

## **The Effect of Teaching Metacognitive Listening Strategy during Shadowing Activity on Field-Dependent and Field-Independent EFL Learners' Listening Comprehension**

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### **Abstract**

This study aimed to compare the effect of teaching metacognitive listening strategies through shadowing activity on the listening comprehension of field-dependent (FD) and field-independent (FI) EFL learners. Since the researcher had access only to female participants, 85 female EFL learners from a language institute in Tehran, at the pre-intermediate level of proficiency with the age range of 18-35 were selected out of the initial 120 participants based on their performance on a piloted PET. The Group Embedded Figures Test (GEFT) was administered to the selected participants in order to categorize them into the two experimental groups (49 FD and 36 FI). The participants including both FD and FI sat in several classes. During a five-week instruction period (twice a week), both groups practiced listening comprehension for 45 minutes through a combination of shadowing activity, and metacognitive strategy instruction with no difference in treatment. The results of the independent samples t-test demonstrated that there was no significant difference between listening posttest scores of FI and FD groups. Therefore, it was concluded that metacognitive strategy training coupled with shadowing activity could be equally beneficial in terms of listening proficiency for all students regardless of their perceptual tendency (FD/FI). The findings of the present study have implications for language teachers regarding metacognitive strategy training and listening comprehension enhancement.

**Keywords:** field-dependent/independent, listening comprehension, listening strategies, metacognitive strategies, shadowing

### **Introduction**

Obviously, listening is viewed as one of the most important language skills and individual needs to develop, particularly, in English as Foreign Language (EFL) contexts (Nation & Newton, 2009; Vandergrift, 2007). Accordingly, second language learners try to make sense of what L2 speakers say, making their best to access different kinds of aural and visual L2 texts. As Nation and Newton (2009) assert, listening provides the L2 learners with information through which they can build up the knowledge required for using the language; and when this knowledge is built up, the L2 learners are able to speak. It is likely that listening comprehension would ameliorate through the use of listening comprehension strategies.

In the same vein, Vandergrift (2007) maintains that the mental processes employed by the listener to make sense of the spoken English are generally interpreted as listening comprehension strategies. Furthermore, as discussed by Cohen (2000), a large number of researchers who are researching L2 listening agree that listeners usually fail to effectively use listening tasks while they apply such strategies on their own. Goh (2002) notes that the studies recently conducted by scholars on the potential contributions of interactive listening to communication have dealt with the learners' cognitive and metacognitive abilities and comprehension processes while they are listening. Research on the instruction of listening comprehension strategy has indicated that learners can be taught to make use of strategies, and that these strategies enhance the quality of their listening comprehension (Liu, as cited in Serri, Boroujeni, & Hesabi, 2012). Metacognitive and shadowing strategies are two of these important strategies. As Oxford (2001) holds, styles and strategies serve as the main factors enabling learners to find how and how well they have acquired a second language or a foreign language. As Streufert and Nogami (1989) maintain, the majority of studies in the field of learning styles have dealt with perception or cognition.

The review of related literature reveals two main types of cognitive learning styles, namely, field-dependence and field-independence. These styles are concerned with various ways whereby learners process information. Actually, as Keefe (1979) points out, field-dependence/independence dichotomy has to do with the extent to which an individual uses an analytical versus a general approach to experience his/her surrounding environment.

According to researchers (e.g., Morley, 1999; Scarcella & Oxford, 1992), listening is viewed as the skill most frequently used by people. In fact, listening is pivotal to all students throughout all levels of their educational development (Coakley & Wolvin, 1997; Feyten, 1991). Accordingly, Underwood (1989) spells out that listening is described as the individual's activity of paying attention to and trying to derive meaning from something he/she is hearing. The more comprehensive definition has been introduced by other researchers, putting emphasis on the active and conscious nature of listening. That is, they deal with essential information one extracts from context and background knowledge. Such an active process is dependent on various strategies in order to accomplish the objectives of the task (O'Malley, Chamot, & Kupper, 1989).

Undoubtedly, listening is considered as an essential component of the communication process, used in life situations on the daily basis. Given the statistical results of research (e.g., Holden, 2004), adults are found to allocate the following time portions while communicating with others: listening (40-50%), speaking (25-30%), reading (10-15%), and writing (10%). As a matter of fact, listening comprehension is viewed as an active skill as well as a conscious process, providing listeners with a means to construct meaning. It also uses cues retrieved from contextual information and existing knowledge (O'Mally, et al., 1989).

Mendelsohn (1994) maintains that a skillful listener should possess the capability to process the linguistic forms (speech speed and fillers) as well as the ability to take part in an interaction with the aim of making sense of the whole message of discourse in various genres. It does not require the individual to understand every word. However, he/she also must know how to engage in processing and judging the illocutionary force of a piece of speech so as to figure out the meaning of connected speech in a particular setting as an act of real communication.

Research (Shen, Guizhou, Wichura & Kiattichai, as cited in Gilakjani & Ahmadi, 2011) shows that listening comprehension entails the individual's active engagement, effort and practice during listening. This requires using strategies to make listening more effective. Strategies are concerned with the complex procedures used by the people to carry out tasks (O'Malley & Chamot, 1990). Vandergrift (1999) says that the acquisition of strategy makes an

important contribution to listening training as strategies are viewed as conscious tools through which learners can channel and ascertain their own comprehension and response. Cognitive and metacognitive strategies are two of these strategies.

The term "cognition" belongs to the field of cognitive psychology, used to explain the ways through which the individual process, recognize, encode, store information in memory for various lengths of time. This information is retrieved from storage to serve different purposes (Biehler & Snowman, 1993). Metacognitive strategies are concerned with being aware of learning. Put it other way, learners learn how to learn by the application of metacognitive strategies (Ridley et al., 1992).

Vandergrift (1999) believes that the acquisition of strategy makes an important contribution to listening training given the fact that strategies are viewed as conscious tools used by learners to channel and assess their own comprehension and response. Shadowing is a kind of strategy employed by learners to enhance their listening comprehension.

Lambert (1992) describes shadowing as a tool which is concerned with paced parrot-style auditory tracking task. As Tamai (1997) notes, shadowing is not a passive activity, instead it is considered as a dynamic and cognitive activity which enables learners to track and vocalize the heard speech as clearly as possible during the time they are listening. In fact, the very act of repeating incoming speech along with monitoring the shadowed material cause many areas of the learners' brains, particularly, the language centers to be actively engaged (Kadota, as cited in Hamada, 2012).

Some researchers including Hamada (2011, 2012), Kato (2009), Mochizuki (2006), Kuramoto, Nishida, Isobe, and Shiki (2010) have investigated the impact of shadowing on listening comprehension skills, reproduction rate, and working memory. Moreover, shadowing entails learners' role to fully activate their cognitive processes in the brain (Hamada, 2012). Kadota (2009, as cited in Hamada, 2015) concluded that when students engage in listening to heard speech and reproducing it simultaneously, it becomes challenging or impossible for them to monitor their performance on-line.

Brown (2007) notes that cognitive style is described as the connection between personality and cognition as well as how a person learns things generally and how he/she attacks a problem. This ability seems to depend on a

vague connection between personality and cognition. Field-Dependence/Independence as two important cognitive styles were introduced during the 1970s and they involve a particular way employed by a person to process information. According to Witkin et al. (1977), there can be a contrast between analytic and holistic (Gestalt) individuals (Khatib & Hosseinpour, 2011). The literature characterizes field-dependent (FD) learners as persons who focus on a global organization of the surrounding field. They perceive components of the field as fluent. They rely on the surrounding setting and its cues and structure from their environment, making the learning process dependent on their experience in that environment (Wooldridge & Haimes-Bartolf, 2006).

In the same vein, the literature characterizes field-independent (FI) learners as persons who can see the discrete parts of the field, making them distinct from the organized background. These people are described by referring to their analytical approach and capabilities to solve problems independently (Wooldridge & Haimes-Bartolf, 2006). Some scholars believe that analytic or field-independent learners tend to outperform others regarding the deductive method of learning (Abraham, as cited in Ranalli, 2001). They come to conclusion that participants with the higher GEFT scores do better in terms of their deductive learning. Based on the findings of some studies, field-independent individuals tend to avoid talking to others. Instead, they are inclined to find solutions to problems for themselves. These individuals are not viewed as sociable, tending to learn by themselves. On the other hand, FD learners are sociable people, working well in groups. They prefer interacting more as well as having more contact with other L2 speakers (Dornyei & Skehan, as cited in Khatib & Hosseinpour, 2011).

The study carried out by Davis (2006) showed that field-dependent individuals are extrovert with external motivation. They are inspired by their peer groups and authority figures. They are typically introvert and intrinsically motivated, choosing competition and selection of activities and capability to design studies and work structure. Regarding various models of listening comprehension process (bottom-up and top-down processes), it is claimed that FD learners prefer concentrating on the “whole picture”, using top-down processing. In contrast, FI learners concentrate on details, breaking down the

wholes into pieces to derive their own hypotheses. They use bottom-up processing (Ehrman & Leaver, as cited in Alharthi, 2015).

Many research studies have been carried out on the efficacy of the instruction of metacognitive listening strategy on Iranian EFL learners' listening skill (e.g., Birjandi & Rahimi, 2012; Dousti & Abolfathias, 2013; Rasouli, Mollakhani & Karbalaei, 2013). In addition, several studies (e.g., Hamada, 2011, 2012, 2015; Kato, 2009) within EFL contexts have sought to examine the mechanism of shadowing to investigate its potential positive impact on the performance related to listening such as pronunciation, listening comprehension skills, as well as working memory. The research on shadowing with respect to learners' perceptions (Karasawa, 2009) and levels of cognitive complication (Kurata, 2007) has indicated that shadowing is cognitively complicated. Moreover, the differences among the learners regarding their learning styles have also been shown to influence their language learning (Oxford, 2001). Yet, no study has been done to embed metacognitive strategies into shadowing activity in order to render it cognitively less demanding and more useful for L2 learners' listening comprehension. Therefore, the current study aimed at answering the following research question:

**RQ:** Is there any significant difference between the effect of teaching metacognitive listening strategy during shadowing activity on field-dependent and field-independent EFL learners' listening comprehension?

## Method

### Participants

In this study, 85 female EFL learners from a language institute in Tehran, at the pre-intermediate level of proficiency with the age range of 18-35 were selected out of the initial 120 participants based on their performance on a piloted PET. In order to categorize the homogenized participants into two groups of field-dependent and field-independent the researcher administered "Group Embedded Figures Test (GEFT)". Based on their performance on the test, participants whose scores were 11 or lower were considered as field-dependent (FD) and those who scored 12 or higher were categorized as field-independent (FI) learners. The results of the test indicated that 49 individuals were FD and 36 were FI. The participants were from different cities with a



wide variety of socio-cultural and ethnographic backgrounds. Furthermore, almost all of them had a university degree in different fields.

### **Instrumentation**

The following instruments and instructional materials were utilized in this study in order to implement the treatment and to collect the data:

**Preliminary English Test (PET).** Preliminary English Test (PET) is an English language proficiency test, which is considered as one of the standardized tests from the series of Cambridge ESOL. In this study a sample of PET was administered to participants in order to homogenize them in terms of language proficiency. This test was adopted from the book 'Past Examination Papers', published December 2008, by university of Cambridge, ESOL Examinations. PET is designed for people who can use every day written and spoken English at intermediate level. It tests four language skills: Reading, Writing, Listening and Speaking. The Cronbach's Alpha was employed for this purpose and an acceptable reliability of .93 was obtained.

**Writing Rating Scale.** The rating scale used for the writing section of PET, was based on Cambridge General Mark Schemes for Writing. The score given based on the rating scale ranges from 0-5, which was then translated into a score of 15 for each participant. The criteria for assessing the writing included relevance, understandability, accuracy, coherence and organization and the range of vocabulary used.

**Speaking Rating Scale.** Cambridge General Mark Schemes for speaking section was used as the rating scale to rate the participants' oral proficiency. The rating scale is based on the criteria ranging from 0-5, which was then translated to 15 based on the scoring guidelines. There were five analytic criteria based on this rating scale including grammar, vocabulary, discourse management, pronunciation, and interactive communication.

**The Group Embedded Figures Test (GEFT).** Group Embedded Figures Test (GEFT) is one of the most widely used tests in the Second Language Acquisition research to investigate FD/FI learning styles. It is a paper-and-pencil based test, developed by Witkin and his associates in 1971. Skehan (as cited in Khatib & Hosseinpur, 2011, p. 2) indicates that applicants are provided

with a booklet with simple visual figures embedded inside progressively more complicated visual figures.

The applicants are expected to locate the hidden simple form or figure in the more complex one in a given time (12 minutes). Eighteen complex figures make up the GEFT, with each of them being an embedded simple figure. According to the number of correct answers, the GEFT scores can range from 0 (the most FD or global) to 18 (the most FI or analytic). Witkin et al. (1971) reported that the validity of GEFT calculated between GEFT scores and the Embedded Figures test outcomes has produced correlation coefficients of .82 for men and .79 for women.

**Story book for shadowing activity.** In order to control the difficulty of content and vocabulary used in the textbook, and also to provide a motivating material for learners, the researcher selected an audio-book version of *Anne of Green Gables* (Montgomery, retold by Collins) for daily shadowing training. *Anne of Green Gables* is from the second stage of Penguin Active Reading Collection with 600 headwords, which is appropriate for the participants' level of proficiency. The first two chapters of the book were taught during the instruction.

**Posttest of Listening.** The test which was used as posttest in order to examine FD and FI learners' listening comprehension skill after the treatment was the listening section of another PET extracted from the book "Preliminary English Test for Schools, published by university of Cambridge, ESOL Examinations (2009). The reliability of this test was calculated through piloting and running Cronbach's alpha. The results indicated that the posttest of listening had a reliability of .814 which is considered acceptable (Brown, 2007).

### **Procedure**

In this section the steps the researcher took in order to select the participants, provide them with the treatment, and compile the data are explained in a chronological order:

**Pre-Treatment Stage.** First of all, a PET was administered to a group of 30 female students with almost similar characteristics to the target sample in order to carry out item analysis and examine the reliability of the test. The



results of item analysis indicated that three items in the test were malfunctioning which were removed from the test to add to its reliability. Then, the researcher administered the piloted PET to 120 pre-intermediate female students in order to select a homogenized sample of participants in terms of their language proficiency. Based on the results of the test, 85 students whose scores fell between one standard deviation above and below the sample mean were selected as the participants of the study in order to discard the learners with very high and low language proficiency level in the selected sample.

Then, the Group Embedded Figures Test (GEFT) was administered to the 85 participants in order to categorize them into two groups of FD and FI. The results of GEFT showed that 49 individuals were FD and 36 were FI. These participants were then put into two groups of FD and FI. It should be noted that these two groups received the treatment sitting in several classes. Both experimental groups practiced listening comprehension through shadowing activity and applying metacognitive strategies, with no difference in instruction in order to see whether there is a significant difference between the effect of the treatment on the FD and FI learners' listening comprehension. The homogeneity of the two groups was also checked in terms of their listening comprehension at the outset.

**Metacognitive Strategy Training and Shadowing Activity (Treatment).** The participants practiced listening comprehension through shadowing or online tracking of the speech they heard. This online process was followed for five weeks (twice a week for 10 sessions), during which the participants practiced the version of the shadowing procedure provided by Kadota and Tamai (2004). The researcher used this model since it has shown to result in significant improvement in listening comprehension skills (Hamada, as cited in Hamada, 2015). The empirical studies conducted by Shiki, Mori, Kadota and Yoshida (2010) and Hamada (2012) have proposed five or six repetitions of shadowing for listening improvement, so the researcher did the same in this study to see the best possible result.

During the five weeks of shadowing practice, which occurred during 10 sessions in total, both experimental groups also received metacognitive listening strategy training. In fact, in this study metacognitive strategies were

embedded into shadowing activity in order to maximize the listening achievement. Therefore, the procedure results from the interaction between two listening techniques, which approximately took 45 minutes out of two hours in each session.

At the very first session of the training, the researcher explained different learning strategies (cognitive, metacognitive, and socio-affective strategies). She also talked about the importance of metacognitive strategies and their superiority to other strategies to help students become more self-regulated in the language learning process. Likewise, two classes received metacognitive strategy training during the semester according to the model proposed by Vandergrift and Tafaghodtari (2010) and the strategies included monitoring, evaluation, planning, and selective attention. At every stage, the students should work on shadowing the whole target passage with no pauses. The researcher as the instructor played the audio (CD) and all participants should continuously shadow, with no pair working involved during the process of shadowing. The steps taken during the procedure based on the strategy training and shadowing activity are as follows:

- The first stage was pre-listening which is also called planning/predicting stage. During this stage, the students were informed of the topic of the story, and they were asked to predict the types of information based on their background knowledge and possible words they might hear. To this aim, the learners were given the title of the story and asked to write down some of the keywords they would hear in the story, and they were also encouraged to come up with a plot.
- The second stage was selective attention, which is also called 'first listen' or 'first verification' stage. At this stage, the students listened to the passage, during which they verified their initial hypotheses through selectively paying attention to the sections of the audio as required by each individual based on their notes at stage one.
- At the third stage, students started shadowing practice: they listened to the text and then mumbled or silently shadowed the incoming sounds twice without the text. To assist learners in doing so, the researcher

paused the audio after each sentence so that the learners could manage to follow the speaker.

- At this point, which was an initial evaluation stage, the participants worked in pairs to compare their predictions and the information they comprehended during the shadowing practice. The researcher tried to encourage them to discuss points of disagreement and to try to modify their hypotheses. More specifically, at stage four, the participants worked in pairs to find out the possible ambiguities involved in their comprehension of the text for the next stage.
- During this stage, students performed parallel reading, which included shadowing while reading the text, and checked their understanding against the script for three minutes. Then, using metacognitive strategies, they verified points of earlier disagreement, made corrections, and wrote down additional details that they had understood during the second phase of shadowing.
- As the next stage of shadowing procedure, the students shadowed for two more times and reviewed the text for three minutes, to clarify difficult sounds and the meaning of the phrases, sentences and entire text. As this second verification stage, they had a class discussion in which all class members were required to verify the main points and reconsider more details. They also reflected on how they had arrived at the meaning of certain words or parts of the text.
- To complete the process of shadowing, the students listened to the passage for the last time and shadowed the text. This stage involved content shadowing, which focused more on the meaning. At the final verification stage, students listened particularly for the information disclosed in the class discussion, in case they had failed to recognize it earlier.
- At the final stage called reflection stage, each student completed a personal reflection on the listening process and wrote goals for the next listening activity based on the earlier discussion of strategies.

**Post-Treatment Stage.** After the treatment, participants in both classes were tested in terms of listening comprehension skills through the listening section of another version of Preliminary English Test (PET), which is considered as posttest in the present study.

### Data Analysis

In line with the research question and the design of study which was posttest only, different descriptive and inferential statistics were utilized. First, the reliability of PET was calculated through Cronbach's Alpha formula after piloting the test. To provide the data which were needed to show the homogeneity of the learners in terms of language proficiency, descriptive statistics such as standard deviation and mean score were used. As for inferential statistics, an independent samples t-test was conducted to analyze the scores obtained from posttest.

## Results

### The Results of the PET Pilot Study

In this study PET was utilized to establish the homogeneity of participants in terms of language proficiency. The reliability of this procedure was dependent on the reliability of PET, which was first piloted on a sample of 30 EFL learners. Table 1 shows the descriptive statistics and the results of Cronbach's Alpha during the pilot phase.

Table 1

*Descriptive Statistics of PET (Pilot Study)*

	Statistic								
	Mean	Variance	Std. Deviation	Minimum	Maximum	Skewness	Kurtosis	Kolmogorov-Smirnov <sup>a</sup>	Cronbach's Alpha
PET Pilot	38.6	6.033	2.456	34.00	42.00	-.397	-.979	.112	.926
PET Pilot Writing	7.50	2.879	1.696	4.00	11.00	.000	-.391	.200	
PET Pilot Speaking	7.26	5.099	2.258	3.00	12.00	.222	-.536	.200	

According to the results of the pilot study, reliability index of PET turned out to be 0.93. It should be noted that two items in the reading section and one item in the listening section were removed due to the fact

that they adversely affected the reliability of PET. Table 2 shows the results of the reliability analysis before removing the malfunctioning items.

Table 2

*Cronbach's Alpha of PET before Removing the Malfunctioning Items*

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.919	.921	62

The reliability of the speaking and writing sections of the PET were estimated through employing inter-rater reliability procedure. Two raters scored the writing and speaking performance of the pilot group and the degree of correlation between the sets of scores by the two raters was used as an index of reliability. Due to the fact that writing and speaking scores were normally distributed based on the results of Kolmogorov Smirnov test of Normality (Table 1) ( $p=.2>0.05$ ), Pearson correlation coefficient was used to estimate the inter-rater reliability. Table 3 shows the results of Pearson correlation coefficient between the scores given by the two raters for speaking and writing performances of the pilot students.

Table 3

*Inter-rater reliability coefficient for PET Writing and Speaking (Pilot Study)*

Writing		Writing sample rater 2
Writing sample rater 1	Pearson Correlation	.856**
	Sig. (2-tailed)	.000
	N	30
Speaking		Speaking sample rater 2
Speaking sample rater 1	Pearson Correlation	.921**
	Sig. (2-tailed)	.000
	N	30

\*\* . Correlation is significant at the 0.01 level (2-tailed).

As seen in Table 3, the correlation coefficient between the two raters' scores came out to be 0.86 for the writing ( $p=.0005<.05$ ), and 0.92 for the speaking scores ( $p=.0005<.05$ ). Therefore, significant consistency was observed between the ratings of the two raters and either rater's scoring could be considered in the main administration of PET. Since in the present study, the listening section of another version of PET, "Preliminary English Test for Schools", published by university of Cambridge ESOL Examinations (2009), was used as the posttest, this listening test was also piloted on 30 participants having similar characteristics to the main participants and Cronbach's Alpha was run on the obtained scores.

Table 4 presents the descriptive statistics and the results of Cronbach's Alpha for the posttest of listening pilot phase. According to the results of the pilot study, reliability index of this PET turned out to be .814, which was an acceptable index of reliability.

Table 4  
*Descriptive Statistics and Cronbach's Alpha of PET Posttest Listening (Pilot phase)*

	Minimum	Maximum	Mean	Std. Deviation	Variance	Skewness	Kurtosis		Cronbach's Alpha	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error	
Listening Posttest Pilot	7.00	25.00	14.900	5.26111	27.679	.315	.427	-.939	.833	.814

**The Results of PET Main Administration.** As stated before, initially 120 language learners were selected based on their availability. The selected learners took the PET so that their PET scores could be used as a criterion to single out those participants who had the closest scores to the mean score. In other words, the attempt aimed at selecting only participants with homogenized English language proficiency. Moreover, since inter-rater reliability was established during the pilot phase, one of the scorers scored the writing and speaking sections of PET. Table 5 shows the descriptive statistics of the 120 pre-intermediate language learners.



Table 5  
*Descriptive Statistics of the PET Main Administration*

	N	Minimum	Maximum	Mean	Std. Deviation
PET	120	51.00	86.00	67.9167	7.47835
Valid N (listwise)	120				

Table 5 shows that students had a mean score of 67.92 (SD=7.48) on PET. To choose those students with homogenized language proficiency, students whose PET scores fell within the range of mean score  $\pm 1$  SD were extracted from the pool of 120 language learners which resulted in a sample of 85 students. Table 6 shows the descriptive statistics of the selected participants.

Table 6  
*Descriptive Statistics of the Selected Sample*

	N	Minimum	Maximum	Mean	Std. Deviation
PETHomogenized	85	60.00	75.00	67.4941	3.86259
Valid N (listwise)	85				

As indicated in Table 6, the mean score of the selected students turned out to be 67.49 (SD=3.86). The mean score of the selected students did not change a lot from that of the initial pool of students, but their SD had almost half reduced, which is an indication of a more homogenized sample of participants. After establishing the homogeneity of students they were further divided into two groups of FD and FI based on their performance on GEFT. Table 7 shows the descriptive statistics of the two groups of FD and FI on PET.

Table 7  
*Descriptive Statistics of the PET after Group Assignment*

	FD	N	Mean	Std. Deviation	Std. Error Mean	Kolmogorov-Smirnov		
						Statistic	df	Sig.
Listening	FI	36	69.889	2.40819	.35136	.093	36	.190
	FD	49	70.142	2.04090	.34871	.091	49	.190

As demonstrated in Table 7, a subtle difference is observed in the PET mean score of the two groups. In order to see whether this difference was significant

prior to the treatment, an independent samples t-test, which was legitimate due to the normality of the distribution of scores (Kolmogorov-Smirnov results in Table 8) was run. Table 8 shows the results.

Table 8  
*Results of Independent Samples t-Test on Field-Dependent and Field-Independent Groups' PET (Pre-Treatment Stage)*

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
								Lower		Upper
Listening	Equal variances assumed	1.224	.272	.824	83	.23	-.25397	.50631	-.683	1.324
	Equal variances not assumed			.824	82.0	.2356	-.25397	.49531	-.683	1.324

Based on the results of Table 8, no significant difference was observed in the mean score of the participants of the FD and FI groups and homogeneity was established prior to the treatment. As a further safe guard, the two groups were also compared in terms of their listening comprehension. For this purpose, the researcher drew the descriptive statistics for the listening part of the PET. The results are demonstrated in Table 9 below.

Table 9  
Descriptive Statistics of the PET Listening after Group Assignment

Group Statistics								
	Grouping	N	Mean	Std. Deviation	Std. Error Mean	Skewness Stat.	Std. Error of Skewness	Skewness Ratio
Listening	FI	36	13.6111	1.91651	.31942	.387	.393	.984
Pretest	FD	49	13.3878	1.51130	.21590	-.097	.340	-.285

The mean scores of both groups as demonstrated by Table 9, were very close to each other and the skewness ratios fell within the acceptable range of +/- 1.96 and as a result, the researcher was able to run an independent samples *t*-test. The results are presented in Table 10.

Table 10  
Results of Independent Samples *t*-Test on Field-Dependent and Field-Independent Groups' PET Listening (Pre-Treatment Stage)

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Listening Pretest	Equal variances assumed	1.532	.219	.601	83	.550	.22336	.3718	-.51626	.96297
	Equal variances not assumed			.579	64.47	.564	.22336	.3855	-.54674	.99345

As illustrated in Table 10, with equal variances assumed ( $F= 1.532$ ,  $p= .219 > .05$ ), there was no significant difference between the listening mean score of the two groups ( $t= .601$ ,  $df= 83$ ,  $p= .55 > .05$ , two-tailed) and thus homogeneity between the two groups was also established in terms of the dependent variable of the study.

**Posttest Results.** Before starting the statistical analysis related to the comparison of scores between the two groups of FD and FI students on the posttest, it deemed necessary to examine the data for normalcy and decide accordingly on parametric or non-parametric statistics. Therefore, the descriptive statistics of the listening posttest were extracted and normality of data was explored using Kolmogorov Smirnov test. The descriptive statistics of data and output of Kolmogorov Smirnov test of normality are found in Table 11.

Table 11  
*Descriptive Statistics of the Listening Posttest*

	FD	N	Mean	Std. Deviation	Std. Error Mean	Kolmogorov-Smirnov		
						Statistic	df	Sig.
Listening	FI	36	17.7222	2.76314	.46052	.096	36	.200*
	FD	49	17.1837	3.38301	.48329	.091	49	.200*

Table 11 indicates that all the significant levels for listening posttest scores of the two groups (FD and FI groups) are greater than the alpha level of 0.05. Accordingly, the data sets enjoy normal distribution, which suggests that parametric statistics should be used for the inferential statistical analysis. According to this table, FI and FD participants obtained almost similar mean scores on the posttest (17.72 and 17.18, respectively). In order to see whether this mean difference was significant or not, an independent samples t-test had to be run. Since the distribution of scores enjoyed acceptable normality, running the independent samples t-test was legitimate. Table 12 demonstrates the results of the independent samples t-test run on the posttest results of FI and FD participants.

Table 12  
*Results of Independent Samples t-Test on Field-Dependent and Field-Independent Groups' Listening Posttest*

	Levene's Test for Equality of Variances		t-test for Equality of Means							
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference		
								Lower	Upper	
Listening	Equal variances assumed	1.370	.245	.782	83	.436	.53855	.68852	-.83089	1.90799
	Equal variances not assumed			.807	82.012	.422	.53855	.66757	-.78945	1.86655

As indicated in Table 12, the Levene's test of equality of variances indicated that the two sets of scores had equal variances ( $F=1.37$ ,  $p=.24 > 0.05$ ). The results ( $t=0.78$ ,  $df=83$ ,  $p=.44 > 0.05$ , two-tailed), revealed that there was no significant difference between listening posttest scores of FI and FD groups. Therefore, it can be claimed that metacognitive strategy training during shadowing had similar effect on the listening comprehension of FI and FD EFL students.

### Discussion

The present study attempted to examine how metacognitive strategy training during shadowing affects FI and FD students' listening comprehension. Through the screening conducted by PET scores, 85 students with similar language proficiency underwent experimentation. Out of the 85 students, 36 students were FI and 49 were FD. According to the results, no differential effect was found for metacognitive strategy training coupled with shadowing on the two different cognitive styles.

The fact that metacognitive strategy training and shadowing had similar effect on the listening comprehension of the FI and FD learners could be associated with the potentials of metacognitive strategy training to equally benefit all students regardless of their cognitive styles. In other words, the effect of metacognitive strategy training might have neutralized the effect of field-

dependency and field-independency. Generally, literature is in favor of strategy use and students' achievement in language learning (Dreyer & Oxford, 1996; Green & Oxford, 1995; Griffiths, 2003; Kyungsim & Leavell, 2006; Park, 1997; Yang, 2009). It has also been claimed that metacognitive strategies are the most significant ones among other language learning strategies (Anderson, 1991), which might be another explanation for the fact that both FI and FD students similarly benefited from metacognitive strategy training. Goh (2002) asserts that metacognitive strategies are very essential because learners' awareness of metacognitive strategies is connected with effective learning in all learning contexts. The contribution of metacognitive strategies to better listening performance has also been documented in literature (e.g., O'Malley & Chamot, 1990; Thompson & Rubin, 1996; Vandergrift, 2003).

Vandergrift (2003), as an example, investigated the effect of prediction strategy on listening comprehension of 41 participants registered to learn French as a second language. He found out that students reacted positively to the prediction strategy training and highlighted the benefits of prediction strategies. He concluded that metacognitive strategy training is beneficial for listening comprehension of language learners. In addition, it can be argued that metacognitive strategy training is beneficial to all students with different learning styles on the ground that no matter how cognitively a person is oriented, that person needs to do some planning and goal setting to try to achieve them. Diaz (2014), Rahimirad and Zaree (2015), and King (1999) all commented that metacognition deals with higher order thinking in which one can control and monitor his own action. This element of planning and self-control is evident in the conceptualization of metacognition, which is in line with previous studies regarding metacognition and language achievement. According to Oxford (1990), through using metacognitive strategies, students are allowed to assess their own learning pattern and progress. Therefore, it is justifiable to expect no significant difference between the effect of metacognitive strategies on listening comprehension of FI and FD students.

Apart from what was discussed above and in order to explain the equal effect of metacognitive strategy training on the listening skill of FD and FI EFL learners, another issue also needs to be taken into account. The current study mixed the metacognitive strategy training with shadowing which might further explain why the FD and FI learners had equal performance after the treatment



period. The point is that metacognitive strategy training was coupled with shadowing that boosted the effect of metacognitive strategy training through causing memory boost and remembrance (Kadota, 2007). In other words, shadowing in listening facilitates the listening process through the transfer of micro levels to macro levels (Tamai, 1992). In Iranian EFL context, studies by Amoli and Ghanbari (2013), Nekoueizadeh and Bahrani (2013), and Zakeri (2014) have pointed to the positive effect of shadowing on oral accuracy. Hamada (2012) also pointed to the use of shadowing with a focus on learner awareness. In his study, he included metacognitive strategies like attention strategies, auditory monitoring, self-monitoring, and comprehension monitoring and found out that mixing shadowing and metacognitive strategy training had a higher impact on the listening of Japanese English learners. He concluded that learner awareness (metacognitive awareness) contributes to the effectiveness of shadowing.

Although cognitive style has been referred to as a stable trait (Richardson 2011), some believe it is something flexible and adaptable (Little & Singleton, 1990). Dörnyei (2005) has also pointed to style stretching as a result of training, which might explain the findings of the current study. In other words, it can be argued that metacognitive strategy training coupled with shadowing could impel the learners with different learning styles to take a convergent approach in dealing with the learning tasks.

Finally, a note of caution seems necessary with regard to the findings of the study. The fact that FD and FI students had similar performance on the listening posttest after strategy training during shadowing could also be attributed to the process of categorizing learners to FD and FI groups. According to GEFT's manual, learners with GEFT scores below 12 were considered FD and those above were considered FI. However, this procedure might be misleading because in the first place GEFT scores show the place of a person on field in/dependency spectrum with a score of 0 showing the highest degree of field-dependency and 18 showing the highest degree of field-independency. Accordingly, when the students' scores are close to the midpoint, while being classified as FD or FI, it becomes difficult to firmly state that the performance of the learners were similar in spite of having different learning styles.

The researcher encountered two limitations during the present study. First, the results of this study can be generalized only to adult learners since the researcher had passed adults T.T.C. course and according to the institutional rules, she was allowed to teach only the learners in the age range of 18 and above. The second limitation was that the researcher had access just to the female learners as she worked in a gender segregated language school.

The findings of the study have several implications for language teaching and learning. Based on the findings of the current study, teachers' awareness regarding metacognitive strategy training and listening comprehension enhancement should be raised. Moreover, teacher training programs can include strategy training in general and metacognitive strategy training in particular to prepare teachers for strategy training in language classrooms.

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