

4 - Metacognitive Strategy Instruction for Listening Comprehension: A Quasi-experimental Study in Kampung Inggris Pare, Indonesia

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Abstract

This quasi-experimental study investigated the effects of metacognitive strategy instruction on listening comprehension skills of 60 EFL learners enrolled in a TOEFL preparation program. The participants at a language institution in Kampung Inggris Pare, Indonesia's largest English learning area offering an intensive English immersion-based approach, were divided into experimental and control groups. The participants in the experimental group received a ten-session intervention program based on the Metacognitive Pedagogical Cycle. In contrast, the control group received conventional listening instruction following the syllabus provided by the institution. The data were collected through a standardized listening comprehension test from the TOEFL ITP® (Test of English as a Foreign Language – Institutional Testing Program) in both groups before and after the intervention program. The statistical analysis of the test scores shows that the results did not reveal a significant difference between the listening scores from the pre-and post-tests of the experimental group. However, the experimental group's mean scores in listening outperformed the control group, demonstrating a significant improvement after the treatment. These findings suggest potential benefits of metacognitive strategy instruction, though further research with larger sample sizes and extended interventions is recommended.

Keywords: metacognition, metacognitive strategy instruction, listening strategies, TOEFL

1. Introduction

Kampung Inggris, or English Village, located in the Pare Subdistrict of Kediri Regency, East Java, is Indonesia's largest immersion-based English language learning center. Established in 1977 with a single course, *Kampung Inggris Pare* (KIP) had since expanded to encompass over a hundred English courses attracting students from across Indonesia (Mubarok et al., 2020). KIP was initiated by Kalend Osen, founder of the Basic English Course (BEC) and its success inspired the establishment of numerous courses in that area, originating from the graduates of the BEC program. Facilitated by English-speaking locals and students provides an ideal setting for learning and practicing English. This rapid growth of KIP reflects Indonesia's increasing demand for English proficiency, driven by English's vital role in global communications and academic advancement. Many students attend KIP not only to enhance their English skills but also to prepare for proficiency tests such as the Test of English as a Foreign Language (TOEFL) widely recognized as a benchmark for academic and professional qualification in Indonesia.

TOEFL preparation courses at KIP are a commonly selected option for students intending to prepare for tests such as graduation requirements, scholarship applications, job interviews, or other institution-specific assessments. In addition to its relatively low cost, the availability of official testing facilities is also widespread throughout the country. However, of the three skills taught—listening, structure, and reading—listening skills receive less attention. Several English courses, such as the Mahesa Institute, offer programs that focus more on grammar or structure. As an authorized test center for TOEFL ITP at KIP, this institute offers 150-minute structure sessions, while the other sections receive only 90 minutes each (*Mahesa Institute*, 2023). As a result, students receive

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insufficient listening practice, leaving them disadvantaged in this crucial skill area. Since early 2024, average TOEFL ITP® listening scores from the Mahesa Institute have remained among the lowest, with CEFR (Common European Framework of Reference for Languages) ratings indicating a B1 level in listening, whereas some students attained B2 levels in other sections.

The listening section is often neglected in language practice and syllabi over extended periods (Field, 2008; Goh & Vandergrift, 2021; Luo & Gao, 2012). However, listening comprehension is widely regarded as a complex process, relying on both linguistic competencies—such as phonetics, syntax, semantics, pragmatics, and discourse analysis—and strategic or non-linguistic knowledge, including world knowledge (Buck, 2001; Vandergrift & Baker, 2015). To address these challenges, some students adopt self-regulated learning strategies, with one promising approach being metacognitive strategy instruction (MSI). MSI empowers learners to control their learning process, foster self-regulation, and improve listening comprehension (Kobayashi, 2018). Research has shown that MSI activates learners' thinking and enhances performance, particularly among those who struggle with listening (Anderson, 2022).

Prior studies have highlighted the benefits of MSI for less-skilled listeners (Bozorgian, 2012; Vandergrift & Tafaghodtari, 2010), emphasizing its potential to enhance listening comprehension across proficiency levels. Additionally, MSI encourages teachers to reconsider their listening instruction methods and helps learners address the complexities of listening, improving both their performance and understanding (Goh, 2008; Vandergrift, 2004).

While numerous studies support the efficacy of MSI (Bozorgian, 2012, 2014; Maftoon & Fakhri Alamdari, 2020; Becker, 2020; Pei & Suwanthep, 2021; Robillos & Bustos, 2022; Singh et al., 2022), others have reported no statistically significant improvements (Liu, 2020; Rahimi & Maral, 2013). Despite this, these studies still noted higher mean scores post-intervention, suggesting potential benefits of MSI. Variability in results may be influenced by factors such as the duration of the intervention and the types of listening tasks used (Bozorgian, 2014; Liu, 2020; Robillos & Bustos, 2022).

This study distinguishes itself from previous research in several key ways. First, it focuses on intermediate English as a Foreign Language (EFL) learners who are native Indonesian speakers, unlike studies targeting learners of Chinese (Liu, 2020), French (Becker, 2020), Persian (Bozorgian, 2012; Maftoon & Fakhri Alamdari, 2020), or Thai (Robillos & Bustos, 2022). Second, it employs the TOEFL ITP® listening test for assessment, providing findings directly applicable to students preparing for this widely recognized standardized exam. This contrasts with earlier studies that used alternative materials such as IELTS listening tests (Bozorgian, 2012), video-based tests (Robillos & Bustos, 2022), or proprietary assessment packages (Maftoon & Fakhri Alamdari, 2020).

Additionally, this study's intervention spans 10 sessions, longer than the 4- or 8-session durations reported in some previous studies (Robillos & Bustos, 2022; Bozorgian, 2012). These unique features aim to provide deeper insights into MSI's effectiveness, particularly in the context of TOEFL preparation for Indonesian EFL learners.

Study Design and Objectives

To achieve more consistent and reliable findings and address gaps in the existing literature on MSI efficacy, this study investigates the effectiveness of metacognitive strategies in enhancing listening comprehension skills. A quasi-experimental design will be employed, with participants assigned to either an experimental group receiving MSI-integrated instruction or a control group following traditional listening instruction. Data will be collected through pre- and post-test listening comprehension assessments from a quantitative perspective.

The findings are expected to contribute to a better understanding of MSI's impact on TOEFL listening preparation and offer valuable insights for English language instructors, particularly in intensive learning environments such as KIP. Additionally, the study may guide the development of effective TOEFL preparation strategies that incorporate MSI to improve students' listening skills and exam performance.

To address the objectives of this study, the following research questions will be explored: (RQ1) Is there any significant difference in listening comprehension scores between EFL learners in a control group and those receiving metacognitive strategy instruction (MSI) in the experimental group?



(RQ2) Does metacognitive strategy instruction (MSI) help EFL learners improve listening comprehension? Concerning the first research question, the following hypotheses were formed:

H₀: There will be no significant difference in listening comprehension scores between EFL learners in a control group and those receiving metacognitive strategy instruction (MSI) in the experimental group.

H₁: There will be no significant difference in listening comprehension scores between EFL learners in a control group and those receiving metacognitive strategy instruction (MSI) in the experimental group.

2. Literature Review

2.1 Metacognition

Introduced by (Flavell, 1976), metacognition involves the conscious utilization of cognitive strategies to achieve learning objectives by encompassing three key stages: activating a person's knowledge of cognitive processes related to the learning task, monitoring, and regulating these processes. In other words, metacognition involves conscious utilization of the metacognitive ability to select, plan, evaluate, and revise cognitive aims, strategies, and goals. According to Flavell (1979), by giving systematic instruction to learners, metacognitive strategy is beneficial in increasing metacognitive knowledge and metacognitive skills. Furthermore, Wenden (1987) implemented the concept of metacognition for the first time in second-language learning and teaching, introducing the taxonomy of metacognitive language and skills which significantly influenced the research on second-language learning. Goh & Vandergrift (2021) defined metacognition as an ability to reflect and assess one's cognitive processes, encompassing the way information is processed and managed for different purposes. Building upon Flavell's (1979) conceptualization of metacognition, they further developed a metacognitive framework for second language learners, emphasizing three fundamental components: *metacognitive experience*, *metacognitive knowledge*, and *metacognitive strategies*, which also represent the essential elements of metacognitive awareness.

Metacognitive experience refers to the self-reflective thoughts and emotions an individual experiences as they engage in and perform a primary task and includes an awareness of one's cognitive processes. For example, in the context of listening, metacognitive experience may occur when a learner is aware of their inability to identify a particular word but can draw on a previous experience in which they overcame a similar difficulty (Goh & Vandergrift, 2021). *Metacognitive knowledge* is comprised of three key components: The first is person knowledge, which involves self-awareness of one's learning characteristics, strengths, and beliefs regarding what leads to success or challenges. The second is task knowledge, which is an understanding of the goals, structures, and requirements of specific tasks. These tasks can include discourse, grammatical features, and phonological aspects of connected speech. The third is strategy knowledge, which refers to learners' understanding of which strategies can effectively address the learning objectives. This enables learners to select and adapt the most appropriate methods for achieving their goals. The third component of metacognition is strategy use, or *metacognitive strategies*, which refers to individuals' ability to apply specific, effective strategies to enhance learning efficiency, enjoyment, self-regulation, and adaptability based on strategic knowledge and awareness of when and how to apply particular strategies. Among these, metacognitive experience is an automatic reaction, whereas metacognitive knowledge and strategy use can be taught and developed.

2.2 Metacognitive Strategy Instruction (MSI) in Listening

Goh & Vandergrift (2021) defined metacognitive strategy instruction as pedagogical procedures designed to enhance learners' awareness of their listening processes. This is achieved by expanding learners' metacognitive knowledge about their listening capabilities, the intrinsic characteristics and challenges of listening tasks, and various strategies to improve listening. Moreover, learners become more proficient in utilizing the following processes as a result of metacognitive instruction: planning

for the activity, monitoring comprehension, solving comprehension problems, and evaluating the approach and outcomes (see **Table 1**).

Table 1 - L2 Listening Instruction through metacognitive processes (Goh & Vandergrift, 2021)

Metacognitive strategy	Instruction (for learners)
1). Planning for the activity	<ul style="list-style-type: none"> ● Activate prior knowledge related to the topic and any cultural insights that might support understanding ● Examine the text genre and remember possible structures or organization of information ● Predict specific vocabulary or ideas that are likely to appear in the listening material ● Anticipate the listening input based on the existing knowledge and relevant contextual information ● Prepare optimal listening circumstances by focusing attention and minimizing distraction
2). Monitoring comprehension	<ul style="list-style-type: none"> ● Continuously evaluate understanding ● Compare understanding with real-world knowledge and verify coherence within the internal consistency ● Confirm predictions and acknowledge that it is unnecessary to comprehend each word ● Evaluate the learners' level of understanding ● Monitor learners' progress in understanding targeted information and important details
3). Solving comprehension problems	<ul style="list-style-type: none"> ● Determine the effectiveness of the approach to text comprehension ● Adjust the strategies by implementing more suitable strategies as needed ● Making inferences by deducing the meaning of unclear parts by using context from understood sections
4). Evaluating the approach and outcomes	<ul style="list-style-type: none"> ● Ask questions or seek additional context if the situation allows ● Reflect on challenges by identifying difficulties encountered during listening and analyze the reasons for these difficulties to improve future listening strategies ● Verify understanding with transcripts to confirm accuracy ● Evaluate the effectiveness of inferences and other strategies used.

Goh & Vandergrift (2021) suggest that individuals employ different methods of listening comprehension, which are influenced by factors such as information gathering and preparedness. Metacognitive knowledge about second language (L2) listening and prior knowledge also play a role. Listeners may revise their plans and utilize problem-solving strategies to overcome difficulties and monitor comprehension when they realize their predictions are incorrect. As the difficulty increases, they may revert to their original plan. The extent to which this process occurs automatically or with conscious control depends on the listener's proficiency level. Proficient listeners navigate this process naturally, while those with lower proficiency levels need to apply more focus and awareness.

The metacognitive pedagogical sequence, developed by (Vandergrift, 2004, 2007) and further refined by (Vandergrift & Goh, 2012) is aimed at helping learners become self-regulating listeners by increasing their awareness of the listening process. The approach focuses on providing learners with knowledge about themselves as listeners, the complexities of L2 listening related to task demands, and effective listening strategies. The goal is to improve listening comprehension and promote success in L2 listening. The Metacognitive process in active listening and comprehension is structured towards stages. First, planning or predictions involves learners predicting content based on contextual clues, and setting expectations for focused listening. Second, in the verification and first-planning stage, learners listen and evaluate initial predictions, collaborating with peers to refine their approach. The third stage, the second verification and comprehension activity, has learners compare predictions with the second listening engaging in activity slide text and construction or deeper understanding. In final verification, learners listen again, sometimes with a transcript, to confirm understanding focusing on monitoring and problem-solving. Finally, reflection and goal setting involve evaluating comprehension and setting future goals, fostering continuous improvement in listening skills.



2.3 Previous Research on Metacognitive Instruction

Research on MSI for listening comprehension has predominantly been in higher educational settings. The duration of the interventions ranged from 15 to 50 hours or longer, spanning from one week to 10 weeks, and varied across several instructional approaches. The studies conducted by Milliner & Dimoski (2021) implemented a combination of bottom-up and top-down strategies for Japanese university EFL learners, using textbooks and diaries over 50 instructional hours. Zeng & Goh (2018) focused on college students in China, introducing a self-regulated learning portfolio (SRLP) that involved listening to journals and monitoring forms. Liu (2020) employed a metacognitive learning cycle for students of an intensive language program in the United States, using training modules for 6 weeks. In a task-sequence or metacognitive process-based approach, Rezai et al. (2023) conducted metacognitive instruction in Iran through 16 one-hour sessions twice weekly, though specific material was not disclosed. Madarbakus-Ring (2024) introduced TED Talk-based listening lessons and journal assessment sessions in New Zealand, focusing on journal assignments and paper-based lessons over five 75-minute sessions. Other interventions included metacognitive strategy training in Oman, Vellanki et al. (2022), which used coursebooks and online platforms such as *Moodle* and *Book-widgets*. Similarly, Singh et al. (2022) conducted a 4-week training program for secondary students in Malaysia, with instruction on metacognitive, lesson plans, and listening modules. (Becker, 2020) employed an assessment checklist to guide metacognitive strategy. Pei & Suwanthep (2021) utilizing listening websites, online listening practice, and task resources for 39 low-proficiency Chinese university EFL students.

Various tools to evaluate listening comprehension after metacognitive strategy intervention were utilized in various research. Language proficiency test was the evaluation tool utilized by mostly quantitative studies with interventions or experimental designs. The most frequently administered test was the International English Language Testing Service (IELTS) (Madarbakus-Ring, 2024; Mary et al., 2021; Vellanki et al., 2022), the Test of English for International Communication (TOEIC®) (Milliner & Dimoski, 2021), Oxford Quick Placement Test (OQPT) (Wang & Treffers-daller, 2017; Pešić, 2022), and self-developed listening test (Becker, 2020; Chon & Shin, 2019; Singh et al., 2022). Notably, some self-developed listening tests were utilized by institutions such as universities in a specific country such as the Malaysian University English Test (MUET) Listening test and L2 listening proficiency test developed by Seoul-Dongbu District Office of Education. The test was mostly employed before and after the intervention program or added in the middle of the intervention.

The implementation of MSI for listening comprehension in EFL learners has sparked mixed reactions, with both advocates and critics. Research reveals several benefits of implementing metacognitive strategy instruction (MSI) for listening comprehension in EFL learners, significantly enhancing their performance and self-regulatory abilities. Through structured strategies such as planning, predicting monitoring, and evaluating, MSI encourages learners to actively manage their listening processes, supporting personalized learning needs, and self-awareness in listening skills (Bozorgian et al., 2022; Wang & Treffers-daller, 2017). MSI also encourages learners to engage more deeply with listening tasks by exploring individualized approaches, which can reduce anxiety and increase confidence (Bozorgian et al., 2022; Liu, 2020). Additionally, MSI has shown the instructional potential to develop automaticity in the L2 listening process, as seen with L2 of French learners (Becker, 2020), and provides specific advantages for lower proficiency EFL learners, enhancing their listening comprehension and fostering confidence and control for doing listening tasks (Milliner & Dimoski, 2021). In addition to benefiting learners, MSI is crucial in scaffolding listening instruction and effectively addressing teaching challenges, especially in remote learning contexts (Vellanki et al., 2022). However, some learners perceive MSI as excessively time-consuming especially if their focus is narrowly on intensive listening for exams (Zeng & Goh, 2018). This perception is often based on the structure and reflective of activities involved in MSI which may not align well with learners who prioritize immediate results over skilled development. Additionally, MSI may not be universally effective across all foreign language classrooms as its benefits depend on individual differences, including learning styles age, and proficiency levels (Cross, 2011)

3. Methodology

The researcher employs a quantitative approach because it is well-suited for conducting research that aims to utilize data into numbers, figures, and graphs and process it using statistical procedures to establish the difference or relationship between variables (Rasinger, 2013). Furthermore, the quantitative study enables researchers to reach beyond basic hypothesis testing, precise measurement and analysis of data, and gain a deeper understanding between variables (Plonsky, 2015). Given that this paper tests the significant effect of metacognitive strategy instruction on the TOEFL listening performance between two groups, a quasi-experimental research design is appropriate for this study. Quasi-experimental research design aims to determine if changes in one variable directly cause changes in another (Rogers & Révész, 2019). In this case, research was conducted in two different classes; the control group class and the experimental group or group with intervention. The key difference between these groups was found in the variable being manipulated; explicit metacognitive strategy instruction.

3.1 Participants of the Study

Sixty participants, aged 18-24, were recruited from the TOEFL preparation classes conducted from March to April 2024 in one of the English courses in *Kampung Inggris Pare* (KIP). The selected course is Mahesa Institute Pare, the authorized test center for TOEFL ITP appointed by the Indonesian International Education Foundation (IIEF, 2024). The participants were all native Indonesian speakers, and primarily consisted of university students. The students were selected from the same language institute to ensure homogeneity within the sample. The participants were randomly divided into 2 groups, the first group is the experimental group ($N=30$), and the other group is the control group ($N=30$). The limited number of samples was chosen due to some considerations. Firstly, the research had a limited time, approximately 6 months, making conducting longitudinal interventions impractical. Secondly, the regulations of the selected institutions allowed small-scale classes with at least 5 students and not more than 20 students in each class. Additionally, this small-scale study aimed to maintain that each participant in the experimental class received sufficient treatment. Furthermore, this study might also serve as a pilot study, providing initial research findings and developing the methodology for application in future studies on a larger scale.

Importantly, both groups were taught by the same instructor who held a bachelor's degree in English education, had over 5 years of teaching experience, and demonstrated a high level of English proficiency, with the ITP TOEFL exceeding 600. The instructor received specific training on metacognitive instruction to be employed in the experimental group.

3.2 Instruments

The present study used the TOEFL ITP practice test, a standardized listening test published by ETS (Educational Testing Service), to measure listening performance. Two tests employed for pre-test and post-test were designed to be equated in terms of difficulty and each consisted of 50 points divided into 30 short dialogues and the rest 20 questions for longer conversations and long talks. The participants indicated their comprehension by answering multiple-choice questions with four answer options. The items examined the ability to identify the main ideas and details of academic and non-academic texts, make inferences based on speaker intonation, comprehend idiomatic language, and understand the discourse functions of a text (Educational Testing Service, 2023). Correct items were totaled to represent listening performance and one point was assigned for each correctly answered item.

3.3 Procedure

The researcher invited an English language institute, along with the learners, to participate in this study. Following institutional regulations and participants' consent, the potential teacher was contacted first and asked for collaboration in giving explicit material on metacognitive strategies to

the experimental class. The same instructor taught the experimental and control groups to maintain consistency. After reaching the same perceptions about these strategies, agreements were made regarding the application of the strategies and when the best time to deliver them to students. To avoid bias, the researcher was not involved in the class activities.

Both the experimental and control groups adopted the regular course program, following the course syllabus prepared by the institutions. The syllabus of the institutions was designed for 20 meetings, mainly focused on practices and discussions. The teacher presented the materials for a couple of minutes, continued the sessions with listening activities, and ended the sessions with corrections and discussions. The first five meetings focused on listening to Part A (listening for short dialogue), followed by Part B (extended conversations), and Part C (talks) in the next five meetings.

Following the stages of pedagogical cycles suggested by (Goh & Vandergrift, 2021), the experimental group underwent an intervention program consisting of 10 sessions. The explicit instructions were delivered after the formal class for 30-45 minutes per session. The pedagogical cycle utilized in this study incorporated five different stages, each emphasizing metacognitive intervention and engaging learners in applying metacognitive strategies actively. The cycle consisted of: 1) planning/predicting, 2) first verification, 3) second verification, 4) final verification, and 5) reflection (see **Table 2**). These stages represented sub-strategies of three main strategies; planning, monitoring, and evaluation (Goh & Vandergrift, 2021). Learners initially practiced applying all five stages in the first week with guidance from the instructor. By week two, they began independently applying the stages outside the class and participated in daily self-monitoring under the instructor's supervision. The plans for the metacognitive strategy intervention program are presented in **Appendix 1**.

Table 2 - Stages in Listening Instruction through metacognitive processes (Vandergrift & Goh, 2012)

Pedagogical Stages	Metacognitive Processes
Pre-listening: Planning/predicting stage 1. After learners have been informed of the topic and text type, they anticipate the kinds of information and possible words they may hear.	1. Planning and directed attention
First listen: First verification stage 2. Learners verify their initial hypotheses, adjust them as required, and note any new information understood. 3. Learners compare their understanding and notes with peers, modify as required, establish what still needs resolution, and decide on the important details that still require special attention.	2. Selective attention, monitoring, and evaluation 3. Monitoring, evaluation, planning, and selective attention
Second listen: Second verification stage 4. Learners verify points of earlier disagreement, correct errors, and note additional details they understand. 5. Class discussion in which all members contribute to reconstructing the main points and crucial details of the text, interspersed with reflections on how learners arrived at the meaning of certain words.	4. Selective attention, monitoring, evaluation, and problem solving 5. Monitoring, evaluation, and problem solving
Third listen: Final verification stage 6. Learners listen specifically for the information revealed in the class discussion that they were previously unable to understand.	6. Selective attention, monitoring, and problem solving
Reflection stage 7. Based on the earlier discussion of strategies used to compensate for what was not understood, learners set goals for the next listening activity.	7. Evaluation and planning

3.4 Data analysis

The data analysis was conducted using Statistical Packages for the Social Sciences (SPSS) version 22.0. Descriptive statistics were first employed to summarize the pre-test and post-test scores of both the control and the experimental groups, presenting a general overview of the listening comprehension results. To ensure the appropriateness of parametric tests, the normality of the data was assessed using both the Kolmogorov-Smirnov test and Shapiro-Wilk tests, confirming that the data distribution fulfilled the necessary assumptions. Levene's test was then performed to verify the homogeneity of variances between the groups. An independent samples t-test was conducted to compare the post-test scores of the control and experimental groups, examining the effect of

metacognitive strategy instruction (MSI). To further evaluate the improvement of listening comprehension within the experimental group, a paired sample t-test was conducted to determine whether there was a significant improvement in listening comprehension after the intervention. Effect sizes, calculated using Cohen's *d*, provided additional insight into the practical significance of the findings, emphasizing the overall impact of MSI on listening comprehension.

3.5 Results

Before answering the first research question of whether metacognitive strategy instruction significantly affects the learners' listening comprehension score, this study covers the descriptive statistics and conducts normality tests as the initial steps. The results of the normality test will determine whether parametric or non-parametric tests are more appropriate for further analysis. **Table 3** reveals that on the pre-test, the control group had an observed mean score of $M = 432.67$ ($SD = 44.716$), while the experimental group, which received MSI, had a slightly higher mean score of $M = 458.00$ ($SD = 53.330$). on the post-test, the control group's mean score increased to $M = 469.00$ ($SD = 44.361$) while the experimental group's mean score improved further to $M = 487.00$ ($SD = 53.637$). The experimental group demonstrated a higher mean score on post-test scores after the intervention compared to the control group. The results highlight the potential positive effect of MSI, though further inferential analysis is needed to determine the significant statistical difference.

Table 4 presents the results of the normality tests for both the control and experimental groups through the Kolmogorov-Smirnov and Shapiro-Wilk tests. For the control group, the Kolmogorov-Smirnov test results are as follows; the pre-test statistics ($S = .139, p = .141$) and post-test statistics ($S = .134, p = .177$). Both *p*-values are greater than 0.05 ($p < 0.05$), indicating that the data distribution from the control group is normal. Similarly, for the experimental group, the Kolmogorov-Smirnov test delivers the pre-test statistics test ($S = .141, p = .133$) and post-test statistics ($S = .155, p = .200$). Yet once more, the *p*-values surpass the significance level of 0.05, suggesting that the distribution of scores for both tests is normal. In addition, the results of the Shapiro-Wilk test also show that both the experimental and control groups distribute a normal distribution of data. The experimental pre-test ($S = .961, p = .323$), and experimental post-test ($S = .970, p = .536$) demonstrate *p*-values greater than 0.05. Moreover, the control group reveals pre-test ($S = .943, p = .106$) and post-test ($S = .957, p = .261$) which also confirm the normality of the data. Therefore, this satisfies the requirement for doing further parametric analyses.

Table 5 presents Levene's test results, which specifically examine the assumption of equal variances between the control and experimental groups. The results ($p > 0.05$) indicate that the variances between these two groups are homogenous.

Table 6 presents the results of the independent sample test conducted to verify that the pre-test scores between the control and the experimental groups were equivalent before the intervention. The test results show that Sig. (2-tailed) = 0.051, which is slightly greater than the significance level of 0.05. This indicates that there was no statistically significant difference between the pre-test scores of the control and the experimental group. Therefore, it can be concluded that both groups had statistically similar levels of listening comprehension before the intervention began.

Table 7 presents the results of an independent samples t-test conducted to compare the post-test scores between the control and experimental groups. The significance value (Sig. 2-tailed = 0.162) is greater than the conventional alpha level of 0.05, indicating that the difference between the post-test scores of the control group and the experimental group is not statistically significant. The results answer the first research question that the learners who received MSI did not show a significantly higher improvement in listening comprehension compared to those in the control group.

To assess the impact of the intervention within the experimental group, a paired samples t-test was conducted to compare pre-test and post-test scores. Results (Sig. 2-tailed value = 0.001), presented in **Table 8**, revealed that the control group exhibited a statistically significant difference between their pre-test and post-test scores ($p < .05$). While the intervention did not show a significant difference in score changes between the experimental and control groups, the participants in the experimental group demonstrated a significant improvement in their listening scores from pre-test to post-test.



Table 3 - Descriptive statistics: Analysis of pre-test and post-test

	N	Mean	Std. Deviation
Pre-test (Control group)	30	432.67	44.716
Post-test (Control group)	30	469.00	44.361
Pre-test (Experimental group)	30	458.00	53.330
Post-test (Experimental group)	30	487.00	53.637
Valid N (listwise)	30		

Table 4 - Test of normality for listening comprehension test

Group	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Pre-test (Control group)	.139	30	.141	.943	30	.106
Post-test (Control group)	.134	30	.177	.957	30	.261
Pre-test (Experimental group)	.141	30	.133	.961	30	.323
Post-test (Experimental group)	.115	30	.200*	.970	30	.536

Table 5 - Test of Homogeneity of variances between control and experimental groups

	Sign.
Pre-Test (Control group)	0.454
Pre-Test (Experimental group)	0.510

Table 6 - Equality of variance of pre-test scores between the control and the experimental groups

Levene's Test for Equality of Variances				t-test for Equality of Means					
F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference		
							Lower	Upper	
.570	.454	-1.994	58	.051	-25.333	12.707	-50.768	.102	
		-1.994	56.289	.051	-25.333	12.707	-50.785	.118	

Table 7 - Difference between post-test scores of the control and experimental groups

Levene's Test for Equality of Variances				t-test for Equality of Means					
F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference		
							Lower	Upper	
.440	.510	-1.416	58	.162	-18.000	12.708	-43.438	7.438	
		-1.416	56.028	.162	-18.000	12.708	-43.457	7.457	

Table 8 - Difference between pre-test and post-test scores after the intervention.

	Paired Differences						t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference					
				Lower	Upper				
Control group (pre- and post-test)	-29.000	41.219	7.525	-44.391	-13.609	-3.854	29	.001	

4. Conclusions

The present study was conducted to investigate the potential of metacognitive strategy instruction (MSI) to enhance listening performance among ESL learners in *Kampung Inggris Pare* (KIP)

by comparing the performance of a control group and an experimental group. The initial results of the pre-test show that the groups statistically demonstrated a similar level of listening comprehension before the intervention. The equivalence was confirmed by the independent t-test value ($p = 0.051$) which is greater than 0.05. Focusing on the first research question as to whether metacognitive strategy instruction through a structured pedagogical cycle (Goh & Vandergrift, 2021) consists of planning, verification, and reflection demonstrated a greater mean score in the experimental group compared to the post-test score in the control group. However, the independent t-test indicated that the difference in post-test scores was not statistically significant ($p = 0.162$). Therefore, the intervention of MSI did not result in a significantly greater improvement in listening comprehension for the experimental group compared to the control group.

A paired sample t-test conducted to assess the effect of the intervention within the experimental group showed that metacognitive strategy instruction (MSI) can help EFL learners improve listening comprehension (Sig. 2-tailed value = 0.001). These findings were in line with the previous studies (Liu, 2020; Rahimi & Maral, 2013). These studies also did not show any significant improvement after participating in MSI, but the higher mean scores observed in the experimental groups indicate a potential positive change that should be explored further. Furthermore, the effectiveness of metacognitive strategy instruction relied on several key factors, including active instructor involvement throughout the intervention and sufficient time given in the intervention program (Bozorgian, Fallahpour, et al., 2022; Liu, 2020).

The limitations of the study were the small number of participants as well as the limited time given in the intervention sessions. Since the research study is being conducted at a language institution, it was quite challenging to find a large group of EFL students with diverse levels of English proficiency to participate in this study on metacognitive strategy instruction in listening. Additionally, the researcher was unable to extend the duration of the intervention program due to the institution's regulations. As a result, future research directions are required to include larger samples, learners with varied proficiency levels, and multiple educational settings.

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Appendix: Metacognitive intervention in the experimental class

Meetings	Regular classroom's course	Course of Metacognitive Instruction
1	Listen to confusing sounds	There was no direct metacognitive instruction given at this meeting, but the instructor introduced the concept of metacognition in a video downloaded from the YouTube channel*. After watching the video, question and answer sessions were opened. Then, the students were given a task to think about their self-learning on listening they might have done before. * https://www.youtube.com/watch?v=eIZFL4FLVLE
2	Idiomatic expressions	The students were guided to do metacognitive exercises following the pedagogical cycle. The instructor encouraged setting a plan for self-learning based on what students had proposed. At this stage, the instructors gave a series of Listening for short conversations audio with transcripts to do outside the class and it will be evaluated every meeting.
3	Functional expressions ([Dis]agreement, Suggestion, invitation, assumption)	Focused on monitoring, evaluation, and problem-solving of metacognitive processes. Guided students to predict vocabulary and topics before listening. Facilitated class discussion to share strategies and findings. Suggested additional listening practice at home with a focus on understanding conversations and situations.
4	Inference	Students evaluated their performance and strategies after completing the exercises. This reflective practice led them to propose a unique learning strategy; instead of immediately finding the right answer to the multiple-choice questions, they only focused on understanding the context of the conversations and repeatedly played the audio when they did not get the conversation topic. They all agreed to explore this strategy more.
5	Special verbs (causative verbs and 'used to')	The instructor asked the students to write down the problems they got when applying this kind of strategy. Some of the students claimed that this strategy could make their understanding better and some still had problems understanding the conversations and needed to replay the audio more than twice. Some students also gave up after replaying more than three times and finally decided to see the audio transcription. At this stage, the instructor asked them to write down the unfamiliar vocabularies or vocabularies that were hard to listen.
6	Extended conversations: 'Cross country skiing' and 'spelunking'	The instructor introduced a new topic following the formal classroom setting syllabus which already reached listening Part B or extended conversation. The topic given was about 'Thanksgiving Day'. Before playing the audio of a longer conversation sample to the students, they were asked to brainstorm and predict what they would listen to. After the first listening, the instructor asked them to check the information they had predicted and add any new information they knew.
7	Extended conversations: 'Swallow bird' and 'campus self-tour'	The instructor brought up a new topic that was introduced as 'kayaking'. When the instructor asked the students to predict what they would listen to, most of the students were unfamiliar with this topic. After the first listening, students were encouraged to activate their prior knowledge by thinking about the new words and making some guesses based on context. After the second listening, they shared their understanding with their peers, allowing the instructor to monitor progress and provide support.
8	Talk: 'New use of bacteria' and 'Dormitory cafeteria'	Presenting a new topic of listening to a long talk, the instructor employed the same steps; asked the students to make predictions and after the first listening, they had to think over the new words they had listened to, made some guesses, and used all the hints to understand the meaning of the concept in the context given. The topic given in this meeting was 'orbital debris'
9	Talk: 'Nocturnal animal' and 'The ecology of coral reefs'	Examining the concept of monitoring, the students listened to the topic of 'aircraft'. The instructor asked the students to make predictions, and after the first listening, they had to think over the new words they had listened to, make some guesses, and use all the hints to understand the meaning of the concept in the context given. After the second listening, the students were asked to write down the unfamiliar/new words they had just learned.
10	Weekly test	The instructor explained three sub-categories: performance evaluation, strategy evaluation, and problem identification. After doing listening tasks for 8 meetings, students had to concentrate on the last stage of the pedagogical cycle, namely the reflection stage. The instructor emphasized what the students had achieved this far and how this evaluation practice could enhance their listening skills by highlighting and solving their problems.