'metalinguistic feedback' ($M=27.29$), and 'recast' ($M=30.35$) received higher ranks from the fixed mindset group than the growth mindset group (See Table 6).

Table 6

Mean Ranks for Learners' Beliefs about Types of OCF

OCF types	LMI	Mean Rank
Clarification request	growth mindset	31.42
	fixed mindset	21.58
repetition	growth mindset	28.77
	fixed mindset	24.23
Explicit feedback	growth mindset	31.12
	fixed mindset	21.88
Elicitation	growth mindset	31.69
	fixed mindset	21.31
No corrective feedback	growth mindset	21.81
	fixed mindset	31.19
metalinguistic feedback:	growth mindset	25.71
	fixed mindset	27.29
recast	growth mindset	22.65
	fixed mindset	30.35

3.5. Corrector

The fifth research question was aimed at determining whether learners in the fixed mindset group and learners in the growth mindset group differ significantly in their beliefs about the choice of correctors. In order to opt the most appropriate statistical technique to examine this research question, a normality test was conducted, the results of which showed that the data were not normally distributed (Kolmogrov-Smirnov=.00; Shapiro-Wilk=.00). Therefore, a non-parametric statistical technique was used to explore if two groups differ in their beliefs about the choice of correctors.

A Mann-Whitney U test was run to test the fifth research hypothesis (See Table 7). There was a significant difference between learners in the fixed mindset group and learners in the growth mindset group in their beliefs about choice of correctors, particularly teacher correction (fixed: $Md=5, n=26$, growth: $Md=6, n=26; U=200, z=-2.987, p=.03, r=.59$) and self-correction (fixed: $Md=5, n=26$, growth: $Md=6, n=26; U=216, z=-2.417, p=.01, r=.48$). There was no statistically significant difference between the two groups' beliefs about peer-correction (fixed: $Md=4, n=26$, growth: $Md=5, n=26; U=272.5, z=-1.237, p=.21, r=.24$) as their preferred corrector.

Table 7

Mann-Whitney U Test Results for learners' beliefs about choice of correctors

	Classmates	Teachers	Self-correction
Mann-Whitney U	272.500	200.000	216.000
Wilcoxon W	623.500	551.000	567.000
Z	-1.237	-2.987	-2.417
Asymp. Sig. (2-tailed)	.216	.003	.016

a. Grouping Variable: LMI (Binned)

As regards the learners' beliefs about the choice of correctors, the mean ranks of learners in the growth mindset group, in all three corrector options, were higher than the mean ranks of learners in the fixed mindset group (See Table 8). Teacher correction received the highest mean rank from the learners in the growth mindset group ($M=31.81$), followed by self-correction ($M=31.19$) and peer-correction ($M=29.02$). Learners' choices of correctors in the fixed mindset group are arranged as peer-correction ($M=23.98$), self-correction ($M=21.81$), and teacher correction ($M=21.19$) in rank order.

Table 8

Mean Ranks for Learners' Beliefs about Correctors

Corrector	LMI*	Mean Rank
Classmates	growth mindset	29.02
	fixed mindset	23.98
Teachers	growth mindset	31.81
	fixed mindset	21.19
Self-correction	growth mindset	31.19
	fixed mindset	21.81

*LMI stands for Language Mindset Inventory

3.6. Timing of Oral Corrective Feedback

The sixth research question addressed the possible difference in the preferred timing of OCF between learners in the fixed mindset group and learners in the growth mindset group. Normality test was run, the results of which revealed that the data were not normally distributed (Kolmogrov-Smirnov=.00; Shapiro-Wilk=.00). Therefore, the non-parametric statistical technique was conducted to test the sixth hypothesis (See Table 9).

A Mann-Whitney U Test revealed a non-significant difference between learners in the fixed mindset group and learners in the growth mindset group in the appropriate timing of OCF, particularly ‘immediate OCF’ (fixed: $Md = 4, n = 26$, growth: $Md = 4, n = 26$; $U = 318, z = -.385, r = .07$), ‘OCF after students finish speaking’ (fixed: $Md = 4.5, n = 26$, growth: $Md = 5, n = 26$; $U = 284.5, z = -1.106, r = .22$), and ‘OCF after the activities’ (fixed: $Md = 4, n = 26$, growth: $Md = 4, n = 26$; $U = 684, z = -.8, r = .16$). The learners in the groups of fixed and growth mindset differed significantly in their preferences toward receiving ‘OCF at the conclusion of class’ (fixed: $Md = 4, n = 26$, growth: $Md = 3.5, n = 26$; $U = 197.5, z = -2.694, r = .53$). ‘OCF at the conclusion of class’ received a mean rank of 21.1 from learners in the growth mindset group and 31.9 from learners in the fixed mindset group. Regarding other categories of OCF timing, the growth mindset group’s mean ranks were higher comparing to the learners’ mean ranks in the fixed mindset group (See Table 10).

Table 9

Mann-Whitney U Test Results for Learners’ Beliefs about the Appropriate Time of OCF

	Immediate OCF	OCF after students finish speaking	OCF after the activities	OCF at the conclusion of class
Mann-Whitney U	318.000	284.500	297.000	197.500
Wilcoxon W	669.000	635.500	648.000	548.500
Z	-.385	-1.106	-.800	-2.694
Asymp. Sig. (2-tailed)	.700	.269	.424	.007

a. Grouping Variable: LMI (fixed, growth)

Table 10

Mean Ranks for Learners’ Beliefs about Timing of OCF

OCF timing	LMI*	Mean Rank
Immediate OCF	growth mindset	27.27
	fixed mindset	25.73
OCF after I finish speaking	growth mindset	28.56
	fixed mindset	24.44
OCF after the activities	growth mindset	28.08
	fixed mindset	24.92
OCF at the conclusion of class	growth mindset	21.10
	fixed mindset	31.90

*LMI stands for Language Mindset Inventory

4. Discussion

The aim of this study was to investigate how learners' mindset beliefs affect their preferences for OCF, which, to the authors' knowledge, has not been explored in the preference literature so far. The finding of this study, which revealed that not only the learners in the fixed mindset group but also the learners in the growth mindset group preferred receiving feedback for the errors they make, is consistent with the finding of the study conducted by Zhang and Rahimi (2014) in which language learners, regardless of the differences in their individual attributes, supported the necessity of corrective feedback provision. Many studies have repeatedly revealed that language learners prefer receiving corrective feedback on their errors to having their errors go uncorrected (Chenoweth et al., 1983; Davis, 2003; Hedgcock & Lefkowitz, 1994; Hyland, 2003; Lee, 2013; Loewen et al., 2009; Saeb, 2017; Schulz, 1996, 2001; Truscott, 1999). The finding of the present study indicates that learners, regardless of particular beliefs they hold, are aware of the beneficial effect of receiving correction on their errors. This finding also provides evidence for learners' beliefs indicating that teachers' immediate correction of learners' oral errors is a quality of an effective teacher (Brown, 2009).

On OCF frequency, the findings of this study indicated that learners in the fixed mindset group and learners in the growth mindset group differ significantly in their beliefs about OCF frequency. The finding of this study, as far as roughly half of the learner participants in both groups preferred to always receive feedback, is in line with the findings of the previous studies in which learners were found to be in favor of receiving CF on their oral errors (e.g., Amrhein & Nassaji, 2010; Leki, 1991; Loewen et al., 2009; Saeb, 2017; Schulz, 1996; Tasdemir & Yalçın, 2018). Contrary to the finding of this study, Zhang and Rahimi (2014) found that individual factors, particularly anxiety, do not make any significant difference in learners' beliefs about the amount of OCF. The result of this study is possibly due to the impact of mindset on the various orientations learners take when they encounter a failure (Hong et al., 1999; Lou & Noels, 2016). The result of this study also highlights the contribution of learners' mindsets beliefs on their feedback-seeking orientation (Waller & Papi, 2017).

Another finding of this study, related to learners' preferences for the types of errors to be corrected, is the strong preference of learners in the growth mindset group for receiving feedback on their "individual errors" and "serious errors". This finding partially supports the findings of some previous research on learners' preference for getting feedback on different error types (Park, 2010; Rashti & Tous, 2016; Tasdemir & Yalcin, 2018; Zhang & Rahimi, 2014), suggesting learners' desires for being corrected when making serious spoken errors. This finding provides further evidence for growth mindset learners setting learning-oriented goals (Dweck & Molden, 2017; Elliot & Dweck, 1988; Robins & Pals, 2002; Rudolph, 2010).

This study also aimed to explore the impact of mindset on learners' preference for the types of OCF. Partially in line with previous related research (Papi et al., 2021), the results of this study

demonstrated a significant contribution of mindset on learners' preference for some types of OCF; that is, clarification request, explicit correction, elicitation, and no corrective feedback. More specifically stated, growth mindset learners' preferences for receiving elicitation are in line with the findings of many previous studies (Kaivanpanah et al., 2012; Tasdemir & Yalcin, 2018; Yang, 2016; Yoshida, 2008), in which it was found that learners preferred to receive elicitative kind of corrective feedback. The result of this study also showed that fixed mindset learners prefer input-providing types of corrective feedback which might be due to their negative attitude toward exerting effort (Blackwell et al., 2007) to come up with the correct form, and implicit correction possibly because they do not want others to notice their failure in producing the correct form. Contrary to the results of this study are the findings of the research conducted by Lee (2013) who concluded that learners prefer to receive explicit correction. This controversy in the findings of the studies on learners' preferences for OCF types can be due to the different mindset beliefs the learners held which was not reported in the previous studies.

As far as learners' beliefs about the preferred corrector are concerned, the findings of this study revealed learners in the fixed mindset group and learners in the growth mindset group differ significantly in their beliefs about teacher corrections and self-correction. It was further revealed that the fixed-mindset learners prefer peer correction while the learners who held a growth mindset rather a teacher correction. The self-reported preference of learners in the growth mindset group is consistent with some previous research in which teachers' corrective feedback was the most highly preferred source of error correction (e.g., Amrhein & Nassaji, 2010; Cestone et al., 2008; Kazemi et al., 2013; Lekı, 1991; Zacharias 2007; Zhang & Rahimi, 2014). The finding of this study which indicated that mindset influences learners' preference for the choice of the corrector is in line with some prior research (Salehi & Jafari Pazoki, 2020), and in contrast to some other research (Kaivanpanah et al., 2012) investigated the effect of individual attributes, such as gender, language proficiency, and so forth, on learners' preferred feedback provider. However, strong preferences of growth mindset learners to receive teacher feedback can also be due to the authoritative role of teachers in Iranian contexts (Kaivanpanah et al., 2012), in which teachers are considered the primary knowledge source. The preference of learners of this study in the fixed mindset group is in line with some other studies in which peer correction was valued by the learner participants (e.g., Chenoweth et al., 1983; Hyland, 2003; Smith, 2010); however, the previous studies in this field did not report learners' mindset beliefs.

As regards the learners' preferences for OCF timing, the result of this study showed that learners in both the fixed- and the growth-mindset groups non-significantly prefer to receive 'immediate feedback', 'OCF after students finish speaking', and 'OCF after activities'. This finding is in part consistent with Zhang and Rahimi's (2014) findings which revealed a non-significant difference between learners in the high-anxiety group and learners in the low-anxiety group in their beliefs about the appropriate timing of OCF. The desire of the learners for receiving immediate feedback was also found in some previous research (e.g., Davis, 2003; Gamlo, 2019; Lee, 2013;

Sakiroglu, 2020). The preference of learners in the fixed mindset group for getting corrective feedback at the conclusion of the class is consistent with the findings of previous studies (Lasagabaster & Sierra, 2005; Yoshida, 2008), in which most of the participants would rather have a chance to think about their errors and the correct forms. The preference of both fixed- and growth-mindset learners in the present study to receive immediate feedback provides support for Mackey's (2007) view, indicating that corrective feedback is the most beneficial when it is provided at the time when an error occurs.

Given that learners' feedback preferences impact their engagement with the correction (Sheen, 2008), and the contribution of learners' engagement in the effectiveness of corrective feedback (Ellis, 2010a), the results of this study suggest that learners' mindset contributes to OCF effectiveness. Therefore, it is beneficial for learners to hold a growth mindset for language learning as prior research (Dweck et al., 2004; Mangels et al., 2006; Nussbaum & Dweck, 2008), alongside the present study, suggests that growth mindset learners take advantage of learning opportunities, in this case, corrective feedback. It thus needs empirical research to be conducted aiming to empower learners by changing their mindset beliefs.

5. Conclusion

Learners' various preferences for corrective feedback, evidenced in this study, support Papi et al.'s (2019) argument for shifting views toward learners' involvement in the feedback process. Such an extended view of the feedback process gives us a better picture of the phenomenon and helps alleviate the contradictory findings of the stockpile of research on the effectiveness of corrective feedback. In sum, the results of this study highlight the role of learners and their preferences for corrective feedback in the effectiveness of feedback they receive (Pawlak, 2014) as they are expected to recognize and process the provided corrective feedback (Yu et al., 2018). Additionally, this study opens up a new stream of research in the field of OCF by proposing that learners' LM beliefs influence their preferences for corrective feedback, and in turn its effectiveness.

This study was conducted in an EFL context, using only a questionnaire to collect the required data to measure learners' LM and their CF preferences. Thus, the study needs to be replicated in other contexts, using different data collection methods to make the results more generalizable. More importantly, examining how learners' LM beliefs influence their responses to the provided corrective feedback could further our understanding of the factors contributing to the success of corrective feedback. Nevertheless, this study has some implications for foreign language teaching. To enhance the effectiveness of OCF, teachers need to take into account learners' preferences for OCF and the impact of their LM beliefs on such preferences. In addition, one of the useful approaches to decrease students' negative feelings when they are corrected, and thus, to make OCF more effective for them is to raise learners' awareness of the value and purpose of OCF

(Ellis, 2009). Another possibility to make CF effective is that teachers adopt teaching approaches in which developmental goals are emphasized. In this way, students consider CF a learning resource rather than a technique which is used to judge their ability (Papi et al., 2021).

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