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Embedded and Direct Metacognitive Strategy Instruction and its Effects on the Metacognitive Awareness of Tertiary Level Malaysian ESL Listeners

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ABSTRACT

This small-scale quasi-experimental study compared the effects of metacognitive strategy instruction using two pedagogical approaches on the metacognitive awareness of Malaysian ESL listeners. Embedded and direct strategy instruction was delivered using the Metacognitive Pedagogical Sequence and Cognitive Academic Language Learning Approach instructional models respectively. 45 tertiary level students were randomly selected and assigned to two treatment groups to receive metacognitive instruction over a training period of five weeks. Paired-samples *t*-test results on participants' metacognitive awareness, as measured using the Metacognitive Awareness Listening Questionnaire (MALQ) were inclusive despite significant improvements in their IELTS listening scores. No significant development was recorded in the overall MALQ scores but there were significant changes in three out of the five metacognitive awareness factors. Results further layered according to participants' listening proficiency levels (low, intermediate and high) to examine if differences existed among the listening levels similarly showed no significant difference. These results suggest that ESL listeners' metacognitive awareness may not be easily developed with strategy instruction, regardless of the instructional approaches.

Keywords: *CALLA, Direct and Embedded Strategy Instruction, L2 Listening, Metacognitive Awareness, Metacognitive Strategies*

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1. Introduction

Listening plays an important role in second language acquisition (SLA) and is considered a precursor to the acquisition of other language skills (Richards, 2005; Rost, 2002; Vandergrift & Goh, 2012). Recognising this, efforts to improve students' listening skill were initially informed by studies that investigated strategy use in skilled L2 listeners, with the hope that those strategies can be identified and taught to less skilled listeners. The results of those studies were consistently similar; skilled L2 listeners were not only more adept at using cognitive and metacognitive strategies, but they were also better at regulating their mental processes during listening (Chamot & Küpper, 1989; Goh, 1999; Graham, Santos, & Vanderplank, 2008, 2011; Vandergrift, 2003). As strategies help listeners to manage their mental processes before, during and after listening (Goh, 2005), these suggest that skilled L2 listeners are better at managing their listening. In other words, skilled L2 listeners are more metacognitively aware and are more conscious of their thought processes during listening.

Subsequent to this development, research naturally turned to the possibility of metacognitive instruction increasing students' listening awareness and if this could help improve their listening performance. Because studies carried out across different L2 contexts (ESL, EFL and other foreign languages) using diverse instructional approaches showed varying degrees of success, this raised the issues of how strategy instruction can be most effectively delivered and the types of strategies most beneficial for listening

performance (Graham, Macaro, & Vanderplank, 2007; Chen & Tseng, 2017). This study looked at this aspect by comparing the effects of metacognitive strategy instruction using two instructional approaches. The embedded approach to strategy instruction was implemented using Vandergrift's (1997) Metacognitive Pedagogical Sequence (MPS) while the direct approach was implemented via Chamot & O'Malley's (1994) Cognitive Academic Language Learning Approach (CALLA).

The study was primarily interested in looking at the effects of metacognitive strategy instruction on Malaysian ESL listeners' metacognitive awareness but a research question on listening comprehension performance was included to examine how it compared to the development of listening awareness. Participants' listening proficiency levels were categorised as low, intermediate and high to examine how instruction affected their listening awareness and if there were significant differences among listening levels. The three research questions formulated in this study were:

1. Does metacognitive strategy instruction using embedded and direct approaches result in any significant change in Malaysian ESL listeners' listening comprehension performance?
2. Does metacognitive strategy instruction using embedded and direct approaches result in any significant change in Malaysian ESL listeners' metacognitive awareness in terms of overall MALQ and MALQ factors?
3. Does metacognitive strategy instruction using embedded and direct approaches result in any significant change in the metacognitive awareness of low, intermediate and high listening proficiency listeners?

2. Literature Review

The study of metacognition in L2 listening has its theoretical underpinning in the works of Flavell (1976) and Brown (1977). Metacognition is "thinking about our own thinking" or our awareness of the cognitive processes as a task is performed and the use of that awareness to control the actions to be taken (Marzano et al.,1988). The twin-component of metacognition, consisting of the thought and action components was explained in Flavell's (1979) Model of Cognitive Monitoring and subsequently called *metacognitive awareness* or 'a state of consciousness of our thoughts as we focus on a particular learning situation' (Vandergrift and Goh, 2012). The importance of metacognitive awareness in learning endeavours was underscored by O'Malley & Chamot (1990), who described students without metacognitive approaches as being directionless and without the opportunity 'to plan their learning, monitor their progress, or review their accomplishments and future learning directions' (p.8). In L2 listening studies, a variance of up to 20% in listening performance has been reported to be accounted by metacognitive awareness (Goh & Hu, 2013; Vandergrift & Goh, 2012; Vandergrift, Goh, Mareschal, & Tafaghodtari, 2006).

2.1 Research on Metacognitive Strategy İnstruction and Metacognitive Awareness in L2 Listening

In a series of research conducted on ESL listeners in Singapore, several implications on metacognitive awareness were found with regard to metacognitive instruction. By using listening diaries to elicit data on her listeners' thought processes, Goh (1997) found that introspective metacognitive instruction which required her tertiary level learners to reflect on their listening experiences, increased their awareness of the listening process. Goh (1999) also found that instruction resulted in differences between skilled and less skilled listeners; with former showing a more 'balance and accurate view' of listening (p.34). When later studies were conducted on young ESL listeners, the findings were similar. With metacognitive instruction, children similarly showed greater and more varied metacognitive knowledge on their listening (Goh & Kaur, 2013; Goh & Taib, 2006; Kaur, 2014).

As opposed to think-alouds and listening diaries, later research tended to use the Metacognitive Awareness Listening Questionnaire (MALQ) (Vandergrift et al., 2006) to measure L2 listeners' metacognitive awareness. Vandergrift & Tafaghodtari's (2010) study on French L2 listeners was one of the earliest to use the questionnaire and delivered metacognitive instruction in an embedded manner using the process-based Metacognitive Pedagogical Sequence (MPS). What was notable in was their finding of increases in listeners' metacognitive awareness in the experimental and control groups, despite the control group not receiving any

metacognitive instruction. The researchers attributed the results to the awareness-raising effect of using the MALQ since participants were required to reflect on their listening to answer the questionnaire. Since metacognitive instruction is technically *any* instructional procedures that increase the learners' awareness of the listening process (Vandergrift & Goh, 2012), metacognitive instruction is likely delivered, albeit inadvertently to listeners in the control group. Nonetheless, despite increased listening awareness, only the experimental group recorded a significantly higher listening score.

Although the same embedded process-based approach in Vandergrift & Tafaghodtari's (2010) study was used, the results were mixed in EFL studies. For instance, Taheri & Taki (2017) who focused their research on gender differences, found a statistically significant increase in the MALQ scores of both male and female participants. In contrast, Bozorgian (2014) found no such improvement in his learners despite a positive effect on listening performance. In other studies that incorporated control groups, the outcomes were also inconsistent. Bozorgian & Alamdari (2018), Fahim & Fakhri Alamdari (2014) and Mohammadian, Khoshsima, & Dehghani (2016) who investigated Middle Eastern EFL learners, found a significant increase in their experimental listeners' metacognitive awareness but none in the control groups. Their results are inconsistent with Vandergrift & Tafaghodtari (2010) despite the similarity in using the listening questionnaire that can potentially raise participants' listening awareness. In yet another EFL study, Chen & Tseng (2017) found no significant increase in both the experimental and control groups. This was in spite of the researchers' use of a variety of authentic listening texts (e.g. film, news, lecture, documentary) to stimulate their Taiwanese listeners' interest in listening.

The inconsistency in results was also reflected in the development of MALQ factors. Although there were increases in both the experimental and control groups' metacognitive awareness, Vandergrift & Tafaghodtari (2010) did find a significant difference in two factors; *problem solving* and *mental translation*. The higher score for *problem solving* in their less skilled experimental listeners was expected and self-explanatory since they also performed significantly better and outperformed their peers in listening performance. Nonetheless, the higher score for *mental translation* was considered "counterintuitive" since it represented a set of strategies that is undesirable for comprehension success. Although the researchers explained this as being a possible increase in vocabulary range, greater ability to identify words in listening, and therefore, better listening performance, it does suggest that interpreting this factor can be problematic. Bozorgian (2014) who did not find any overall improvement in his learners' metacognitive awareness nonetheless, found significantly higher scores for *planning and evaluation* and *problem-solving*. Again, the results were vastly different in Mohammadian, Khoshsima, & Dehghani's (2016) study which found significant improvements across all five metacognitive awareness factors.

Although it can be fairly concluded from the reviewed studies that metacognitive instruction can result in some changes in L2 listeners' listening performance and strategy use, more replicating research is required (Vandergrift & Tafaghodtari, 2010). As indicated in the reviewed studies, the pattern of development is "less clear" (Bozorgian, 2014) with little consistency in terms of the development of overall MALQ and MALQ factors. These studies were also overwhelmingly concentrated in the use of the embedded approach in delivering strategy instruction. Therefore, by comparing the embedded and direct approaches of metacognitive instruction, this study aims to investigate which can more effectively raise listeners' metacognitive awareness.

3. Methodology

3.1 Participants

45 male and female students studying at a private university college in Malaysia participated in the study. They were tertiary level students with ESL background, aged between 19-21 years and have completed their SPM (O Level equivalent). A quasi-experimental research design was adopted for this study, with two randomly assigned groups. Each group received metacognitive strategy instruction using either the Metacognitive Pedagogical Sequence instructional model (embedded approach) (MPS, n = 23) or the Cognitive

Academic Language Learning Approach instructional model (direct approach) (CALLA, n = 22).

Prior to the treatment period, a listening pre-test was administered to obtain a gauge of the participants' listening proficiency levels. Based on the listening score guide provided in *Cambridge English: IELTS 8* (2011) (see Table 1 below), they were categorised as low, intermediate and high listening proficiency listeners.

Table 1: Categorisation of Listening Proficiency Levels

Pre-test Listening Score	Description in *Cambridge English: IELTS 8* (2011)	Classification of Listening Level
Between 28 – 40	Likely to get an acceptable score under examination conditions	High
Between 12 – 27	May get an acceptable score under examination conditions	Intermediate
Between 0 – 11	Unlikely to get an acceptable score under examination conditions	Low

Once the listening pre-test was completed, participants were required to answer the MALQ to obtain a baseline reading of their metacognitive awareness level. The MALQ was administered after the listening pre-test to enable the listeners to base their responses on a specific listening task.

Both treatment groups received a weekly 90-minute instruction on metacognitive strategies for five consecutive weeks. At the end of the treatment period, a listening post-test (parallel IELTS listening test) and the MALQ were administered to examine if instruction had resulted in any change in their listening performance and metacognitive awareness.

3.2 Data Collection Instruments

Two instruments were used in this study. The first instrument was two parallel sets of IELTS listening test (from the book *Cambridge English: IELTS 8*, 2011) used for pre- and post-test. This instrument was used for three reasons; (1) to provide a gauge of the participants' listening proficiency level (listening pre-test); (2) to measure listeners' listening comprehension performance before and after metacognitive strategy instruction and (3) to provide a specific listening task for participants to base their MALQ responses on.

The second instrument was the Metacognitive Listening Questionnaire (MALQ) (Vandergrift et al., 2006), which was used to measure participants' *metacognitive awareness* and their *perceived use of strategies* while listening to oral texts. Consisting of 21 Likert-like scale items, the construct is measured according to five MALQ factors or sub-scales–*problem-solving, planning and evaluation, mental translation, person knowledge* and *direct attention*. In using the questionnaire, L2 listeners' metacognitive awareness is measured based on the scores of their overall MALQ and the five MALQ factors. A description of these factors and their corresponding items in the listening questionnaire are provided in Table 2 below.

Table 2: Description of MALQ factors (sub-scales)

MALQ Factors	Description	MALQ Items
Problem-solving	Strategies used to make and monitor inferences during listening	5, 7, 9, 13, 17, 19
Planning and Evaluation	Strategies used to prepare for listening and evaluate the results of those efforts	1, 10, 14, 20, 21
Mental Translation	Undesirable strategies that listeners use to translate what they hear into their first language	4, 11, 18
Person Knowledge	Listeners' perception of the listening task's difficulty and perception about their listening competencies	3, 8, 15
Directed Attention	Strategies to stay focused on the listening task	2, 6, 12, 16

(Source: Vandergrift et al., 2006)

3.3 Training Materials

The same audio materials were used for instruction for the two treatment groups, and were extracted from the book *Cambridge English: IELTS 9* (2013). The lengths of the audio were edited (maximum 2½ minutes) according to suggested parameters to facilitate strategy instruction (Bozorgian, 2015; Rost, 2002; Thompson & Rubin, 1996).

Nonetheless, as the approaches to metacognitive instruction were different, two different sets of listening activities were designed. In the MPS group, listening activities revolved around the reconstruction of oral texts (dictogloss) as a means of recursively experiencing the metacognitive processes of *planning, monitoring, problem-solving* and *evaluation*.

In contrast, as strategy instruction is approached directly in CALLA, strategies to be learnt for a particular lesson were explicitly named, described and explained. Nine metacognitive strategies (*advanced organisation, directed attention, selective attention, comprehension monitoring, double-check monitoring, performance evaluation, strategy evaluation* and *problem-identification*) and six cognitive strategies (*grouping, elaboration,*

substitution, inferencing, summarization and *resourcing)* were included for instruction

3.4 Lesson Procedures

Reflection is integral in metacognitive strategy instruction. To promote reflection, a pre-strategy instruction handout with prompt questions on learning and listening experiences, listening strategy use and learning expectations was given to students in both groups. This was aimed at encouraging and familiarizing students with the process of reflection. Listeners in both groups listened to the same audio materials for the same number of times (two to three times).

In embedded strategy instruction or blind training (Oxford, 1999) using the MPS instructional model, students were neither informed of the strategies nor of the transferability of strategy use outside the listening lessons. Instruction was implemented through a series of listening activities that required the repeated use of *planning*, *monitoring*, *problem-solving* and *evaluation* strategies. Instruction was carried out via five recursive stages: planning, 1st listen/verification, 2nd listen/verification, 3rd listen/verification and reflection/goal setting.

In direct strategy instruction using the CALLA instructional model, the use and benefits of strategies were explicitly and clearly communicated to learners. Strategies were then modelled by the teacher using think-alouds to explain the mental processes during listening. Strategies were taught using five instructional stages: preparation, presentation, practice, evaluation and expansion.

4. Findings and Discussion

The 21 items in the MALQ were analysed in the following manner. First, three of the questionnaire items (items 3, 8, 16) were reverse coded while the remaining were coded as their scores for the item (i.e. 1 = strongly disagree; 2 = disagree; 3 = slightly disagree; 4 = partly agree; 5 = agree and 6 = strongly agree). To obtain values for a participant's metacognitive awareness according to factors and overall MALQ, scores for all items in a metacognitive awareness factor were averaged to obtain a value for the particular factor (e.g. averaging the scores of 6 items under *problem solving*). As for participants' overall MALQ, scores were obtained by averaging the scores for all the five metacognitive awareness factors. As *mental translation* represents a set of strategies that inhibits successful listening, it was reversed before averaging was done to obtain the overall MALQ score (Goh & Hu, 2013). These MALQ data were subjected to further analysis using SPSS Statistics, with the significance level set at a 95% confidence level for all tests.

The pre-treatment listening scores and MALQ data were subjected to tests of normality and Levene's test of homogeneity to ensure that basic assumptions for inferential statistics were not violated. The test statistics for Kolmogorov-Smirnov and Shapiro-Wilk for the MPS and CALLA groups were greater than .05, showing that pre-treatment listening and MALQ data were normally distributed. The Levene's statistics for the listening pretest (p = .227) and pre-treatment MALQ (p = .276) showed that the assumption of homogeneity had not been violated and both groups were homogenous in their initial listening ability and metacognitive awareness.

To answer the first research question on the effects of metacognitive strategy instruction on listening comprehension performance, paired-samples t test was run. The results as shown in Table 3 below indicated that the listening performance of participants in the MPS (p = .000) and CALLA (p = .001) groups improved significantly after strategy instruction (p < .05, α = .05).

Table 3: Results for paired-samples t-test for listening comprehension performance

Group		*M*	*SD*	*t*	*df*	*p*
MPS	Pre	14.78	6.908	-5.832	22	.000
	Post	20.43	6.494			
CALLA	Pre	14.23	4.720	-3.690	21	.001
	Post	19.18	5.243			

To answer the second research question on the effects of instruction on participants' metacognitive awareness, paired-samples analysis was similarly run. However, as shown in Table 4 (MPS) and Table 5 (CALLA) below, the results were not as positive as for their listening performance.

Table 4: Results of paired-samples t-test for Overall MALQ and MALQ Factors (MPS group)

MPS		*M*	*SD*	*t*	*df*	*p*
Overall MALQ	Pre	3.876	.250	.190	22	.851
	Post	3.860	.416			
Problem Solving	Pre	4.283	.766	-.463	22	.648
	Post	4.355	.756			
Planning & Evaluation	Pre	4.165	.548	-.755	22	.458
	Post	4.296	.626			
Mental Translation	Pre	3.565	.849	-1.436	22	.165
	Post	3.899	.735			
Person Knowledge	Pre	2.652	.572	-2.825	22	.010
	Post	3.116	.788			
Directed Attention	Pre	4.848	.656	2.308	22	.031
	Post	4.434	.850			

Inferential statistics indicated that for the MPS group (Table 4), there was a drop in their post-treatment MALQ mean scores but this was not statistically significant (p = .851). As for the development of metacognitive awareness factors, there was an increase in the mean scores in all but one factor (*directed attention*). However, significant differences were only observed in *person knowledge* (p = .010) and *directed attention* (p = .031). While the significant increase in *person knowledge* suggested improvement in participants' perceived listening confidence after instruction, the significant drop in *directed attention* suggested that listeners had more difficulty staying focused on their listening tasks.

Table 5: Results of paired-samples t-test for overall MALQ and MALQ factors (CALLA group)

CALLA		*M*	*SD*	*t*	*df*	*p*
Overall MALQ	Pre	3.625	.210	-.508	21	.617
	Post	3.658	.286			
Problem Solving	Pre	4.083	.400	-1.162	21	.258
	Post	4.242	.431			
Planning & Evaluation	Pre	3.864	.438	-3.422	21	.003
	Post	4.154	.512			
Mental Translation	Pre	3.696	.769	-1.511	21	.146
	Post	4.000	.698			
Person Knowledge	Pre	2.469	.501	-.674	21	.508
	Post	2.576	.830			
Directed Attention	Pre	4.409	.440	.699	21	.492
	Post	4.318	.573			

As opposed to the MPS group, there was a marginal increase in the CALLA group's post-treatment MALQ score (Table 5). This was however, not statistically significant (p = .617). There was a drop in the mean score of *directed attention* as opposed to increases in the other four MALQ factors. In contrast to the results in the MPS group, this drop was not significant (p = .283). The only MALQ factor that recorded a statistically significant improvement after strategy instruction was *planning and evaluation* (p = .003), which suggested that direct strategy training using CALLA may have helped to improve listeners' perception of their ability to use those strategies in their listening tasks.

Preliminary descriptive statistics were first analysed (see Table 6) before the third research question could be answered. From participants' pretest listening results, a majority were classified as intermediate listening proficiency listeners in both treatment groups. While there were participants categorised as low and high listening proficiency listeners in the MPS group, there was none in the category of high listening proficiency listeners in the CALLA group. In comparing participants' listening levels to metacognitive awareness, results indicated that there were differences, with higher MALQ mean scores corresponding with higher listening proficiency levels. The results here are consistent with available literature that suggests that skilled listeners have higher metacognitive awareness compared to less skilled listeners (Goh, 1999).

After strategy instruction, improvement in MALQ scores was observed only in low listening proficiency level listeners (MPS, M = .022; CALLA, M = .230), while lower scores were recorded for other listening proficiency levels (intermediate and high). As literature indicates that skilled listeners are more aware of their thought processes during listening, the increase in MALQ scores in low listening proficiency listeners suggested that instruction was able to bridge the gap in their metacognitive awareness, resulting in higher MALQ scores. However, pair-wise comparisons showed no significant difference between the pre- and post-treatment MALQ scores across all listening proficiency levels for the MPS and CALLA groups (p > .05, α = .05).

Table 6: Pre- and Post-treatment MALQ scores according to listening proficiency levels

				MALQ Pre		MALQ Post	
Groups	Listening Level	*N*	%	*M*	*SD*	*M*	*SD*
MPS	Low	6	25.6%	3.803	.1937	3.825	.5403
	Intermediate	15	65.6%	3.899	.2792	3.879	.3299
	High	2	8.8%	3.920	.2404	3.825	.8980
	Total	23	100.0%	3.876	.2505	3.860	.4159
CALLA	Low	5	21.9%	3.486	.2496	3.698	.2200
	Intermediate	17	78.1%	3.666	.1863	3.646	.3073
	Total	22	100.0%	3.625	.2104	3.658	.2858

To answer the third research question if differences in metacognitive awareness existed among listeners of three listening proficiency levels after strategy instruction, an analysis of variance (ANOVA) was conducted for participants in the MPS treatment group (three listening levels) and an independent samples *t*-test for the CALLA treatment group (two listening levels).

As indicated in Table 7 below, there was no significant between-groups differences for the MPS group (p = .960). Similar result was observed for the

CALLA group (Table 8), with no significant difference in the post-treatment MALQ composite between low and intermediate proficiency listeners (*p* =.732).

Table 7: Results of ANOVA for MPS Group

Group		Sum of Squares	*df*	Mean Square	*F*	Sig.
MPS	Between Groups	.015	2	.008	.041	.960
	Within Groups	3.791	20	.190		
	Total	3.806	22			

Table 8 Results of Independent Samples t-Test for CALLA Group

Group		Levene's Test for Equality of Variances		*t*-test for Equality of Means		
		F	Sig.	*t*	*df*	Sig. (2-tailed)
CALLA	Equal variances assumed	.601	.447	.347	20	.732
	Equal variances not assumed			.417	9.154	.686

5. Conclusion

Results from this study showed that differences exist in listeners' metacognitive awareness when layered to listening levels. As shown in the pre-treatment MALQ data, high listening proficiency listeners had higher MALQ composite score compared to their intermediate and low listening proficiency peers. This supports existing literature which suggests that skilled listeners tend to be more metacognitively aware than less skilled listeners. In other words, they are more aware of strategy use for listening, of their own strengths and weaknesses as listeners and are better able to regulate their thought processes during listening (Chamot & Küpper, 1989; Goh, 1999).

On whether metacognitive strategy instruction improved listeners' metacognitive awareness, results suggested that instruction delivered in an embedded manner (via MPS) and directly (via CALLA) did not lead to a significant change. These findings are consistent with those of Bozorgian (2014) who conducted his study on EFL learners. In contrast to the drop in the MALQ mean score of the MPS group, there was a marginal improvement in the CALLA group, suggesting that the explicit manner in which metacognitive strategies were explained and taught may have helped to increase listeners' perception of strategy use and of themselves as listeners.

On the other hand, the embedded approach to strategy instruction in MPS, while guiding listeners to recursively use metacognitive strategies during listening, did not explicitly explain and highlight those strategies. In the absence of explicit strategy instruction, listeners may not be able to link the metacognitive processes experienced in their listening activities to the posttest listening tasks. Being a higher-order skill (O'Malley, Chamot, Stewner-Manzanares, Russo, & Küpper, 1985; Veenman, Hout-Wolters, & Afflerbach, 2006), it may be a challenge for students to see the connection without their attention being explicitly drawn to the transferability of strategies to other listening tasks (as was done in CALLA).

In examining which metacognitive awareness factors were developed as a result of strategy training, the findings mirrored the mixed results in other studies using the listening questionnaire. From the five metacognitive awareness factors, there were significant differences in only three factors. For listeners in the MPS group, significant changes were only observed for *person knowledge* and *directed attention*. Since *person knowledge* represents listeners' perception of themselves as listeners and of listening tasks' difficulties, the significant improvement suggested that embedded strategy training had helped them to be more confident in themselves as listeners.

In contrast, the significantly lower mean score for *directed attention* indicated that listeners found it difficult to stay focused during listening. To this end, it is possible that the difference in MPS's listening activities (dictogloss) and the posttest listening tasks (IELTS) was a contributory factor. The full-length IELTS listening test (approximately 25 minutes) compared to the shorter audio clips (maximum 2½ minutes) that participants were accustomed to during training could have made it difficult for listeners to stay focused during the posttest.

For participants in the CALLA group, only one MALQ factor saw a significant increase (*planning and evaluation*). As opposed to the embedded approach in MPS strategy training, CALLA explicitly teaches students to plan, monitor and evaluate. Students were explicitly taught and constantly reminded to plan for their listening using strategies such as *advance organisation* and *selective listening* and to monitor their listening (*comprehension monitoring*). Such instruction could have helped listeners to get a better sense of

what and how to plan and monitor their listening tasks.

As to whether there were significant differences in the post-treatment metacognitive awareness of listeners according to three listening proficiency levels, results suggested that there was none in both groups. This could indicate that the type of strategy instruction (embedded or direct) may not differ significantly in promoting awareness of strategy use underlying successful L2 listening.

To conclude, although participants' listening performance improved significantly after metacognitive strategy instruction, the same positive result was not recorded for metacognitive awareness. The results are a likely indication that effects of instruction on L2 listening awareness can be complex and reflect the caution against a causal relationship between metacognitive awareness and listening ability (Vandergrift et. al, 2006). While there is a theoretical link, the effects of instruction on the development of metacognitive awareness remain inconclusive. Further research is still needed in order to gain better insights into its development in L2 listening.

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Appendix: Metacognitive Awareness Listening Questionnaire (MALQ)

The statements below describe some strategies for listening comprehension and how you feel about listening in the language you are learning. Do you agree with them? This is not a test, so there are no "right" or "wrong" answers. By responding to these statements, you can help yourself and your teacher understand your progress in learning to listen. Please indicate your opinion after each statement. Circle the number which best shows your level of agreement with the statement.

	Strongly disagree	Disagree	Slightly disagree	Partly agree	Agree	Strongly agree
Example: I like learning another language.	1	2	3	4	5	6
1. Before I start to listen, I have a plan in my head for how I am going to listen.	1	2	3	4	5	6
2. I focus harder on the text when I have trouble understanding.	1	2	3	4	5	6
3. I find that listening is more difficult than reading, speaking, or writing in English.	1	2	3	4	5	6
4. I translate in my head as I listen.	1	2	3	4	5	6
5. I use the words I understand to guess the meaning of the words I don't understand.	1	2	3	4	5	6
6. When my mind wanders, I recover my concentration right away.	1	2	3	4	5	6
7. As I listen, I compare what I understand with what I know about the topic.	1	2	3	4	5	6
8. I feel that listening comprehension in English is a challenge for me.	1	2	3	4	5	6
9. I use my experience and knowledge to help me understand.	1	2	3	4	5	6
10. Before listening, I think of similar texts that I may have listened to.	1	2	3	4	5	6
11. I translate key words as I listen.	1	2	3	4	5	6
12. I try to get back on track when I lose concentration.	1	2	3	4	5	6
13. As I listen, I quickly adjust my interpretation if I realize that it is not correct.	1	2	3	4	5	6
14. After listening, I think back to how I listened, and about what I might do differently next time.	1	2	3	4	5	6
15. I don't feel nervous when I listen to English.	1	2	3	4	5	6
16. When I have difficulty understanding what I hear, I give up and stop listening.	1	2	3	4	5	6
17. I use the general idea of the text to help me guess the meaning of the words that I don't understand.	1	2	3	4	5	6
18. I translate word by word, as I listen.	1	2	3	4	5	6
19. When I guess the meaning of a word, I think back to everything else that I have heard, to see if my guess makes sense.	1	2	3	4	5	6
20. As I listen, I periodically ask myself if I am satisfied with my level of comprehension.	1	2	3	4	5	6
21. I have a goal in mind as I listen.	1	2	3	4	5	6