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THE EFFECT OF METACOGNITIVE INSTRUCTION AND DIALOGIC INTERACTIONS ON IRANIAN EFL LEARNERS' METACOGNITIVE AWARENESS IN LISTENING

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ABSTRACT
This study strove to investigate the effect of metacognitive instruction through dialogic interactions on the metacognitive awareness of EFL learners. It also sought to explore how various aspects of learners' metacognitive awareness, as measured by each of the five MALQ factors, were affected by metacognitive instruction within the pedagogical sequence. The data were collected through MALQ to track changes in the metacognitive awareness before and after the intervention. The participants were 90 intermediate EFL listeners in three groups. The experimental group one ($n = 30$), trained through Metacognitive Pedagogical Sequence for ten weeks, went through an intervention program in metacognition that engaged learners in a sequence of tasks to help them raise metacognitive awareness in listening through dialogic interactions and peer collaborations. The participants in the experimental group two ($n = 30$) were trained in metacognition through the same procedure and model, but their intervention was devoid of dialogic interactions. The participants in the control group (n=30), trained through a conventional listening instruction program, listened to the same materials without receiving metacognitive instruction. The results revealed that metacognitive instruction through dialogic interactions helped listeners raise their metacognitive awareness in listening.

Keywords: *Listening; Metacognitive Instruction; Metacognitive Awareness; Dialogic Interactions; Metacognitive Pedagogical Sequence*

INTRODUCTION
Metacognition has been widely recognized to have a crucial role in learning, in general, and in Second and Foreign Language listening, in particular. It is the ability of learners to control their thoughts and regulate their own learning, and can play an important role in learning to listen (Wenden, 1998). It is also regarded as one of the most reliable predictors of learning as many education scholars consider it central to the learning process and the key to its success (Vandergrift and Goh, 2012).

In addition, there is strong evidence that learners' metacognition can directly affect not only the process but also the outcome of their learning (Goh, 2008; Wenden, 1998). In the same vein, experts in the field of second language learning hold the unanimous view that learners' metacognitive awareness can contribute to their thinking and comprehension (Wenden, 1998), and can enhance learners' cognitive development, academic learning and language development in general (Goh and Hu, 2013).

'Metacognitive instruction', as a process-based approach to develop and facilitate the process of listening comprehension, is one way to lessen the complexity of listening comprehension for listeners (Goh, 2008). Metacognitive instruction, as Vandergrift (2004) maintains, can also make learners aware of the need to focus on metacognitive strategies of planning, monitoring, and evaluation, which can help them foster their listening performance and raise their metacognitive awareness.

As a matter of fact, this process-based approach to teaching listening can bring about a shift of focus from product to the process of listening, which is still a neglected phenomenon in many classrooms, especially in EFL contexts.

Given the vital role of metacognitive instruction in mitigating the complexity of listening for language learners to help them develop their L2 listening and raise their metacognitive awareness, a host of research studies, focusing on the benefits of metacognitive instruction, provided empirical support for the notion that metacognitive awareness in listening can be increased through process-based instruction

Research Article

within the classroom context (see Bozorgian, 2012, 2014; Goh and Hu, 2013; Goh and Taib, 2006; Mareschal, 2007; Rahimi and Katal, 2013; Vandergrift and Tafaghodtari, 2010).

From a socio-cultural perspective, neo-Vygotskian researchers have also recently begun to advocate the potential of dialogs in negotiating metacognitive strategies as learners work together to complete a task (Cross, 2011a).

Although research into language learning strategies with regard to metacognitive instruction is broad in perspective, the relationship between metacognitive instruction, metacognitive awareness, and improved listening performance through the lens of Sociocultural Theory has recently begun to be explored. In the same vein, there is a string of research reflecting the effect of metacognitive instruction on the learners' metacognitive awareness of listening process through process-based instruction (see Goh and Hu, 2013; Goh and Taib, 2006; Mareschal, 2007; Rahimi and Katal, 2013; Vandergrift and Tafaghodtari, 2010) and dialogic interactions (see Brooks and Swain, 2009; Cross, 2010, 2011a, 2011b; Swain *et al.,* 2002). Such findings can further substantiate the notion that metacognitive instruction through dialogic interactions can not only raise learners' awareness of their listening skill and learning processes but also improve their ability to use appropriate metacognitive strategies when dealing with listening tasks.

All in all, despite all the pedagogical and theoretical arguments presented, very few SCT-informed studies investigating the development of L2 learners' metacognitive awareness have been conducted thus far (Cross, 2010).

Therefore, research on metacognitive strategies with regard to sociocultural perspective and metacognitive instruction through dialogic interactions is still in its embryonic stage. Thus, with the broad aims of contributing to the field, this study made an attempt to explore the effect of metacognitive instruction through dialogic interactions on the metacognitive awareness of EFL learners through the following research questions:

1. Does metacognitive instruction through dialogic interactions have any effect on the metacognitive awareness of EFL learners?
2. Does metacognitive instruction through dialogic interactions have any effect on the EFL learners' metacognitive awareness with regard to each of the five MALQ factors?

The Current Study

Participants

The participants in this study were 90 intermediate EFL learners from two Iranian universities (Mazandaran & IAU), who were chosen from all the available junior students majoring in English Translation and Literature. The sample consisted of 43 male and 47 female students with the age range of 20–26. The participants whose scores on the actual test of language proficiency test were within ±1 standard deviation of the mean score were regarded as the eligible participants for the purpose of this study. Then, the researchers randomly assigned the learners to two experimental (EG1 = 30; EG2 = 30) and a control (CG = 30) group prior to the implementation of the intervention programs.

Instruments

Language Proficiency Test

The first instrument used in this study was an actual test of language proficiency, used not only to determine the homogeneity of EFL learners, but also to be used as a criterion to estimate the validity of the listening comprehension test used for the purpose of this study.

Metacognitive Awareness Listening Questionnaire

The second instrument used in this study was the metacognitive awareness listening questionnaire (MALQ), designed and validated by Vandergrift *et al.,* (2006) to assess learners' awareness and perceived use of listening strategies.

The participants responded to 21 items in the MALQ, out of which 18 were coded according to the Likert-scale points marked by the participants as their scores for the items, and the remaining three items (3 and 8 for person knowledge, and 16 for directed attention) were reverse coded (see Goh& Hu 2013). After the MALQ data were coded, scores for the five subscales and the overall MALQ scale were computed.

Research Article

Data Collection
The Intervention Programs

The intervention programs designed for the experimental groups (EG1 & EG2) in this study were informed by Vandergrift and Goh's (2012) Metacognitive Pedagogical Sequence, which encourages the use of dialogic interactions in negotiating metacognitive strategies and is in line with sociocultural perspectives of learning. The participants in the experimental groups (EG1 & EG2) participated in a ten-week metacognitive instruction program, built on Metacognitive Pedagogical Sequence. The interventions targeted the instruction of metacognitive strategies, and were utilized as a process-based approach to enhance the learners' metacognitive awareness in listening.

EG1 Treatment

The intervention program in metacognition, designed for the experimental group one (EG1), was an attempt to provide the participants with ample opportunities to negotiate metacognitive strategies so as they could raise their metacognitive awareness through peer collaborations and dialogic interactions. To this end, the participants in EG1 participated in a ten-week metacognitive instruction program, once a week, each about 120 minutes. Each week the participants were given the chance to listen to a different oral text, covering a wide variety of such daily topics as lectures, interviews, and conversations. Each listening lesson encompassed three sequential stages: The first stage was a thirty-minute pre-listening task, which was based on topic-related content. The rationale for this stage was to stimulate and generate background knowledge so as to prepare EFL learners for the listening task. The second stage was the listening phase through which the participants in the experimental group one completed a sixty-minute of metacognitive instruction (a total of 10 hours instruction across the study), which covered the presentation, practice and review of metacognitive strategies appropriate to the given listening task. The last stage was a thirty-minute post-listening task through which the participants in the experimental group one were given the chance to reflect on their understanding of the content and the metacognitive strategy presented to them, and then discussed their opinions regarding the topic.

EG2 Treatment

The participants in the experimental group two also participated in a ten-week metacognitive instruction program, and went through Metacognitive Pedagogical Sequence with some modifications to fit the purpose of this study. The rationale for this modification was to explore the extent to which peer collaborations and dialogic interactions in negotiating metacognitive strategies could affect the listening performance and metacognitive awareness of EFL learners in the experimental group one. The modified cycle also included five stages, each of which was directly related to a specific metacognitive strategy, but differed from Vandergrift and Goh's model in that it was devoid of dialogic interactions, i.e., the participants in the experimental group two did not get engaged in any kind of collaborations with their peers, nor were they allowed to use dialogic interactions to negotiate metacognitive strategies when dealing with listening tasks throughout the implementation of the intervention program in this study. Each session was held once a week and lasted for about 120 minutes. Each week the participants in EG2, like those of EG1, listened to a different oral text, which was in line with the content of the intervention program and covered a wide variety of such daily topics as conversations, lectures, and interviews. Each listening lesson encompassed three sequential stages: The first stage was a thirty-minute pre-listening task, gone through to stimulate and generate background knowledge to prepare the learners for the listening task. The second stage was the listening phase through which the participants in the experimental group two completed a sixty-minute of metacognitive instruction (a total of 10 hours instruction across the study), which incorporated the presentation, practice and review of metacognitive strategies appropriate to the given listening task. Last but not least was a thirty-minute post-listening task through which the participants in the experimental group were given the opportunity to reflect on their understanding of the content and the metacognitive strategy presented to them, and then discussed their opinions about the topic in the classroom, but they were not allowed to have any kind of collaborations with their peers regarding the kind of metacognitive strategies they applied to deal with the listening tasks.

Research Article

CG Treatment

The participants in the control group went through a conventional listening instruction program through which they were exposed to the same listening materials and listened to the same texts the same number of times, but there was no instruction in metacognition, nor were their attentions drawn to the process throughout the study. They were also given the chance to go through the same thirty-minute pre- and post-listening phases as the participants in the experimental groups. To ensure about their comprehension of the content, the researcher engaged the class in a discussion after the third listen. Furthermore, there was no discussion of strategy use, nor were they allowed to get engaged in any formal reflection on their approach to listening. After implementing this intervention, the researcher administered the post-strategy questionnaire to explore the probable effect(s) of the intervention.

Results of the Study

To analyze the data from pre- and post-tests of strategy questionnaires, this study used the Statistical Package for the Social Sciences (SPSS 20.0). The first research question in this study concerns the degree to which metacognitive instruction can affect the learners' metacognitive awareness. To investigate as to whether there were any significant differences among the three groups in terms of their metacognitive awareness, a one-way ANOVA was used to compare the scores of the three groups in the pre- and post-tests of strategy questionnaire. The Cronbach's alpha coefficients reported in the pre- and post-tests of strategy questionnaire for experimental (EG1: $\alpha = .86$, $\alpha = .82$; EG2: $\alpha = .78$, $\alpha = .81$) and control ($\alpha = .76$, $\alpha = .80$) groups were moderate (Larson-Hall, 2010). The descriptive statistics and one-way ANOVA results of the overall scores of the three groups for pre- and post-tests of strategy questionnaire are presented in Tables 1 and 2.

Table 1: Descriptive statistics of overall scores of the three groups for pre and post-tests of strategy questionnaire

Groups	Pre-test		Post-test	
	Mean	SD	Mean	SD
Experimental Group 1	85.43	10.30	105.06	8.99
Experimental Group 2	85.16	7.40	96.53	7.76
Control Group	86.03	11.02	85.16	13.32

Table 2: One-way ANOVA results comparing the three groups in pre- and post-tests of strategy questionnaire

Sum of squares	df	Mean square	F	Sig.
Between Groups Pre-test	11.822 2	5.911	.063	.939
Within Groups	8194.500 87	94.190		
			28.149	.000
Between Groups Post-test	5980.289 2	2990.14		
Within Groups	9241.500 87			

The pretest of MALQ (Table 2) indicated the listeners' base-line information on metacognitive awareness, i.e., the P. value is more than .05 (.939 > .05), implying that there was no statistically significant difference among the three groups in terms of their metacognitive awareness before the intervention.

A quick look at the mean scores obtained from the post-tests of strategy questionnaire reveals that the participants in both experimental groups (EG1 & EG2) outperformed their peers in the control group (CG) in the post-test of strategy questionnaire. In order to find out the exact differences among the three groups in terms of their metacognitive awareness, the researchers had to utilize a post-hoc TUKEY test in

Research Article

the light of the fact that this kind of test can pinpoint where the exact differences among the three groups lie. Table 3 summarizes the results of the post-hoc test.

Table 3: Post Hoc multiple comparisons of the three groups in post-test of strategy questionnaire through TUKEY HSD Test

	Groups	N	Mean Difference	Std. Error	Lower Bound	Upper Bound	Sig.
	Experimental Group 1	30	8.53	2.66	2.18	14.8	.005
	Experimental Group 2	30					
Metacognitive Awareness	Experimental Group 1		19.9	2.66	13.5	26.2	.000
	Control Group	30					
	Experimental Group 2		11.3	2.66	5.02	17.7	.000
	Control Group						
	Total	90					

Table 4: The MALQ overall Paired Samples t-test and the five-factor performance for EG1 & EG2

MALQ five factors	Pre-Test M	SD	Post-Test M	SD	t -value	p -value
Experimental Group One						
						.000
Planning and evaluation	19.30	3.67	25.30	2.16	-7.31	
Problem-solving	26.73	4.82	30.76	3.05	-3.45	.002
Directed attention	18.00	3.02	20.56	2.16	-3.54	.001
Mental translation	11.83	3.17	14.26	2.24	-3.56	.001
Person knowledge	9.56	3.37	14.16	2.75	-5.30	.000
Overall MALQ	85.43	10.30	105.06	8.99	-7.04	.000
Overall MALQ effect size	0.80					
df	29					
Experimental Group Two						
						.000
Planning and evaluation	20.10	3.87	24.53	3.56	-5.97	
Problem-solving	28.53	3.60	29.86	1.69	-1.79	.083
Directed attention	16.40	3.04	19.13	3.11	-4.04	.000
Mental translation	12.20	3.58	11.16	4.05	1.88	.070
Person knowledge	11.10	2.38	11.82	2.88	-.924	.363
Overall MALQ	88.13	8.40	96.53	7.76	-4.24	.000
Overall MALQ effect size	0.62					
df	29					

Table 3 shows the Post Hoc multiple comparisons of the three pairs based on their mean differences in the post-test of strategy questionnaire. The result of the TUKEY test for pair one also revealed a statistically

Research Article

significant difference between EG1 and EG2 in terms of their metacognitive awareness after the implementation of the intervention programs. This can further suggest that metacognitive instruction through dialogic interactions had a significant impact on the learners' metacognitive awareness in EG1. In pair two, the results show that there was a statistically significant difference between the two groups (EG1 & CG) in terms of their metacognitive awareness after the intervention. The comparison, in pair three, lies between EG2 and CG. The results revealed that there was also a statistically significant difference between the two groups in terms of their metacognitive awareness after the intervention.

The second research question strove to explore in depth the EFL listeners' rating of the use of each of the five MALQ factors in an attempt to examine which of the five MALQ factors was more helpful in developing particular sets of metacognitive strategies as reflected through the MALQ items. The reported Cronbach's alpha reliability in MALQ for the experimental group one was $\alpha = .76$, which was a moderate index according to Larson-Hall (2010). The overall results of the analysis of MALQ for EG1 revealed that all factors were statistically significant. This finding suggests that metacognitive instruction through dialogic interactions improved EFL learners' metacognitive awareness as a whole.

The result of the overall pre- and post-tests analysis of MALQ (Table 4) also revealed a significant impact of the metacognitive instruction on metacognitive awareness of EFL listeners in the experimental group two. A closer look at the results show that out of the 5 MALQ subscales, problem solving, mental translation, and person knowledge were not found to be statistically significant, but the two remaining factors - planning and evaluation, directed attention, were statistically significant. The reported Cronbach's alpha reliability for the overall performance of the participants in MALQ was calculated to be 0.74, which was also a moderate coefficient according to Larson-Hall (2010).

RESULTS AND DISCUSSION

Research into language learning strategies, in general, and metacognitive instruction in listening, in particular, has grown to gain recognition in recent years (Goh, 2008; Vandergrift, 2004). With regard to the first research question – i.e. the effect of metacognitive instruction through dialogic interactions on the learners' metacognitive awareness of listening, the results of the overall analysis of the five *MALQ* factors indicated a significant relationship between metacognitive instruction and metacognitive awareness, suggesting that metacognitive instruction through dialogic interactions did raise intermediate learners' metacognitive awareness of listening in both experimental groups in this study. The results of this study also reflect those of other studies (see Goh and Hu, 2013; Goh and Taib, 2006; Mareschal, 2007; Rahimi and Katal, 2013; Vandergrift and Tafaghodtari, 2010), providing further empirical support for the notion that metacognitive instruction through the process-based approach can raise learners' metacognitive awareness in listening.

Although the intervention programs in this study helped learners in both experimental groups raise their metacognitive awareness of listening, there was a significant difference found between the two experimental groups in terms of their metacognitive awareness as a result of having been exposed to metacognitive instruction programs. In other words, the learners in the experimental group one (EG1) who went through metacognitive pedagogical sequence and experienced metacognitive instruction through dialogic interactions managed to gain more awareness of listening compared with their peers in the experimental group two (EG2) who went through metacognitive instruction without dialogic interactions.

In line with the findings of this study are a few socioculturally-informed studies by Brooks & Swain (2009), and Swain *et al.,* (2002), reflecting the effect of dialogic interactions and metacognitive instruction on the metacognitive awareness of EFL listeners. This finding is also consistent with those of other studies by Cross (2010, 2011a, 2011b), which took advantage of peer-peer dialogue as the central mechanism to mediate the construction and co-construction of metacognitive awareness. Such findings can substantiate the notion that through dialogue as part of a structured pedagogical cycle, learners could afford and exploit opportunities to enhance their metacognitive awareness of L2 listening. Therefore, it can be concluded that leading language learners systematically through the process of listening and

Research Article

engaging them in dialogic interactions as part of regular listening activities can help them develop greater awareness of the metacognitive processes involved in listening.

This study is akin to the previous empirical studies in terms of its pedagogy for teaching listening, and its focus on the process of teaching listening through metacognitive instruction. Considering the language proficiency of learners as another contributing factor for the success of any metacognitive intervention programs (Chamot and Kupper, 1989), the learners in this study were intermediate EFL learners, who might not have been able to raise their metacognitive awareness had it not been for the model and dialogic interactions through which metacognitive instruction was presented to them.

The second research question, however, strove to investigate how various aspects of the EFL learners' metacognitive awareness as measured by each of the five MALQ factors were affected by metacognitive instruction. In an attempt to investigate the effect of metacognitive instruction on the learners' metacognitive awareness with regard to each of the five MALQ factors, the overall results of the analysis of MALQ for EG1 (see Table 4) revealed that all factors - planning and evaluation, problem solving, directed attention, mental translation, person knowledge were statistically significant, suggesting that metacognitive instruction through dialogic interactions led to a great variance and helped EFL learners raise their metacognitive awareness of listening as a whole. But in the case of EG2, only two factors, i.e., planning and evaluation, and directed attention were found to be statistically significant, two other factors, i.e., problem solving, and mental translation fell short of significance, and one factor, i.e., person knowledge was far from statistical significance in this study.

With regard to problem-solving, the findings of this study showed that *problem-solving* strategies were found to be statistically significant for EG1, but not for EG2. Thus, the fact that listeners in the experimental group one (EG1), given their proficiency level, accomplished to make inferences of the meaning of words or text can be indicative of the fact that they made use of all the different ways for inferencing presented in the MALQ. Therefore, it is worth mentioning that this might not have been achieved had it not been for the effect of both metacognitive instruction and dialogic interactions that triggered problem-solving strategies to flourish in participants in the experimental group one. Regarding the interaction between problem-solving strategies and language proficiency level, Goh and Hu (2013) maintain that problem-solving strategies incorporate metacognitive strategies, which are part of the executive processes that can help us manage thinking and comprehension. Thus, in an attempt to be able to use these strategies more efficiently, listeners need to pay attention to the oral input, process meaning, and reflect on the way they are thinking as they try to comprehend what they hear, which is typically done by high proficiency listeners . Lower proficiency listeners, on the other hand, may be so constrained and distracted by other listening difficulties that they do not have the mental capacity to process meaning, reflect on their thinking, or monitor their comprehension in real time (Goh and Hu, 2013). Although the listeners in the experimental group one were intermediate learners, they managed to use more complex metacognitive strategies involving different sources of knowledge to check their comprehension, which can be due to the effect of both metacognitive instruction and dialogic interactions if we take the performance of their peers in EG2 into account.

As regards mental translation, the results of this study indicated that listeners in EG1 employed mental translation strategies more than their peers in EG2 for whom mental translation was not found to be statistically significant. The use of mental translation strategies by the participants in the experimental group one could be attributed to the learners' proficiency level in this study, or it could be due to the learners' failure to fully understand the function of these strategies presented to them through MALQ, which was administered to them in English. This finding certainly sheds more light on Eastman (1991) and Vandergrift's (2003a) claims that the use of mental translation strategies represent an inefficient way to approach listening comprehension that low-proficiency listeners often have to resort to so as to compensate for their low L2competence.

With regard to person knowledge, the results of this study revealed that person knowledge factor helped listeners in EG1 increase knowledge about themselves as a result of going through the intervention program, but it was not found to be statistically significant for participants in EG2. The finding of this

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Research Article

study also showed that the learners in the experimental group one (EG1) expressed greater confidence and lower anxiety when dealing with listening tasks. This finding certainly reflects Vandergrift's (2002) claim that person knowledge can equip learners with awareness about themselves. It also sheds more light on the findings of two other studies by Graham (2006) and Lynch (1997), claiming that less successful learners may tend to show lack of confidence and greater anxiety in doing tasks, which they find are beyond their control. Although the metacognitive intervention programs implemented for the purpose of this study was not paired with the teaching of listening skill within a regular classroom context, they could successfully help intermediate EFL learners, especially the participants in EG1, raise their metacognitive awareness in listening. This might not have been made possible without the dialogic interactions and the explicit verbalization of strategies within the pedagogical sequence. All in all, it can be concluded that the metacognitive instruction through dialogic interactions in this study proved to have raised the intermediate *EFL* learners' metacognitive awareness in listening, which makes it possible to conclude that there is a close relationship between metacognitive instruction and awareness-raising.

Conclusion

The results of the present study provided more empirical evidence for the notion that metacognitive instruction through dialogic interactions can be helpful in guiding EFL listeners to raise their metacognitive awareness in listening. The findings of this study, as another contribution in the field advocating the use of metacognitive strategies in language learning, in general, and in listening comprehension, in particular, suggest that it is time we put an end to the conventional listening instruction and focused on the process rather than the product of listening. To this end, it is incumbent upon the teachers and curriculum developers to design the listening activities within the framework of the pedagogical sequence so as to put greater emphasis on how to listen and even how to engage learners better through dialogic interactions in order to improve their ability in listening comprehension and help them become self-regulated learners in the long run. In conclusion, the findings are convincing enough to oblige teachers in both EFL / ESL settings to take advantage of the process-based approach to L2 listening to make listening materials more accessible and more appealing to the listeners in the classroom. Last but not least, the current study calls for the need for more research in the area of systematic teaching of listening strategies in order to reach more tangible results on the potential effect(s) of metacognitive instruction through dialogic interactions on the listening performance and metacognitive awareness of EFL learners across various levels of language proficiency.

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Research Article

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