

The Effect of Metacognitive Awareness and Note-Taking Training on Iranian EFL Learners' Listening Comprehension

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ABSTRACT

The purpose of this research was to investigate how differently metacognitive awareness and note-taking training affect L2 learners' listening comprehension. To do this, sixty English language learners were selected at Zoha language institute based on their score in proficiency test and were randomly divided into three groups (twenty participants in each group). Before any treatment, a pretest of listening comprehension was conducted to make sure of learners' listening proficiency level. Three classes were assigned to one control group and two experimental groups. One experimental group received instructions to enhance their metacognitive awareness and develop their understanding of the processes underlying listening comprehension while the other experimental group received note-taking training, and for control group, there were no strategy training regarding the listening comprehension. At the end of this treatment, the three groups took a post-test to see whether the treatment had any influence on their listening comprehension. The result of One-way ANOVAs with post hoc comparisons indicated that metacognitive group significantly outperformed the other groups and so metacognitive strategies are more effective in developing L2 learners' listening comprehension. These findings suggest that employing metacognitive strategies are the most helpful factor compared to other instructions in improving L2 learners' awareness to answer listening comprehension tests. It can also be concluded that subjects do not benefit from note taking training and there were slight differences between note taking and control groups in terms of their effectiveness.

KEY WORDS: Metacognitive awareness, Metacognitive strategy, Cognitive strategy, Note-taking training and Listening comprehension.

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1. INTRODUCTION

Language proficiency consists of four skills: Listening, reading, speaking, and writing. According to Feyten (1991), listening provides more than 45% of our total communication ability, followed by speaking (30%), reading (16%), and writing (9%). It has been said that listening takes up a large amount of total communication time and leads to developing other skills in learning languages (Brown, 2001; Krashen, 1997; Nunan, 2003). Although it has been shown to be the first skill that develops faster than the three other language skills, listening is the least studied of all communication skills (Alderson & Banerjee, 2002; Buck, 2001; Vandergrift, 2007). It is also an extremely important skill for non-native English speakers (NNES) because listening is their first encounter with the language as they work toward becoming literate in English (Berne, 2004; Long, 1989; Lund, 1991). Mastering auditory comprehension of basic conversation is the first step towards fully acquiring a second language (L2) or foreign language (FL). Despite its importance, listening is not an easy skill to master, especially listening in the ESL or EFL contexts. Thus, the development of effective strategies for listening becomes significant not only for the ability to understand spoken communication but also for language acquisition. Researchers have long believed that learning strategies are essential for one to be a successful language learner. Thus, learners should be aware of their learning process and use of different strategies to achieve goal of comprehension. It has been argued that awareness of strategies and other variables in learning can have positive influences on language learners' listening development (e.g., Bolitho et al., 2003; Wilson, 2003). O'Malley and Chamot (2001) classified learning strategies into three major types: metacognitive strategies, cognitive strategies and social/affective strategies. Metacognitive strategies deploy use of knowledge about cognitive processes and consist of attempts to manipulate language learning by virtue of planning, monitoring, or evaluating. They serve an executive function. Cognitive strategies mean the steps or operations employed in solving problems that need direct analysis, transformation or synthesis of incoming information. They are directly related to the performance of certain learning tasks. Cognitive strategies play an

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operative or cognitive processing function. Social/affective strategies display a broad collection that concerns either interaction with another person or ideational control over affect.

Metacognitive strategies are considered as the most essential ones in developing learners' skills (Anderson, 1991) and it was emphasized by O'Malley *et al.* (1985) that learners without metacognitive approaches have no direction or ability to monitor their progress, accomplishments, and future learning directions. On the other hand, learners who have developed their metacognitive awareness are likely to become more autonomous language learners (Hauck, 2005). Metacognitive knowledge consists of "knowledge and beliefs about the factors, e.g. person, task, and strategic, that interacts during any cognitive activity" (cited in Vandergrift, 2010:473). Person knowledge which consists of the judgments that one makes about his/ her learning abilities and knowledge of the factors, whether internal or external, that impact the success or failure in one's learning, task knowledge which is about the demands, nature, and purpose of learning tasks, and it is meant to enable learners to consider the various factors that can contribute to the difficulty of a learning task, and strategy knowledge which helps achieve one's learning goals and choose the appropriate strategy to achieve these goals (Vandergrift, 2006). However, the capacity to use this knowledge is as important as the knowledge itself (Nelson, 1996; Sternberg, 1998). According to Vandergrift (2010) suggested that the proposed "process-based approach", in which L2 listeners may use such strategies as prediction, monitoring, evaluating, and problem solving, can help develop their metacognitive knowledge. Similarly, Goh (2008) lists some of the positive effects of metacognitive strategy training on listening comprehension. She states that it improves students' confidence and makes them less anxious in the listening process. She also believes that weak listeners in particular benefit much from the training. Moreover, the importance of metacognitive listening strategies awareness has been proved in literature. The focus on L2 listening was initially on the use of strategies for listening comprehension (Rubin, 1994). Many studies focused on L2 learner's use of metacognitive strategies for coping with difficulties and facilitating comprehension (Bacon, 1992; Goh, 1998; Mareschal, 2002; O'Malley and Chamot, 1990; Vandergrift, 1997, 2003). On the other hand, cognitive strategies are those that control the input or use a certain skill to complete a particular task (Holden, 2004; Meang, 2006; Griffith, 2004; Azumi, 2008; Martinez, 1996). Moreover, cognitive strategies are separate learning activities and they are basically activities that are used by learners in order to understand the linguistic input and get knowledge. Note-taking as a type of cognitive strategies aims to solve problems in leaning. However, there are still a lot of debates concerning the effect of note-taking. Some scholars agree that note-taking brings learners a lot of benefits. Others have different views. Farse (1970) indicated that note-taking helps learners pay attention to their topic and avoid distraction. According to Peter and Mayer (1987), note-taking helps learners to link new and old information and thus form new schema. In contrast, some studies found that note-taking did not facilitate examinees' performance. Berliner (1971) assumed that note-taking does not always benefit listening in the perspective of psychology. Only the learners with good memory span can benefit from memorizing and taking notes. But learners with short memory span would rather listen carefully than to bury themselves with note-taking. Sebranek and Meyer (1985) pointed out "do not, however, take so many notes that you miss some of the important points or the overall idea of what is being said." Lin's (2004) study also proves that students spend too much time in taking notes, so they cannot concentrate on their listening.

2. RESEARCH METHODOLOGY

This study aims at answering and analyzing the following research question and hypothesis:

2.1 Research Question and Hypotheses

1. Do metacognitive awareness and note-taking training affect on EFL learners' listening comprehension differently?

H0: Metacognitive awareness and note-taking do not affect on EFL learners' listening comprehension differently.

H1: Metacognitive awareness and note-taking affect on EFL learners' listening comprehension differently.

2.2 Participants

For the present study, out of 98 language learners at a private language institute in Tabriz, 60 participants (female) with the age range of 15-23 were selected as upper-intermediate language learners based on their scores on proficiency test. Based on systematic random sampling, the participants were divided into 3 classes, 20 participants in each class. A pre-test of listening comprehension was administered to guarantee the homogeneity of participants in their listening proficiency level. The chosen intact classes were assigned to the following groups: one of the groups, as the control group, and two others, as the experimental groups.

2.3 Instrumentation

In the current study two types of instruments were administered. A) Oxford Placement Test, B) TOFEL listening comprehension test.

Oxford Placement Test

An already determined standard placement test of Oxford University and Cambridge University (2001) was used as a proficiency test to establish participants' homogeneity. Wistner, Hideki, and Mariko (2008) found that Oxford University and Cambridge university placement test and Michigan English Placement Test are reliable and valid as L2 proficiency tests. It includes 60 multiple-choices question, cloze comprehension passages, vocabulary, and grammar sections that researcher has been used.

Listening comprehension test

As a matter of test reliability and validity, Listening comprehension tests were selected from Longman Preparation Course for the TOEFL Test by Deborah Phillips (2001). Pre and post-tests consisted of eight series conversations and talks followed by four to six questions. The total number of questions was forty. Two types of questions were included a) understanding main idea, b) getting details. The chosen excerpts were fit appropriately to the subjects' level of proficiency in terms of their length, topics, level of difficulty. Moreover, subjects were at upper intermediate level; therefore, considering their proficiency level multiple-choice tests, would be best choice for them.

2.4 Materials

The researcher selected the instructional material from several authentic sources specially designed for LC; namely, Tactics for Listening by Jack C. Richards, (2004), New Interchange Series (Richard, 2005), and TOFEL Listening texts by Deborah Phillips (2001). All the recorded listening texts presented on an audio CD player. Since the experiment lasted eight sessions, each group was taught eight listening texts. Although the listening texts which were given to the three groups were the same, the techniques used in presenting these texts and the tasks and questions assigned were different. In other words, the researcher manipulated each group differently. It is significant to say that various types of texts were chosen such as: special days, phone messages, vacation, food and nutrition, important events, Sierra club, conversation between a student and librarian, and conversation between 2 friends about making plan.

2.5 Procedure

Placement test

A standardized placement test as a proficiency test was administrated to 98 subjects at private language institute in Tabriz, Iran. After the scores of the proficiency test obtained, based on their scores, 60 participants whose scores lied ± 1 SD were selected as upper-intermediate language learners; later, based on systematic random sampling, they were divided into three classes of 20 participants.

Pre-test

A session prior to starting treatments, a pretest of listening comprehension was administered to be sure of the participants' homogeneity in their listening comprehension level. In order to establish the homogeneity of the three groups in terms of listening comprehension test, one way Analysis of Variance (ANOVA) was run to the groups' means to make sure that the all groups were homogenous with respect to their listening proficiency level and there were no significant differences among them. The results of one-way ANOVA revealed that there were no significant differences among the three groups, ($p = 0.689 > \alpha=0.05$). So, the chosen intact classes were assigned to the following groups: one of the groups, as the control group, did not receive any instruction and two others, as the experimental groups, received the treatment.

Treatment

The participants in the experimental groups received instruction for eight sessions. Each session was held twice a week and took 40 minutes. One experimental group was given instructions to enhance their metacognitive awareness, develop their understanding of the processes underlying listening comprehension, and train them in the effective use of metacognitive strategies for improving listening comprehension. The treatment was based on the model proposed by Vandergrift and Tafaghodtari (2010). Each week the participants listened to a different oral text. The steps taken during the strategy instruction stage are as follows: First, the concept of language learning strategies was explained. The focus of attention was on metacognitive awareness, and the metacognitive strategies were described. The metacognitive processes which were elaborated were planning, monitoring and evaluation. Second, the participants were informed of the topic and text type. Based on their prior knowledge, they were required to predict what information, what words and phrases they might hear from the text, and write them down. Third, after completing their predictions, students listened to the text for the first time. After listening to the text, they were asked to verify and correct what they had written down, and to add new information they understood. Forth, they discussed about what they had understood and were encouraged to modify their information. Fifth, the students listened to the text for the second time. They were encouraged to write the details they understood. Sixth, students were engaged in a class discussion, and to add more details they understood. Seventh, students listened to the text for the third time. They were encouraged to listen specifically to the information revealed in the class discussion.

Finally, students completed a personal reflection on the listening processes, noting any strategies they would use in the next listening activity.

The other experimental group received note-taking training where they were taught how to write down the main idea, important points, and answer the questions based on their notes that has been provided by listening text. The training was based on the model proposed by Dunkel (1986) and integrated some principles of Oxford (1990). According to Oxford (1990) taking notes is very important strategy for listening; therefore raw notes to become useful, learners need to organize the notes using a system. Learners in this group were taught how to take notes using T-formation. In this method the main title was written on the top line. The left side of the vertical line is for the recording of main idea, and the right side for recording details. Each class session included a pre-listening instruction, while-listening and post-listening. Based on Dunkel's suggestion, the pre-listening instruction focused on the teachers' reminding the subjects of how to predict what to hear, to recognize main idea and to take notes by writing down key words or signal words such as dates and time by using note taking system. When it comes to while-listening, the subjects were asked to listen to oral text and take notes for the first time and concentrated only on listening as well as answering the questions based on their notes for the next time. The last stage was post-listening. Based on Dunkel's (1986) suggestion that listeners have to find their problems in listening in the post-listening stage, the post-listening activity aimed to provide the subjects with an opportunity to completely understand the content. The researcher would always read each sentence of the script and would discuss meanings of the sentences with subjects to let the subjects find their problems in listening.

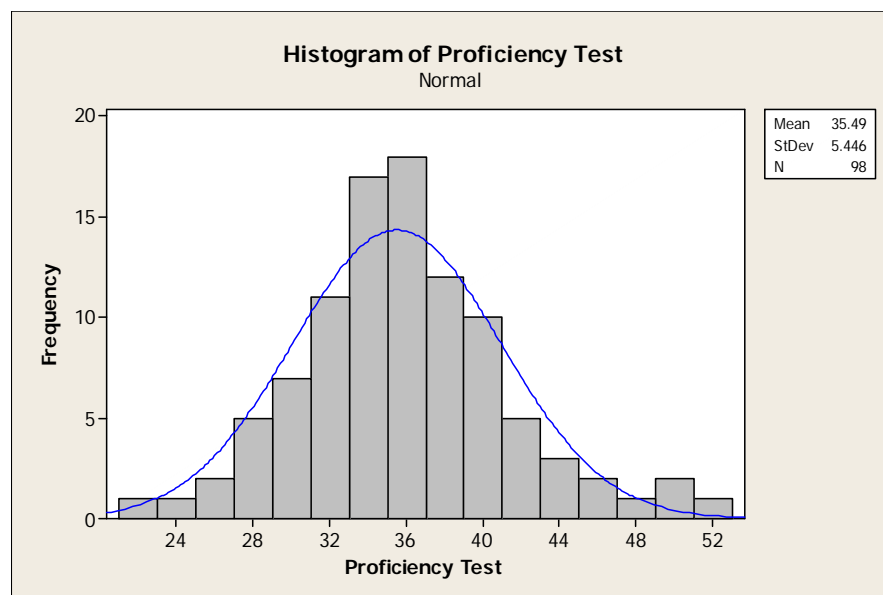
On the other hand, the participants that were assigned to control group listened to the same texts without any prediction and taking notes. Also, they did not give any opportunity to predict, to discuss, and to monitor their listening comprehension with classmate. They did not engage in any reflection on their listening, i.e. were taught in the traditional way.

Post-test

After the treatment stage was completed, another listening comprehension test with the same level of difficulty as a post-test which was appropriate to participants' level was administered to both experimental groups and control group. Finally, the raw data of scores was gathered for analysis. In order to find out the differential effects between groups after treatment, the results of post-tests between two experimental groups and control group are compared to see whether or not there were possible differences between groups in their listening comprehension test. In addition to these tests, a series of one-way ANOVA, Multiple Comparison (Tukey) tests at the significant level of $p < .05$ was used to answer the research question.

3. RESULTS AND DISCUSSION

In order to make sure that the participants are homogenous in regards to their EFL knowledge, prior to the treatment, the Oxford Placement Test (2001) as a proficiency test was administered. The data are presented in Figure 1. To do so, those learners whose scores lied ± 1 SD were selected.



As mentioned above, before the experiment a pre-test of listening comprehension was conducted to guarantee the homogeneity of participants in their listening comprehension level. As a result, the learners were twice homogenized. The descriptive statistics is shown in Table 1 and the inferential one in Tables 2.

Table 1: Learners' pre-test mean scores

	N	Mean	Std. Deviation	Std. Error
Control	20	14.3000	1.92217	.42981
Note - Taking	20	13.9000	2.07491	.46396
Metacognitive	20	13.7500	2.22131	.49670
Total	60	13.9833	2.05428	.26521

As it can be seen from the mean scores in table 1 the participants' listening performance was statistically similar before the experiment. So, it can be concluded that the three groups of control, note-taking and metacognitive were homogenous at the beginning of the study. One-way ANOVA was applied to ensure that there was not a significant difference between the learners in pretest at 2 degrees of freedom.

Table 2: Comparing pre-test mean scores ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	3.233	2	1.617	.375	.689
Within Groups	245.750	57	4.311		
Total	248.983	59			

Table 2 shows that that *P*-value is 0.689. Whereas the amount of *P*-value is more than the level of significance, i.e., $0.689 > 0.05$, and the observed *F* is less than the critical *F*, i.e., $0.37 < 3.15$ at 2 degrees of freedom, therefore the three groups were at the same level of listening comprehension and there was not a significant difference between the groups at the beginning of instruction. To show a clear picture of the participant's performance, Figure 1 demonstrates the minor differences between the three groups' mean scores.

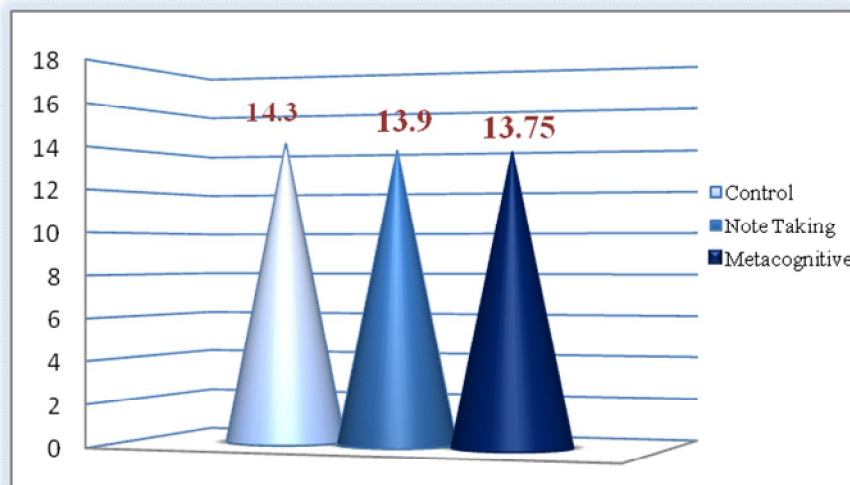


Figure 1: Comparing pre-test mean scores

After 4 weeks of instruction, a post-test was administered to find out the differences between groups after treatments. For hypothesis testing purpose, researcher adopted descriptive statistics, one way ANOVA, and Tukey post hoc tests. To represent comprehensive information about quantitative analysis of obtained data, the means and standard deviations for the post-test of the three groups are shown in Table 3.

Table 3: Learners' post-test mean scores

Descriptive Statistics				
	N	Mean	Std. Deviation	Std. Error
Control	20	14.9500	1.63755	.36617
Note – Taking	20	15.2000	1.70448	.38113
Metacognitive	20	17.6000	1.46539	.32767
Total	60	15.9167	1.98547	.25632

These results indicated that there are significant differences between the three groups' mean scores after treatment. Especially, the difference between the mean scores of metacognitive group and the other groups, control and note-taking, seems to be more salient than between control and not-taking group.

In order to find out whether there are statistically significant differences in the effect of metacognitive awareness and note-taking training on the learners' performance in three groups, the post-test scores were submitted to a one-way ANOVA analysis with between-group factor. Table 4 shows the results of one-way ANOVA for posttest.

Table 4: Comparing post-test mean scores

ANOVA					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	85.633	2	42.817	16.608	.000
Within Groups	146.950	57	2.578		
Total	232.583	59			

The results ($p=.000$, $\alpha=0.05$, $p<\alpha$) illustrated that the difference between the performance of three groups is statistically significant. To illuminate where the significant differences exist among the groups, Tukeys post hoc test (with an alpha level of .05) was conducted. Table 5 shows the results of the Tukey post hoc test.

Table 5: Results of the Tukey post hoc test

Multiple Comparisons						
(I) Group	(J) Group	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Control	Note - Taking	-.25000	.50775	.875	-1.4719	.9719
	Metacognitive	-2.65000*	.50775	.000	-3.8719	-1.4281
Note - Taking	Control	.25000	.50775	.875	-.9719	1.4719
	Metacognitive	-2.40000*	.50775	.000	-3.6219	-1.1781
Metacognitive	Control	2.65000*	.50775	.000	1.4281	3.8719
	Note - Taking	2.40000*	.50775	.000	1.1781	3.6219

*. The mean difference is significant at the 0.05 level.

According to Table 5, there is not a significant difference between the control and note-taking groups. This is because the amount of P -value is more than the level of significance, i.e., $0.875 > 0.05$. Although the amount of the mean of the note-taking group is more than that of the control group on the post test, there is not a significant difference between the control and note-taking groups. Therefore, note-taking training does not affect on Iranian EFL learners' development of listening comprehension. On the other hand, the comparison of the control and metacognitive groups shows that the difference between the control and metacognitive groups is significant, since the amount of P -value is less than the level of the significance, i.e., $0.00 < 0.05$. Therefore, metacognitive awareness affects on Iranian EFL learners' listening comprehension. Table 5 also indicates that the difference between the note-taking and metacognitive groups is significant, since the amount of the P -value is less than the level of significance, that is, $0.00 < 0.05$. Therefore, there is a significant difference between the note-taking and metacognitive groups. It can be concluded that only metacognitive awareness had a significant and meaningful effect on participants listening comprehension. Figure 2 reveals this difference clearly.

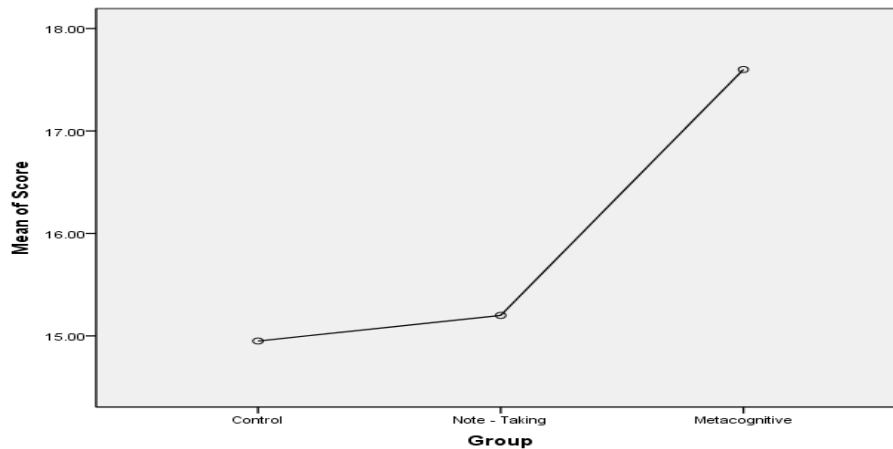


Figure 2: Means plots of control, note-taking and metacognitive groups

This figure represents clearly what is discussed above. The mean score of the metacognitive group shows its outperformance among the other two groups. As it is obvious from the figure, note-taking group didn't result in a desired outcome and there weren't noticeable differences between note taking and control groups.

4. CONCLUSION

The major concern of the present study was to explore the effect of metacognitive awareness and note-taking training on EFL learners' listening comprehension. Based on the results of study, the slight difference between the performance of note-taking and control groups indicated that the metacognitive group outperformed by applying metacognitive processes. Thus, raising EFL learners' metacognitive knowledge of listening improve their listening comprehension and assist them becomes aware of metacognitive strategies of listening. The findings of this study agree with Vandergrift's study findings (2002, 2004 & 2010) which stated that raising EFL learners' metacognitive knowledge had positive effect on their listening comprehension.

Although the result of the study shows that metacognitive strategies is the best listening strategy, the researcher suggests that English teachers of other institutes adopt the most suitable strategies for their students according to their needs and goals because the result of the study may not be generalized to every region, students, and teachers. The findings of the study have a number of implications for teachers, learners and educators in the scope of TEFL in particular and education in general. It can help teachers in performing their challenging task of teaching listening skills in EFL contexts. Listening instruction through teaching different metacognitive strategies can make the boring task of listening comprehension more interesting and result in development of learners' listening comprehension as well. It needs to focus on learning strategies in the EFL educational system. This research specified that through instruction of teachers, learners become conscious of the effectiveness, goal, and value of learning strategies and, moreover, become more responsible for their own learning. Thus, teachers are no longer conceived as a provider of learning. Findings of this research revealed that strategies can be taught for EFL learners. The strategy training can also be indicated in regular classroom teaching. So, this research can be seen as a guideline for syllabus designers to synthesize adequate practices in the realm of language learning strategies in EFL syllabuses in order to persuade learners in the improvement of their strategic ability while learning a special skill in a language. According to O'Malley and Chamot (1990), the training should be designed in such a way that they drive and encourage learners in the use of effective strategies. To sum up, this research has illustrated that metacognitive strategy is an essential factor in the comprehension of oral texts. The findings of this study would be useful for teachers, curriculum planners, and course book writers to design their materials and classroom activities based on a more effective attitude to the teaching and learning of Iranian EFL learners' listening comprehension.

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