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The Impact of Feedback Types on Farsi Speaking EFL Learners' Recognition and Production of Relative Clauses

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1. Introduction

1.1 The Problem

Burgeoning research in recent years on the processing of relative clauses (RCs) and resumptive pronouns (RPs) has illuminated our understanding of the processing mechanisms in first (L1) and second language (L2) learning. Firstly, structures containing RCs include recursion that is one of the most distinctive features of language as a cognitive system (Gibson et al. 2005), and thus, present a major obstacle for both L1 and L2 learners. Secondly, the same processing difficulties, as proposed by Schachter (1974), tend to be subject to avoidance and lead to covert relativization errors when learners convey information through basic communication without running the risk of inaccuracy. Probably for the same reason, Yabuki-Soh (2007) describes relativization as the last hurdle for students to overcome. Ellis (2004) explicates the difficulty

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in terms of two tasks learners of English as a second or foreign language face while learning RCs. They have to realize the noun phrase that RCs might modify as well as the functions that the relative pronoun (RP) can serve as subject, direct object, indirect object, oblique (object of preposition), genitive, and objective of comparative, and thereby, decide on appropriate RPs.

As suggested by Xiao (2008), some EFL learners may manage to reach a balance between the complexity of their L1 and L2 written output. Yet, to many others the intricate nature of embedding hampers the mastery and natural use of RCs and RPs (Seifoori & Fatahi 2014; Zare-ee & Farvardin 2009). Accurate use of RCs can boost the complexity of written output that is challenging even for highly motivated EFL learners at higher levels of proficiency. These structures might be restrictive or nonrestrictive in nature and provide additional information about the noun phrase (NP) preceding them. The use of nonrestrictive RCs can aid the learner to distinguish the referent precisely.

Numerous studies have broadened our understanding of how Iranian EFL learners learn RCs and RPs (Abdolmanafi (Rokni) & Rezaee 2012; Marefat & Rahmany 2009; Marefat & Abdollahnejad 2014; Rahmany & Haghpour 2015; Enjavinezhad & Paramasivam 2014). Very few quasi-experimental studies, to the best of our knowledge, have ever addressed the short run and long run impact of various feedback types on Iranian EFL learners' recognition and production of these structures in writing. Hence, this study aimed to examine the effect of three feedback types, explicit feedback (EF), metalinguistic feedback (MF), and implicit feedback (IF), on fifty-nine intermediate Iranian EFL learners' recognition and production of RCs in writing. The studywas based on the hypothesis that these feedback types could have differential impacts on sensitizing learners to these challenging structures, and that the effect might vary in recognition and production levels of learning.

O'Grady (2011) described an RC as an event-denoting sentential category containing some under-represented component expressed as a gap, as in English, or a resumptive pronoun, as in Persian, which is interpreted based on the nominal or head noun with which the RC is associated.

(1) English: *The woman [s that you saw_]*
(2) Persian: *Zæn-i [s ke* ***ura*** *didi]*

These structures are grammatically referred to as adjective clauses since they describe the head noun that matches the under-represented element. In the case of (1) and (2), the head noun 'woman', the person who was seen, matches

with the gap in English and with the RP 'ura' in Persian.

Structural differences between Persian and English RCs are mostly related to word order. Taghavipour (2004) describes Persian as a null-subject language with verb in the final position in both declarative and subordinate clauses. A Persian RC is a head-modifying constituent containing either a gap or an RP that is typically introduced by the invariant complementizer '*ke*' which is used regardless of the animacy, gender, function, or number of the noun being modified by the RC. Moreover, Persian allows various structures across RCs. In Persian, RPs are:

1) not allowed in subject RCs:
   *'MænZæn-i [ke—/*u in baste rææværd] ranemishenas-æm*
   I don't know the woman [who (—/*she) brought this parcel],
2) optional in object RCs:
   'Anhazæn-i ra [ke ma—/u ramolaqatkardim] nadid-and
   They didn't see the woman we met,
3) obligatory in object-of-preposition RCs:
   *Ma zæn-i ra [kešomaba *—/u molaqatkard-id] didæm*
   I saw the man [who you borrowed money from (—/*him)].

The distribution of RPs in English, according to McKee & McDaniel (2001), is very limited and influenced by factors like linear distance, depth, and acceptability of a trace. In Persian, however, both gaps and RPs might be permitted depending on the positions of RCs. Marefat & Abdollahnejad (2014) compared the use of RPs in English and Persian and found the former a subset of the latter and highlighted this syntactic difference as a potential source of error for many Persian speakers of English. They suggested that Iranian EFL learners' overgeneralization of the syntactic rules of Persian may lead to errors that characterize various levels of receptive and productive language use (Karimi 2001; Reali & Christiansen 2006).

1.2 Importance of the Problem

Iranian English language teachers who might not be technically aware of the contrastive nature of RPs in the two languages are well aware of and sensitive to the difficulty their students experience and try to facilitate the process by employing various strategies to help learners notice the structural differences. The majority of Persian-speaking learners of English seem to opt for a con-

scious awareness of language rules. This tendency mingled with teacher-oriented nature of the learning context accounts for the sharper than normal focus Iranian English teachers give to form in teaching various aspects of RCs and to explicit corrective feedback. Seifoori and Fatahi (2014) reported minimized use of RCs in Iranian writers' written discourse which, as they proposed, indicated their failure in extending the declarative grammatical knowledge they obtain via extensive form-focused instruction and explicit corrective feedback to meaning-focused instances of language use. Although such avoidance might be associated with crosslinguistic influence, we may question the pedagogic effectiveness of various feedback types in helping the learners resolve the problem. The question seems viable with regard to second language acquisition (SLA) research that abounds with accounts of the learning process in terms of such external factors as exposure (Krashen 1982), internal output processing mechanisms (Swain 1985), and mutually generated support system that functions interactively to help the input fit learners' processing capacity (Long 1996).

1.2.1 Significance of Feedback

Since the last quarter of the 20th century, SLA research has uncovered the demand for conscious attention to form to warrant the transformation of input to intake through attention to input and conscious linguistic search (Doughty & Williams 1998; Long 1996; Swain 1985; Swain & Lapkin 1995; Van Lier 1995; Van Patten 2004). The need for form-focused techniques opened up various forms of input enhancement techniques, the purpose of which was to draw learners' attention to form in meaning-oriented activities. The alternative focus on conscious linguistic search reinforced the language awareness movement that was gaining ground in the mid 1980s (VanLier 1995). Accordingly, instruction was speculated to optimize learning opportunities and accelerate achievement by drawing learners' attention through structured input (VanPatten 2004), explicit focus on form (DeKeyser 1993), or through feedback of various types (Doughty & Varela 1998; Ellis et al. 2006; Lyster 1998; Lyster & Ranta 1997).

Although practicing teachers might be unaware of important details such as the most effective way of providing feedback, they do offer feedback to their students' oral and written output quite intuitively or inspired by new SLA findings. Feedback might be offered implicitly or explicitly in form-

focused instruction (Lyster 1998; Lyster & Ranta 1997). According to some scholars, the most common form of implicit feedback is *recast* that involves the teacher's reformulation of all or part of a student's utterance excluding the error (Ellis et al. 2006). Explicit feedback, on the other hand, is believed to promote learners' realization of the gaps in their interlanguage (IL) systems more vividly.

The effects of implicit and explicit types of corrective feedback have been widely explored with varying findings. The supremacy of explicit feedback over implicit feedback has been asserted widely (Carroll 2001; Carroll & Swain 1993; Ellis et al. 2006; Lyster 2004). Other studies, in contrast, reported the beneficial effects of implicit types of feedback, such as recasts and clarification requests (Mackey & Philp 1998). Iwashita (2003) indicated a relationship between being exposed to implicit types of corrective feedback and in particular recasts and measurable gains in the acquisition of two grammatical structures in L2 Japanese. Yet, the effectiveness of the feedback offered and the optimal selection of implicit and explicit types seem to hinge on several variables including the type of error, the extent to which it hampers communication, and the source of error.

1.3 Relevant Scholarship

The challenge posed by RCs has inspired numerous contrastive investigations of RCs to examine the implicational universals of language (Comrie & Keenan 1979) which reflect the ease of relativization or the difficulty order of different types of RCs (Doughty 1991; Eckman et al.1988; Izumi 2003; Sadighi 1994; Sadighi & Jafarpur 1994). Similarly, researchers have addressed the cross-linguistic influences on L2 RC acquisition (Gass 1979) as well as the effects of L2 instruction on RC, as a target item (Ammar& Lightbown 2004; Doughty 1991; Gass 1982).

Learning English RCs has proved problematic for many EFL learners and has attracted numerous researchers' attention, particularly in EFL contexts. For instance, Chang (2004) analyzed and described the difficulties that 237 Chinese English-major freshmen encountered in using RCs in their writings and on a 44-item-multiple-choice test on RCs. The participants had already been studying English for six years and RCs for approximately four years. The findings revealed that 48.1 percent of the participants did not employ any RC at all and that the majority of those who did kept their use to a minimum of one RC. It

was also found that object RCs were used more frequently than subject RCs. The participants also preferred to embed RCs in the matrix object position supporting Kuno's (1974) Perceptual Difficulty Hypothesis (PDH), according to which center-embedded syntactic construction interrupts the flow of the sentence and strains more on the short-term memory and is, thus, perceptually more difficult than the right- or left-embedded construction.

Xiaorong (2007) explored the frequency of occurrence of RPs in lower positions on the Noun Phrase Accessibility Hierarchy (NPAH) and in center-embedded RCs and right-branching RCs based on a picture elicitation, a sentence combination task, and a grammaticality judgment task administered to 120 Chinese EFL learners at intermediate and advanced levels of proficiency. The results showed the agreement of the frequency of RPs with the reverse order of the implicational hierarchy of NPAJ. No correlation, however, was found between the occurrence of RPs and the types of RCs.

In a different study, Fedorenko et al. (2012) scrutinized the role of supportive contexts in processing subject and object RCs to test if the local discourse context would eliminate the object vs. subject-extraction complexity effect. They found a larger than usual difference between ORCs and SRCs in supportive contexts compared to null contexts and proposed that the difference might be attributed to either the presence of a supportive context or different experimental procedures.

In the context of Iran, numerous attempts have been made to scrutinize the formidable challenge Persian EFL learners have to face when learning RCs (among others Marefat & Abdollahnejad 2014; Sadighi 1994; Sadighi & Jafarpur 1994). Marefat & Abdollahnejad (2014) compared the use of RPs in 111 Persian-speaking learners at four language proficiency levels and 18 English native speakers using a grammaticality judgment test and a translation test. They reported quite notable deficits in object and object of preposition resumptive pronouns despite advanced learners' more native-like performance.

In another study, Abdolmanafi (Rokni) and Rezaee (Talarposhti) (2012) investigated 92 non-English major Persian learners' underlying knowledge of 12 types of English RCs and the factors constraining their learning processes based on three predictor hypotheses. Statistical analyses of the data obtained from sentence combination tasks and grammaticality judgment tests revealed that the process of all RCs was constrained by the universal Markedness and by NPAH except that of genitive (GEN); the learners were also found to experience more problems learning center-embedded RCs which matched

PDH (Kuno 1974). They reported SO Hierarchy Hypothesis (SOHH) as the predictor of the learning process of RCs (Hamilton, 1994). According to SOHH, as noted in Abdolmanafi (Rokni) and Rezaee (Talarposhti) (2012), the center embedding of RCs sets reflects a processing discontinuity in the main clause. The relativized subject sets up a single discontinuous structure (s), e. g. 'The man who$_i$[$_s$ t$_i$saw us] is one of my relatives', while the relativized object sets up two phrasal discontinuities within the RC, e. g. 'Do you know the man who$_i$[$_s$ t$_i$saw us]?'. The results of the grammaticality judgment test revealed the participants' greater difficulty in learning typologically least marked position like subject (SU) compared to marked positions.

Moreover, Enjavinezhad and Paramasivam (2014) explored the development of Persian speakers' interlanguage in terms of RCs and RPs employing a grammaticality judgment task and based on the Full Transfer Full Access (FTFA) Hypothesis (Schwartz & Sprouse 1996). The research findings fitted well with the predictions made by full-transfer claim of the FTFA and revealed that advanced learners could reconstruct the rule based on the L2 system.

1.4 Research Questions and Hypotheses

As it is evident, most studies of Persian speakers' learning RCs have deployed grammaticality judgment tests to find out cross-linguistic influences on RC acquisition. Very few researchers, if any, have examined the effect of feedback types on enhancing these learners' recognition and production of the same structures. To bridge this gap, hence, the primary objective of the present study was to explore the difficulty hierarchy of recognizing RCs on a multiple-choice item (MCI) test and of producing them in writing. It also sought to compare the effect of explicit corrective and metalinguistic feedback with the implicit feedback on Iranian EFL learners' recognition of RCs in MCI tests and on their production of the same clauses in writing. To this end, this study examines the following research questions:

1. What is the hierarchy of relativization errors made by Iranian Persian-speaking EFL learners in focused MCI tests and in writing?

2. Do corrective, metalinguistic, and implicit feedback types differ in terms of their effects on the groups' recognition of relative clause structures measured in the immediate and delayed focused grammar tests?

3. Do corrective, metalinguistic, and implicit feedback types differ in terms of their effects on the groups' accurate production of relative clause structures in writing?

The following null hypotheses were formulated to study the research questions:

1. The three feedback types do not differ in terms of their effects on the groups' recognition of relative clause structures measured in the immediate and delayed focused grammar tests.
2. The three feedback types do not differ in terms of their effects on the groups' accurate production of relative clause structures in writing.

2. METHOD

2.1 Participants

The participants in this quasi-experimental study were a convenient sample of 59 male and female EFL learners, within the age range of 17 and 25, who were recruited from a population of 100 intermediate students sharing the same characteristics. The participants were attending three intact classes in the Ostad English Institute in Tehran, Iran, and had been studying English as a foreign language for approximately four years. The initial homogeneity of the participants was verified via a Preliminary English Test (PET) and writing pretest, which will be described in the following sections, and the classes were assigned randomly as the implicit feedback (IF) group, the explicit feedback (EF) group, and the metalinguistic feedback (MF) group.

2.2 Measures and Covariates

Five instruments were employed to collect the research data. A 60-item modified version of the Preliminary English Test (PET, 2012) comprising listening and reading comprehension sections was administered at the onset of the study to verify the initial homogeneity in receptive skills. The speaking and writing sections were omitted owing to the rigorous scoring they entailed. The participants' initial homogeneity in recognition of RCs was quantified based on a 120-item focused grammar (FG) test including 60 multiple-choice items and 60 error-correction sentences that were selected from various available TOEFL mock exams. The 120-item test was piloted to estimate its reliability,

which was proved to be acceptably high (.85). This test was further subdivided into three parallel tests each consisting of 40 items. Further analyses of the subtests revealed that each included approximately an equal number of items addressing the production of six categories of Subject (SU = 8), Direct Object (DO = 7), Indirect Object (IO = 8), Genitive (GEN = 7), Place (PL = 5), and Time (T = 5), based on Comrie and Keenan (1979). Then, the sub-tests were employed as the pre-test, as well as the immediate and delayed post-tests.

The use of RCs was measured through two picture-description writing tests where the participants were required to use restrictive RCs in their writing to specify a set of NPs written beneath the pictures. We further analyzed the total number of RCs in each pattern and the type of errors produced in each pattern of RCs. The accuracy was measured as the ratio of correct instances of RC types to the total number of such clauses produced rendering a value ranging from 0 to 1. The closer the measure to unity, the more accurate the participants' writings were in the production of RCs. The inter-rater reliability indices were found acceptably high for the pre-test (.86) and the post-test (.91) asserting the significant agreement between the two raters.

2.3 Experimental Manipulations

Having verified the homogeneity of the groups, the treatment began during which all the groups received the same amount of instruction for the same period based on identical content and using the integrated skills development methodology. The groups met twice a week for four running weeks and were taught by one of the researchers; each session lasted 90 minutes.

First, the RCs in the focus were divided into two groups; each comprising three relative pronouns. During the first two sessions, the teacher presented the concept of RCs as a method of embedding sentences and assigned some exercises. During the treatment, which began on the third session, writing practice was added at the end of each session. As a post-view activity, the participants were engaged in performing different picture description writing tasks with a focus on the production of RCs. They were required to start the writing task in class and complete it as homework. The teacher would collect the participants' writings the following session and provide the three different types of feedback.

In the EF group, the teacher merely underlined the erroneous RCs and provided the correct form in the margin. In the ML group, however, the under-

lined errors were not accompanied by the corrections; instead, the teacher used an agreed upon coding system next to the underlined error to note the type of error. In these two groups, the focus of teachers' correction was on erroneous RCs. By way of contrast, in the IF group, the teacher underlined all types of errors including RCs with no further correction or clues. It was hoped that such implicit feedback would direct the participants' attention to lapses in their linguistic knowledge and encourage them to tackle the problems. To ascertain that the participants would take the feedback seriously, they were required to submit the revised versions of their writings the following week.

3. Results

3.1 Recruitment

In order to test the research hypotheses and answer the research questions, the initial homogeneity of the groups' PET, writing, and FG pre-test scores were by first checking the normality assumption which indicated that the differences among the groups' pre-test mean scores did not reach significance level ($P < .05$). Hence, we ran a one-way ANOVA test to test the significance of the slight differences observed in the mean scores on the groups' writing test (IF = .68, MF = .57, and EF = .65), on the PET test (IF = 41, MF = 40.76, and EF = 40.90), and on the FG test (IF = 21.27, MF = 21.95, and EF = 22.05). The results indicated no significant difference at $p < .05$ supporting the homogeneity of the groups in their entry knowledge.

3.2 The Hierarchy of Relativization Errors

To answer the first research question, which addressed the hierarchy of relativization errors made in FG tests and in writing, the errors were closely scrutinized and classified into six categories of SU, DO, IO, GEN, P, and T. Each error type was quantified as the ratio of the errors to the total number of that type of RCs used in the writing test and the mean of the error types made in the FG test.

Table 1. The Groups' Mean Scores of the Error Types on the MCI Focused Grammar Tests

		Relative Clause Type					
		SU	DO	IO	GEN.	PL.	T.
Pretest	IF	2.27	3.27	3.72	4.00	2.55	1.66
	MF	1.52	3.23	3.42	3.95	1.95	1.61
	EF	1.50	2.60	3.65	4.10	1.75	1.45
	Total	5.29	9.10	10.79	12.05	6.25	4.72
Posttest Immediate	IF	2.27	2.83	3.33	3.94	1.77	1.11
	MF	1.09	2.04	2.19	2.80	1.09	0.85
	EF	1.65	2.10	2.35	3.30	1.20	0.70
	Total	5.01	6.97	7.87	10.04	4.06	2.66
Posttest Delayed	IF	1.55	2.77	3.33	3.72	1.66	1.11
	MF	1.09	1.90	2.14	2.85	1.23	1.04
	EF	1.10	2.15	2.50	3.50	1.40	1.15
	Total	3.74	6.82	7.97	10.07	4.29	3.30

As Table 1 shows, the total of the groups' performances on the pre-test reveals that GEN errors were the most prevalent (M = 12.05), followed by IO (M = 10.79), DO (M = 9.10), PL (M = 6.25), SU (M = 5.29), and T (M = 4.72). Hence, the difficulty hierarchy for the RC structures might be depicted as T>SU>PL>DO>IO>GEN for the pre-test scores. With a radical decline in error means, approximately the same hierarchy emerged in the immediate post-test: T (M = 2.66) > PL (M = 4.06) >SU (M = 5.01) >DO (M = 6.97) >IO (M = 7.87) >GEN (M = 10.04). In the delayed post-test, however, a conspicuous decrease was observed in the participants' erroneous recognition of SU relatives (M = 3.74) compared to their pre-test (M = 5029) and immediate post-test (M = 5.01). For other error types, nevertheless, palpable decline was evident compared to the pre-test measures while a slight pattern of increase was evident with regard to the immediate post-test. In other words, the observed hierarchy of difficulty in the recognition of RCs showed the same with major RC structures of SU, DO, IO, and GEN, with slight fluctuations in RCs of T and PL. Overall, hence, the hierarchy of recognitions errors seemed to be subject to change under instruction merely in terms of minor structures. Further, the groups' mean scores on each error type were calculated.

Table 2. The Groups' Mean Scores of the Error Types on the Writing Tests

		Relative Clause Type					
		SU	DO	IO	GEN.	PL.	T.
Pretest	IF	.16	.50	.61	.77	.22	.33
	MF	.28	.52	.66	.90	.33	.28
	EF	.08	.50	.75	.80	.40	.30
	Total	.52	1.52	2.02	2.47	.95	.91
Posttest	IF	.11	.33	.44	.55	.11	.11
	MF	.09	.14	.28	.33	.09	.04
	EF	.20	.30	.50	.45	.20	.20
	Total	.40	.77	1.22	1.33	.40	.35

A glance at Table 2 indicates the same hierarchy as the MCI test with the SU (M = .40) as the least and GEN (M = 1.33) as the most frequent errors in the pre-test. The emergent hierarchy in the groups' total errors was SU (M = .40) > T (M = .91) > PL (M = .95) > DO (M = 1.52) > IO (M = 2.02) > GEN (M = 2.47). A remarkable drop in all error types was observed on the post-test with a very slight change in the order of the hierarchy: T (M = .35) > SU (M = .40), PL (M = .40) > DO (M = .77) > IO (M = 1.22) > GEN (M = 1.33). Hence, relatively the same hierarchy of relativization errors was found on the focused MCI tests and in writing: SU > DO > IO > GEN. RCs of Time were found to be less problematic than those of SU and leading to fewer errors while RCs of place were found to be more conducive to errors than those of SU.

3.3 The Impact of Three Feedback Types

In order to probe the impact of the three feedback types on the groups' immediate and delayed recognition and their production of RCs, we first checked the preliminary assumption of multivariate normality, linearity, univariate and multivariate outliers, homogeneity of the variance-covariance, and multicollinearity, with no serious violations noted. Then, the descriptive statistics were calculated and obvious differences were noticed in the groups' mean scores. The MF group achieved the highest mean scores on the immediate (26.04) and delayed (25.19) grammar tests and in accuracy (.894) compared to the respective mean scores in the EF group (24.95, 24.30, .702) and

the IF group (M = 23.16, 23.50, .565). Next, a one-way between-groups Multivariate Analysis of Variance (MANOVA) was performed on the same research data, the results of which are presented in *Table 3.*

Table 3. Descriptive Statistics of Immediate and Delayed Grammar and Accuracy Post-tests

		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
						Lower Bound	Upper Bound		
IMPG	MF	21	26.04	5.05	1.10	23.74	28.34	17.00	34.00
	EF	20	24.95	4.66	1.04	22.76	27.13	15.00	34.00
	IF	18	23.16	6.59	1.55	19.88	26.44	10.00	34.00
	Total	59	24.79	5.48	.71	23.36	26.22	10.00	34.00
DPG	MF	21	25.19	5.22	1.13	22.81	27.56	16.00	36.00
	EF	20	24.30	4.24	.94	22.31	26.28	15.00	32.00
	IF	18	23.50	5.11	1.20	20.95	26.04	17.00	33.00
	Total	59	24.37	4.84	.63	23.11	25.63	15.00	36.00
Post Accuracy	MF	21	.894	.11	.02	.84	.94	.62	1.00
	EF	20	.702	.20	.04	.60	.79	.33	1.00
	IF	18	.565	.26	.06	.43	.69	.04	.85
	Total	59	.729	.23	.03	.66	.79	.04	1.00

As *Table 3* illustrates, there was a statistically significant difference between the three feedback groups on the combined dependent variables, F (6, 108) = 4.20, p = .001. Wilks' Lambda = .67; Partial eta squared = .183.

The results were then considered for the dependent variables separately, as presented in *Table 4.*

The results of between-subjects effect in *Table 4* reveals that the only difference reaching statistical significance, using a Bonferroni adjusted alpha level of 0.17, was the post-accuracy measures of writing, F (2, 56) = 7.647, p = .001, partial effect size = .215. An inspection of the mean scores indicated that the MF group achieved higher levels of accuracy in their use of RCs (M = .894, SD = 5.05) than the EF group (M = .702, SD = 4.66) and the IF group (M = .565, SD = 6.59). Hence, the first null hypothesis was accepted while the

second one was disproved. That is to say, the three feedback types did not have differential impacts on the groups' recognition of RCs on the immediate and delayed FG tests, but metalinguistic feedback did enhance the accurate production of RC structures in the writing.

Table 4. One-way Between-groups MANOVA of the Groups' Post-test Scores

	Effect	Value	F	Hypothesis df	Error df	Sig.	Partial Eta Squared
Intercept	Pillai's Trace	.979	819.27	3.000	54.00	.000	.979
	Wilks' Lambda	.021	819.27	3.000	54.00	.000	.979
	Hotelling's Trace	45.515	819.27	3.000	54.00	.000	.979
	Roy's Largest Root	45.515	819.27	3.000	54.00	.000	.979
Groups	Pillai's Trace	.333	3.663	6.000	110.00	.002	.167
	Wilks' Lambda	.668	4.019	6.000	108.00	.001	.183
	Hotelling's Trace	.494	4.368	6.000	106.00	.001	.198
	Roy's Largest Root	.490	8.991	3.000	55.00	.000	.329

4. Discussion

Research findings revealed no significant differences in the groups' recognition of RCs as measured by the immediate and delayed FG test. We might explicate the findings in terms of Interpretability Hypothesis (IH) (Tsimpli & Dimitrakopoulou 2007). It claims that semantic import is interpretable at logical form (LF) and those with merely syntactic import are uninterpretable because adult learners who have passed the critical period find it hard to reset parametric values linked to uninterpretable features. RPs are categorized as uninterpretable features (Chomsky 1995; Rezai 2011; Tsimpli 2006) and consequently not available to adult second language learners. The participants in this study seem to have failed to notice the features of RCs, mostly related to RPs, on the immediate and delayed tests owing to the already established parameters of Persian, which apparently abated the impact of various feedback types they had already received. This finding provides further support for the uninterpretable nature of RCs.

An alternative explanation can be offered with regard to Feature Detection Approach (FDA) of input processing (Ashcraft, 2002), according to which various stimuli encompass a combination of different features that are fragments or components forming the totality of the stimulus. What the human mind does is to break apart the whole data into the core features they contain and to check various features against the prototypes it contains. Attention plays a paramount role in this model. First, one needs the cognitive resources to focus on the input, on the conceptual mental representations or on both simultaneously. Secondly, even when the attentional resources are available and one is capable of concentrating, attention also involves selection and choice of the object of attention. This process is more time-consuming at the early stages of first language development, as well as pre-advance levels of L2 learning particularly when some sort of stress constrains one's performance. Time and anxiety generated from the testing environment, on the one hand, and similarity of the 40 items, on the other, could have tightened restrictions up on the participants' processing capacity and caused confusion. The results of the present study also confirmed the findings of Kim & Mathes (2001), Carroll (2001), and Sanz (2004) who reported no statistically significant differences in the scores obtained by participants who had received implicit and explicit feedback.

With regard to the findings from the writing test, however, the improvement in the production of RCs in the MF group underscores the necessity of output production mingled with metalinguistic awareness. The findings might be substantiated in terms of Schmidt (1990), who accentuated noticing as the prerequisite and sufficient condition for the conversion of input to intake. Schmidt further identified frequency of a form, perceptual saliency, instruction, the current state of learners' interlanguage, and task demands as cornerstone requirements for noticing to take place. Noticing might happen at different stages of teaching and learning. The proponents of processing instruction underline the significance of frequency of occurrence and perceptual saliency and opt for techniques like input flooding and input enhancement that implicitly draw learners' attention to formal features of the target language during exposure at the pre-view or view stages of teaching. Advocates of the output hypothesis, on the other hand, endorse various forms of negative evidence proposing that inclusion of feedback on learners' output helps learners consolidate what they have learned and serves to escalate the effectiveness of instruction in the long run (Swain 1985; Swain & Lapkin 1995). Further scrutiny can shed more light on the extent to which positive and negative evidence might enhance learning of RCs by Iranian learners.

Moreover, the findings revealed that the MF group surpassed other feedback groups on the writing post-test and achieved higher levels of accuracy in the production of RCs. This achievement might be germane to the more extended time they had to exploit the metalinguistic knowledge they had achieved during the course. The results provide support for the role of attention and output (Swain 1985), as well as noticing (Schmidt 1990), as prerequisites for effective learning. The findings are in line with the views reported by Carroll & Swain (1993), Rosa & Leow (2004), Lyster (2004), and Sheen (2006), who asserted the paramount role of explicit feedback in SLL. Nevertheless, the findings call into question those of DeKeyser (1993), who found no difference between the group receiving extensive explicit feedback, or metalinguistic feedback here, and the group receiving limited explicit feedback, which might be resembled to corrective feedback.

The findings from the present enquiry revealed that the error hierarchy for relativization errors made by Farsi-speaking EFL learners was substantially similar to the Accessibility Hierarchy (AH) difficulty order both in the recognition and in the use of RC Types. This, in turn, provides additional evidence for the long-established belief that RCs pose serious learning problems to the multitude of Persian-speaking English learners and that the difficulty is universal and owing to structural differences between English and Persian. The slight recognition gains of the groups of participants in recognizing formal features of RCs and the observed raise in their mean scores on the focused grammar tests might be attributed to the common feature they all shared which was provision of negative evidence on their output. The common experience of language teachers provides evidence for the socio-cultural propensity of Iranian learners to feedback. The same tendency might elucidate the prior performance of the MF group on the writing test.

It should be borne in mind, nevertheless, that like many other features of learning, noticing might be subject to individual differences that can exert influence on the nuances of what is noticed, how it is noticed and how noticing might contribute to learning. The participants in the present study were not differentiated in terms of their individual differences. Thus, one fertile soil for further research is to examine the impact of the same independent variables with reference to learners' cognitive styles, dominant multiple intelligences, or other personal characteristics. The findings will definitely complement those of this and previous studies and enrich our understanding of the role feedback and attention play in learner-centered education.

Moreover, the present study concentrated on the role of three feedback

types, excluding the impacts of positive evidence provided in form-focused techniques of input flooding and input-enhancement. Incorporating these variables in a further study will definitely cast light on our understanding of the extent to which positive and negative evidence might differ in directing Persian-speaking EFL learners to formal features of RC structures.

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ABSTRACT

The present study compared the impact of metalinguistic feedback, explicit feedback, and implicit feedback on the recognition and production of relative clauses in fifty-nine intermediate Persian-speaking English learners' performances. The three groups were matched according to the instructional time, content, and methodology and received different feedbacks on their writings for eight sessions. Analysis of the research data obtained from an immediate and a delayed 45-item multiple-choice focused grammar test and writing post-test displayed the difficulty hierarchy of learning relative clauses. Significant improvements on the immediate post-test for all groups were observed, but no effect on the delayed posttest was found. The metalinguistic feedback group, however, achieved significantly higher levels of accuracy in their use of relative clauses on the writing post-test. The findings support the Interpretability Hypothesis and the Complex Adaptive System Principles Model and suggest that metalinguistic knowledge can serve as compensatory mechanisms to the correct production of relative clauses.