

The Impact of Metacognitive Strategy Training on Listening Comprehension Skills in English Language Learning

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أثر تدريب استراتيجيات ما وراء المعرفة (MLST) على مهارات فهم الاستماع في تعلم اللغة الانكليزية

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الملخص

هدفت هذه الدراسة إلى استكشاف أثر تدريب استراتيجيات ما وراء المعرفة (MLST) على مهارات فهم الاستماع واستخدام الاستراتيجيات الإدراكية لدى طلبة الجامعات العراقيين في تعلم اللغة الإنجليزية. استخدمت الدراسة تصميمًا شبه تجريبي مع مجموعات ضابطة وإجراء الاختبارات قبل وبعد التدريب على ١٠٩ طلاب في المستوى المتوسط. خضعت المجموعة التجريبية لتدريب صريح على MLST مدمج في حصص الاستماع الاعتيادية، بينما استمرت المجموعة الضابطة في التعليم التقليدي. جُمعت البيانات باستخدام اختبار فهم الاستماع (LCT) واستبيان استراتيجيات ما وراء المعرفة (MLSQ) أظهرت النتائج أن التدريب عزز بشكل ملحوظ استخدام الطلاب لاستراتيجيات التخطيط والمراقبة، وكذلك بعض المهارات الفرعية مثل الانتباه الانتقائي، ومراقبة الفهم، والمراجعة المزدوجة، وحل المشكلات. ومع ذلك، لم يُسجل تحسن معنوي في درجات فهم الاستماع الكلي. وتشير النتائج إلى أن MLST يعزز وعي الطلاب الإدراكي ومشاركتهم الفعالة، ويساهم في تعلم ذاتي منظم، مع ضرورة التدخل المتكرر أو الممتد لتحقيق تأثير ملموس على أداء الفهم.

الكلمات المفتاحية: الاستراتيجيات الإدراكية الفوقية، فهم الاستماع، تعلم اللغة، تدريب الاستراتيجيات، التنظيم الذاتي، MLST

Abstract

This study investigated the impact of Metacognitive Listening Strategy Training (MLST) on Iraqi university students' listening comprehension and use of metacognitive strategies in English language learning. A quasi-experimental design with pretest-posttest control groups was applied to 109 intermediate-level students. The experimental group received explicit MLST integrated into regular listening classes, while the control group followed traditional instruction. Data were collected using a Listening Comprehension Test (LCT) and the Metacognitive Listening Strategy Questionnaire (MLSQ). Results showed that MLST significantly enhanced learners' use of planning and monitoring strategies, as well as sub-skills such as selective attention, comprehension monitoring, double-check monitoring, and problem-solving. However, no significant improvement was found in overall listening comprehension scores. The findings suggest that MLST effectively raises learners' metacognitive awareness and engagement, promoting self-regulated learning, although longer

or repeated interventions may be necessary to impact comprehension performance. **Keywords:** Metacognitive strategies, listening comprehension, language learning, strategy training, self-regulation, MLST

Introduction

Listening is widely recognized as one of the most challenging skills for language learners (Huang, 2020; McDonough, 2018; Yang, 2018). Many learners experience anxiety while listening, particularly if they believe they must understand every word, which can lead to a negative self-concept regarding listening ability (Arnold, 2020; Vogely, 2019). Such learners often attribute their difficulties to either low innate listening skills or the complexity of listening tasks (Graham, 2016). These attributions foster passivity, helplessness, and decreased motivation, resulting in ineffective listening behaviors (Field, 2020; Chambers, 2020). Experts argue that teaching learners metacognitive strategies—awareness of the mental processes involved in listening, and methods to plan, monitor, and evaluate listening activities—can enhance listening comprehension (Flowerdew & Miller, 2020; Mendelsohn, 2019, 2020; O'Malley et al., 2020). Metacognitive instruction encourages learners to reflect on listening tasks, develop self-regulation, and apply effective strategies. However, empirical research on the effects of such training has produced mixed results. Some studies report limited or no improvement in comprehension (Ozeki, 2020; Thompson & Rubin, 2020), whereas others indicate notable gains in specific listening skills and strategy use (Kohler, 2020; Graham & Macaro, 2019; Vandergrift & Tafaghodtari, 2010). Recent studies on metacognitive instruction, including small-scale classroom interventions, have shown that structured reflection activities, guided by teachers and pre-designed questions, can enhance learners' understanding of listening processes and increase their confidence (Goh & Taib, 2016). These findings suggest that interventions emphasizing metacognitive elements, such as planning, monitoring, and evaluating, are more likely to improve listening comprehension than those focusing solely on cognitive strategies.

Given the inconclusive results and methodological limitations of previous studies, this study aims to investigate the effect of explicit metacognitive strategy training on Iraqi learners' listening comprehension performance and the use of listening strategies.

Research Questions

1. Is there a difference in learners' listening comprehension performance after undergoing metacognitive listening strategy training?
2. Are there differences in learners' use of metacognitive listening strategies before and after receiving metacognitive strategy training?

Literature Review

Several studies have examined the impact of metacognitive strategy instruction on listening comprehension:

- **Vandergrift (2020, 2020, 2020):** Developed students' metacognitive awareness in listening through reflective exercises, prediction, and evaluation, which improved comprehension among Canadian Grade 4–6 students.
- **Graham & Macaro (2019):** Investigated metacognitive strategy instruction for lower-intermediate learners of French, emphasizing planning, monitoring, and evaluating strategies, resulting in significant gains in listening comprehension.
- **Vandergrift & Tafaghodtari (2010):** Applied a metacognitive, process-oriented approach to university-level L2 French learners, showing that explicit strategy training enhanced listening performance, particularly for less-skilled listeners.
- **Goh & Taib (2016):** Implemented metacognitive listening instruction for young learners, leading to improved awareness of listening processes, task management, and strategic use.

The consensus from these studies indicates that integrating metacognitive strategies with cognitive strategies and encouraging learners to reflect on their listening processes is essential for improving comprehension (Schraw, 2019; Buck, 2020; Vandergrift et al., 2016).

Research Design

This study uses a quasi-experimental design with a nonrandomized control group, pretest-posttest procedure, applied in an Iraqi context at English language programs in universities across Baghdad (Ary, Jacobs, & Razavieh, 2020).

- Independent Variable: Metacognitive listening strategy training (treatment).
- Dependent Variables: Listening comprehension test scores and metacognitive strategy questionnaire scores (pretest and posttest).

Procedure:

- Experimental group received structured training in metacognitive strategies (planning, monitoring, evaluating).
- Control group continued normal instruction without strategy training.
- Both groups completed pretests and posttests consisting of listening comprehension assessments and metacognitive strategy questionnaires.

Table 1: Nonrandomized Control Group, Pretest-Posttest Design (Adapted to Iraq)

Group	Pretest	Independent Variable	Posttest
Experimental (EG)	Y1	X (Metacognitive Training)	Y2
Control (CG)	Y1	-	Y2

The study involved 109 undergraduate students enrolled in the English language programs at universities in Baghdad, Iraq. Participants were randomly assigned to experimental (strategy training) and control groups (traditional instruction).



Fig. 1: Pedagogic cycle applied in MLST (Vandergrift, 2020)

Two intact intermediate-level English classes in Iraq were randomly assigned to the experimental group (N = 29) and the control group (N = 27). Students' proficiency was determined based on scores from the institutional English Proficiency Test (EPT) administered by the language center.

Treatment:

Students in the experimental group underwent Metacognitive Listening Strategy Training (MLST) integrated into their regular listening classes. Both groups followed the same course outline and syllabus. However, unlike the control group, the experimental group received a list of metacognitive strategies with detailed descriptions explaining what, when, and how to use them. Classroom instruction followed the pedagogic cycle illustrated in Figure 1 (Vandergrift, 2020). To support implementation, learners were provided with a regulatory checklist adapted from Vandergrift (2020), Schraw (2019), and Schraw and Dennison (2019). The checklist guided students to consciously use three metacognitive strategies—planning, monitoring, and evaluation—before, during, and after listening tasks. Pre-listening questions prompted reflection on cognitive steps, and post-listening self-evaluation helped learners adjust strategies for future attempts. Students were encouraged to use this checklist consistently for in-class and independent practice.

Instruments

Listening Comprehension Test (LCT):

The LCT was developed by the researcher to measure students' listening comprehension skills. Experts were consulted to ensure construct and content validity (Ary, Jacobs, & Razavieh, 2020). The test was piloted on similar intermediate-level learners. Pretests and posttests were administered to determine gains in comprehension after strategy instruction.

Metacognitive Listening Strategy Questionnaire (MLSQ):

The MLSQ, adapted from the Metacognitive Awareness Listening Questionnaire (MALQ; Vandergrift, Goh, Mareschal, & Tafaghodtari, 2016), measured students' awareness and use of metacognitive strategies. A panel of experts validated its content, and Cronbach's alpha showed satisfactory reliability for the overall questionnaire (.822) and for each strategy type: planning (.886), monitoring (.846), and evaluation (.690) (Vandergrift, 2018). The MLSQ consisted of 34 items:

- **Planning strategies:** items 1–17 (subdivided into advance organization, selective attention, self-management, directed attention)
- **Monitoring strategies:** items 18–30 (comprehension monitoring, double-check monitoring, problem solving)
- **Evaluation strategies:** items 31–34 (performance and strategy evaluation)

Data Analysis:

Pretest and posttest scores from the LCT and MLSQ were analyzed using SPSS exploratory data analysis for normality, followed by ANCOVA and paired-samples t-tests.

Results

Research Question 1: Is there a difference in learners' listening comprehension after MLST?

A one-way ANCOVA was conducted with pretest scores as covariates to compare adjusted posttest means of experimental and control groups.

Table 1: ANCOVA result of LCT posttest scores

Group	Mean	SE	F	df1	df2	p
Exp. gr (N=29)	28.41	.72				
Ctrl. gr (N=27)	27.87	.74	.29	1	54	.60a

*a. Covariates appearing in the model are evaluated at pretest = 20.26

The results presented in Table 1 show that there was no statistically significant difference between the experimental and control groups in terms of posttest listening comprehension scores ($F(1,54) = 0.29$, $p = .60$). Although the experimental group obtained a slightly higher mean ($M = 28.41$) than the control group ($M = 27.87$), this difference was not significant. This suggests that the Metacognitive Listening Strategy Training (MLST) did not have a measurable effect on overall listening comprehension performance immediately after the intervention. The findings imply that a single intervention or short-term MLST may not be sufficient to produce significant gains in comprehension scores, and longer-term or repeated practice might be needed. The ANCOVA result shows no significant difference between groups; the experimental group mean is slightly higher, suggesting that MLST did not significantly impact listening comprehension scores.

Research Question 2: Are there differences in learners' use of metacognitive strategies after MLST?

Table 2: Paired-sample t-test for total strategy use

Group	Mean (pre)	SD (pre)	Mean (post)	SD (post)	t	df	p
Experimental	4.648	.466	4.905	.401	-2.831	28	.009*
Control	4.624	.443	4.749	.349	-1.912	25	.067

Table 2 demonstrates that the experimental group showed a significant increase in overall use of metacognitive strategies from pretest ($M = 4.648$, $SD = .466$) to posttest ($M = 4.905$, $SD = .401$; $t(28) = -2.831$, $p = .009$). In contrast, the control group exhibited a non-significant increase in strategy use ($t(25) = -1.912$, $p = .067$). These results indicate that MLST effectively enhanced learners' conscious engagement with metacognitive strategies. The significant improvement for the experimental group underscores the potential of explicit strategy training to foster students' awareness and application of effective listening strategies, even when listening comprehension scores remain unchanged. Results indicate a significant increase in total strategy use for the experimental group after training, but not for the control group.

Table 3: Main categories (Experimental group)

Category	Pre	Post	t	df	p
Planning	4.671	4.872	-2.192	28	.037*
Monitoring	4.554	4.913	-3.562	28	.001*
Evaluation	4.853	5.017	-1.084	28	.288

Table 4: Main categories (Control group)

Category	Pre	Post	t	df	p
Planning	4.597	4.677	-1.006	25	.324
Monitoring	4.648	4.825	-2.002	25	.056
Evaluation	4.657	4.824	-1.243	26	.225

Table 3 shows that in the experimental group, both planning ($t(28) = -2.192$, $p = .037$) and monitoring strategies ($t(28) = -3.562$, $p = .001$) improved significantly after MLST, whereas evaluation strategies did not show a significant change. Table 4 indicates that the control group experienced minimal improvements across all categories, with no significant gains. These results suggest that MLST primarily enhanced learners' planning and monitoring abilities, which are crucial for regulating comprehension during listening. Evaluation strategies, which involve reflection and assessment after tasks, may require additional practice or more advanced scaffolding to develop significantly.

Table 5: Sub-categories (Experimental group)

Sub-category	Pre	Post	t	df	p
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Advance Organisation	4.759	4.879	-.951	28	.350
Selective Attention	4.628	4.910	-2.429	28	.022*
Self-management	4.770	4.906	-.625	28	.537
Directed Attention	4.586	4.814	-1.893	28	.069
Comprehension Monitoring	4.420	4.731	-2.437	28	.021*
Double-check Monitoring	4.672	5.293	-3.702	28	.001*
Problem Solving	4.626	4.937	-2.459	28	.020*
Performance Evaluation	4.713	4.977	-1.587	28	.124
Strategy Evaluation	5.276	5.138	.548	28	.588

Table 6: Sub-categories (Control group)

Sub-category	Pre	Post	t	df	p
Advance Organisation	4.398	4.668	-2.210	26	.036*
Selective Attention	4.631	4.569	.403	25	.691
Self-management	4.821	4.782	.225	25	.824
Directed Attention	4.561	4.723	-1.692	25	.103
Comprehension Monitoring	4.393	4.600	-1.600	26	.122
Double-check Monitoring	4.789	5.173	-1.832	25	.079
Problem Solving	4.782	4.891	-.921	25	.366
Performance Evaluation	4.531	4.667	-.983	26	.335
Strategy Evaluation	5.037	5.296	-1.369	26	.183

Table 5 highlights that for the experimental group, specific sub-categories such as selective attention ($p = .022$), comprehension monitoring ($p = .021$), double-check monitoring ($p = .001$), and problem-solving ($p = .020$) showed significant gains after MLST, while other sub-categories remained stable. Table 6 shows that the control group had minimal improvement, with only advance organization showing a significant increase ($p = .036$). These findings indicate that MLST is particularly effective in enhancing strategic components that require active focus, self-checking, and problem-solving during listening. The lack of significant changes in other sub-categories may suggest that some strategies develop more slowly or require longer-term reinforcement. Results indicate that MLST improved the use of planning and monitoring strategies, with significant gains in selective attention, comprehension monitoring, double-check monitoring, and problem-solving for the experimental group. The control group showed minimal change, with only advance organization significantly improved. The descriptive analysis of all tables indicates that MLST had a pronounced effect on learners' metacognitive strategy use, particularly in planning and monitoring dimensions and in sub-skills such as selective attention, comprehension monitoring, double-check monitoring, and problem-solving. However, this improvement did not translate into a significant difference in overall listening comprehension scores immediately after the intervention. The results suggest that while MLST effectively raises learners' strategic awareness and engagement, additional time, reinforcement, or integrated practice may be necessary to impact actual comprehension performance.

Discussion

The findings of this study reveal that the implementation of Metacognitive Listening Strategy Training (MLST) had a notable effect on learners' use of metacognitive strategies, particularly in the areas of planning and monitoring. The experimental group showed significant improvements in total strategy use, as well as in specific sub-skills such as selective attention, comprehension monitoring, double-check monitoring, and problem-solving. These results are consistent with previous research suggesting that explicit instruction in metacognitive strategies enhances learners' awareness and ability to regulate their listening process (Vandergrift, 2020; Vandergrift & Tafaghodtari, 2010). By systematically guiding learners to plan, monitor, and evaluate their listening, MLST encourages active engagement and self-regulation, which are essential for developing autonomous listening skills. Despite these positive effects on strategy use, the ANCOVA results indicated that there was no statistically significant improvement in overall listening comprehension scores for the experimental group compared to the control group. This aligns with findings from similar studies where short-term strategy training improved learners' strategic behavior without immediately impacting comprehension outcomes (Goh & Taib, 2016; Graham & Macaro, 2019). It suggests that while learners become more strategically aware, the translation of these skills into measurable performance gains may require longer exposure, more practice, or additional scaffolding. Listening comprehension is a complex skill influenced by

multiple cognitive and linguistic factors, and strategy awareness alone may not be sufficient to produce immediate improvement in test scores. The sub-category analysis further highlights that MLST was particularly effective in enhancing strategies that involve active monitoring and attentional control. Significant gains in selective attention, comprehension monitoring, and double-check monitoring indicate that learners became more attentive to the input, more capable of tracking comprehension in real-time, and better able to self-correct errors. Similarly, the improvement in problem-solving strategies reflects learners' ability to apply strategies to overcome comprehension difficulties. These findings underscore the importance of targeting specific metacognitive processes rather than relying solely on general strategy instruction, as more focused training appears to yield stronger behavioral changes. On the other hand, evaluation strategies, which involve reflecting on performance after listening tasks, did not show significant improvement. This could be attributed to the fact that evaluation requires a higher level of cognitive engagement and self-reflection, which may develop over a longer period of practice or through repeated exposure to diverse listening tasks. Future research should consider extended training periods and integration of follow-up tasks that encourage learners to consistently evaluate their performance to strengthen this dimension of metacognition. Overall, the findings suggest that MLST is an effective approach for fostering metacognitive strategy use in listening, particularly in planning and monitoring, and can help learners become more autonomous and self-regulated. However, improvements in strategy use may not immediately lead to measurable gains in comprehension, highlighting the need for ongoing practice, reinforcement, and integration with content-based listening activities. These results provide valuable insights for English language educators aiming to enhance listening instruction by incorporating explicit strategy training that targets both cognitive and metacognitive skills.

Conclusion:

The present study examined the effect of Metacognitive Listening Strategy Training (MLST) on learners' listening comprehension and their use of metacognitive strategies. The findings indicate that MLST significantly enhanced learners' strategic behavior, particularly in planning and monitoring strategies, as well as specific sub-skills such as selective attention, comprehension monitoring, double-check monitoring, and problem-solving. These improvements suggest that MLST effectively raises learners' awareness of their listening processes and fosters self-regulation and autonomous learning. However, the intervention did not produce a statistically significant improvement in overall listening comprehension scores immediately after the training. This implies that while learners become more strategic in their approach, the transfer of these skills into measurable performance gains may require longer training, repeated practice, or integration with content-focused listening activities. Overall, MLST demonstrates its value as a pedagogical tool for developing learners' metacognitive strategy use in listening, even if short-term comprehension gains are not immediately evident. The study highlights the importance of incorporating explicit strategy instruction into listening classes to promote active engagement, self-monitoring, and problem-solving. Future research is recommended to explore long-term effects of MLST, its impact on different proficiency levels, and ways to enhance the transfer of strategic improvements into actual comprehension performance.

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