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METACOGNITIVE AWARENESS AND LISTENING PROFICIENCY: A CORRELATIONAL STUDY OF VOCATIONAL SCHOOL STUDENTS IN CIMAHI

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Abstract: Listening is a complex mental process involving an individual's psychological state and is considered one of the most challenging language skills to acquire. Although several studies have shown a significant positive correlation between metacognitive awareness and listening proficiency, limited research has specifically addressed this issue in the context of Indonesian vocational high schools. To address this gap, the present study aimed to investigate the correlation between metacognitive awareness and listening proficiency among vocational high school students in Cimahi. This research employed a correlational method with 42 students selected through convenience sampling. The Metacognitive Awareness Listening Questionnaire (MALQ) was used to measure students' metacognitive awareness, while standardized TOEFL scores were used to assess their listening proficiency. Data were analyzed using Spearman's Rank Correlation Coefficient, as the normality test showed that the data were not normally distributed ($p < 0.05$). The results indicated a significant correlation (sig. 2-tailed = 0.01; r = 0.500), which falls into the category of moderately strong correlation. Therefore, the null hypothesis was rejected, confirming a significant relationship between metacognitive awareness and listening proficiency among vocational high school students. The findings imply that integrating metacognitive awareness into EFL listening instruction may serve as a valuable strategy to enhance listening proficiency in vocational school settings.

Keywords: correlation research, listening proficiency, metacognition, metacognitive awareness

INTRODUCTION

In this century, English has become the most frequently used language globally, serving as a first, second, or foreign language for many people across various countries. Crystal (1997) states that over two billion individuals with diverse accents and proficiency levels now speak English. Consequently, English is recognized as an international language and has been designated as an official language by the United

Nations, alongside five other official languages: Arabic, Spanish, Russian, French, and Chinese. The current status of English as a global language is underscored by its widespread use in numerous fields, including international relations, politics, commerce, international trade and industry, science and technology, and education. Recognizing the crucial role and extensive application of English, many countries, including Indonesia, are giving it increased attention (Rose et al., 2021; Galloway & Rose, 2015; Seidlhofer 2011).

In line with this global emphasis, English language instruction in Indonesia continues to focus on developing learners' proficiency in the four macro skills: listening, speaking, reading, and writing. Among these, listening is increasingly recognized as a foundational skill that significantly shapes overall language development. Recent research highlights listening as a crucial gateway to language acquisition due to its role in providing comprehensible input (Rahimirad, 2014; Vandergrift & Baker, 2015). Listening not only precedes other skills in acquisition order, but also supports vocabulary development, grammatical understanding, and pronunciation accuracy (Ahmadi, 2016). Furthermore, in EFL contexts such as Indonesia, where opportunities for authentic language exposure are limited, listening becomes an essential channel for internalizing linguistic features (Graham, 2017). However, unlike other skills, listening demands real-time processing and simultaneous coordination of multiple cognitive functions, making it the most cognitively taxing skill for many learners (Ahmadi, 2017; Nushi & Orouji, 2020).

Despite its critical importance, listening remains one of the most challenging skills to master. This is particularly evident among vocational high school (SMK) students, as preliminary interviews with 12th-grade learners in Cimahi revealed a shared perception of listening as a difficult and stressful task. As Pathan et al. (2013) assert, learners frequently avoid listening activities due to the complexity they associate with them—an observation that aligns with the present finding. Many of these students lacked preparation for listening instruction and assessments, and were unaware of strategies to improve their listening independently. This challenge is not unique to Indonesia. Studies by Rahimirad (2014) and Fathi et al. (2020) have shown that learners commonly struggle due to the absence of strategic support and metacognitive training. Graham (2017) also emphasizes that a major barrier to listening development is learners' inability to monitor and regulate their comprehension processes. Similarly, Xu & Huang (2018) highlight that metacognitive knowledge plays a mediating role between listening anxiety and actual performance. These findings underscore the need for learners to become more metacognitively aware and self-regulated in managing their listening activities.

Metacognitive awareness, as defined by Wenden (1998), refers to a form of conscious and reflective thinking that involves learners' ability to plan, monitor, and evaluate their own learning. Learners who operate at a metacognitive level develop a greater sense of agency as they gain control over their strategies and decision-making during the learning process. Schraw (1998) explains that high levels of metacognitive awareness are strongly linked to academic success. This is further supported by Rahimirad & Zare-ee (2015), who found that explicit instruction in metacognitive strategies not only improved learners' academic performance but also enhanced their learning confidence. In the context of listening, Fathi et al. (2020) showed that metacognitive instruction helped students better manage their anxiety and comprehension. Additionally, Graham (2017) reiterates that students with strong

metacognitive skills tend to be more independent, strategic, and adaptive in language learning, especially when tackling complex tasks such as listening.

Building on these theoretical and empirical insights, many researchers have suggested that metacognitive awareness may positively influence students' listening proficiency. Several studies have explored this link in various contexts. Tavakoli et al. (2012), for example, investigated Iranian EFL learners and found a significant positive correlation ($r = .398$, $p = .001$) between metacognitive awareness and IELTS listening scores. More proficient listeners were found to rely on planning, problem-solving, and directed attention, whereas less proficient ones tended to depend on mental translation. Similarly, Al-Alwan et al. (2013) studied 386 tenth-grade students and reported a strong correlation ($r = .56$) between metacognitive awareness and listening comprehension using the MALQ and a Listening Comprehension Test. These findings further reinforce the theoretical claims about the benefits of metacognition in EFL listening performance.

However, despite the growing interest in metacognitive strategies and listening development, there remains a lack of research focusing on vocational high school (SMK) students in Indonesia. Most of the aforementioned studies were conducted in general academic settings with different learner profiles and educational systems. Given the unique characteristics of SMK students—such as varied language exposure, limited learning autonomy, and practical learning orientations—findings from other contexts may not be directly applicable. Moreover, Indonesian vocational education has its own curriculum and pedagogical features that merit focused investigation. Therefore, this study aims to fill the research gap by examining the correlation between metacognitive awareness and listening proficiency among 12th-grade SMK students in Cimahi, Indonesia. It also intends to contribute to the body of knowledge on how metacognitive instruction can support listening skill development in EFL classrooms, especially in the vocational education sector. This study seeks to answer the following research question: Is there a significant correlation between metacognitive awareness and listening proficiency among 12th-grade SMK students in Cimahi, Indonesia?

LITERATURE REVIEW

Metacognition

Metacognition, commonly described as "thinking about thinking" or "cognition about cognition," holds a crucial role in second language acquisition. The concept was first introduced into the context of language learning by Wenden (1987), who highlighted its importance in promoting learner autonomy and distinguishing individual cognitive approaches. Later, Wenden (1998) expanded on this idea, defining metacognition as knowledge about the learning process that forms part of a learner's overall cognitive framework. This includes interconnected, relatively stable ideas about how learning occurs and how learners manage their experiences.

Building on this, Wenden (1991) and Schraw (1998) argued that metacognitively aware learners are more self-directed and capable of regulating their own learning processes. Metacognition encompasses not only declarative knowledge (what learners know) but also procedural (how to apply strategies) and conditional knowledge (when and why to use them) (Schraw & Moshman, 1995). These components are manifested in planning, monitoring, problem-solving, and evaluating—collectively referred to as metacognitive strategies. In more recent research, Graham (2017) highlights the technical role of metacognition in language learning, showing that learners who consciously

regulate their comprehension, especially during listening tasks, demonstrate better outcomes. Similarly, Rahimirad & Zare-ee (2015) provide empirical evidence that metacognitive strategy instruction improves listening performance and learners' self-efficacy. Hacker et al. (2009) emphasize that metacognitive development also includes the ability to assess learning needs, design personal learning strategies, and apply them independently in various academic situations. This aligns with Chamot (2005), who argues that metacognitive instruction enables learners to transfer strategies across different skill domains and contexts. Moreover, individuals with high levels of metacognitive awareness tend to be more self-aware, self-directed, and autonomous—traits essential for sustainable and adaptive learning (Zhang & Goh, 2006).

Metacognitive Awareness in Second Language Learning

Metacognitive awareness refers to learners' ability to consciously reflect on, regulate, and control their own learning processes. In the context of second language acquisition (SLA), metacognitive awareness plays a critical role in helping learners manage the complex and multidimensional aspects of language learning, such as planning how to approach a task, monitoring comprehension, and evaluating the effectiveness of strategies used (Schraw & Moshman, 1995). Rather than being passive recipients of knowledge, metacognitively aware learners take an active role in directing their learning, adjusting their strategies based on task demands and learning goals. According to Vandergrift & Goh (2012), metacognitive awareness in language learning consists of two components: metacognitive knowledge and metacognitive regulation. The former includes knowledge about oneself as a learner, about the task, and about strategies; while the latter involves the ability to plan, monitor, and evaluate learning activities. These elements are particularly relevant in second language learning environments, where learners often face difficulties related to unfamiliar grammar structures, new vocabulary, and cultural differences. Students who possess high metacognitive awareness are more likely to overcome such difficulties by selecting and applying appropriate learning strategies (Zhang & Goh, 2006).

Metacognitive awareness is also closely linked to learner autonomy and self-efficacy. As learners become more aware of their cognitive processes, they gain greater confidence in their ability to achieve learning goals. This empowerment leads to greater persistence, motivation, and independence, which are essential qualities in successful language learners (Rahimirad & Zare-ee, 2015; Graham, 2017). Additionally, learners with higher metacognitive awareness are better at transferring strategies across different language skills, such as from reading to listening or from listening to speaking, allowing for more flexible and efficient language use (Chamot, 2005). In summary, metacognitive awareness serves as a foundational element in the development of effective language learners. It enables them to approach learning strategically, evaluate their performance realistically, and continuously refine their approaches for improvement. In EFL classrooms, particularly in contexts where learner autonomy is limited, fostering metacognitive awareness can provide learners with the tools they need to become more engaged, reflective, and successful in their language learning journey.

Listening in Second Language Acquisition

Listening is widely acknowledged as a fundamental skill in second language acquisition, yet it remains underrepresented in both research and pedagogical practice. Unlike hearing, which is a passive physiological process, listening entails an active and

intentional engagement with auditory input to construct meaning. Brown (2001) defines listening as a process in which the listener actively decodes and interprets spoken language. Similarly, Rost (2011) conceptualizes listening as a multidimensional process involving perception, comprehension, interpretation, and response. This view positions listening not as a discrete receptive skill, but as an integrative cognitive activity that engages memory, attention, and inferencing abilities. From a psycholinguistic perspective, Goss (1982) emphasizes that listening requires information processing, where auditory signals are transformed into meaningful mental representations. O'malley et al. (1989) further assert that effective listening involves both cognitive and metacognitive strategies, particularly in second language contexts. Vandergrift (2007) reinforces the importance of top-down and bottom-up processing as complementary mechanisms during real-time listening tasks.

In this study, the focus is on academic listening comprehension, specifically as measured through the TOEFL listening test, which assesses the ability to understand extended spoken texts such as lectures, academic discussions, and conversations in educational settings. These tasks require test-takers to engage in complex comprehension processes under time constraints, making listening not only cognitively demanding but also strategically driven. Morley (2001) underscores this by describing listening as a catalyst for language development, providing linguistic input essential for the acquisition of speaking, reading, and writing. Given its strategic and interpretive nature, listening should be viewed as an active, dynamic, and metacognitively guided process that is central to communicative competence in EFL classrooms—particularly in high-stakes academic contexts like TOEFL preparation.

Types of Listening

There are various types of listening based on the listener's objective and the nature of the listening activity. Brown (2001) identifies intensive listening, which focuses on recognizing grammatical forms and vocabulary; responsive listening, which involves reacting to spoken input through brief responses; and interactive listening, which requires negotiation and clarification in conversations. Nation & Newton (2009) distinguish between extensive listening, which is aimed at building fluency through exposure to large amounts of comprehensible input, and intensive listening, which is more form-focused and analytical. Liao et al. (2018) adds that selective listening—where the listener focuses on extracting specific pieces of information—is common in academic and test-taking situations. Zhang & Graham (2020) emphasize the importance of tailoring listening instruction—particularly the use of selective listening strategies—to learners' proficiency levels and instructional goals. He argues that blending extensive and intensive listening activities allows learners to build both comprehension skills and linguistic awareness, which is especially valuable in EFL settings. Thus, recognizing different types of listening can help educators design balanced and goal-oriented instruction.

The Process of Listening Comprehension

Listening comprehension is a dynamic and complex process that involves both bottom-up and top-down processing. Bottom-up processes relate to decoding sounds, words, and syntactic structures from the audio signal. According to Vandergrift & Goh (2012), listeners must first accurately perceive and parse the auditory input before they can interpret and understand its meaning. On the other hand, top-down processing

involves activating prior knowledge, using context, and making predictions to interpret what is heard. Furuya (2019) emphasizes that successful listening comprehension often depends on the dynamic interplay between bottom-up and top-down processes, with varying reliance on each depending on learners' proficiency levels. Vandergrift & Goh (2012) explain that listening is not just about hearing words, but about actively making meaning from incomplete or unclear information. Liao et al. (2018) also note that EFL learners often struggle to coordinate bottom-up and top-down strategies, particularly when exposed to unfamiliar accents, rapid speech, or culturally specific references. Similarly, Furuya (2021) found that learners with lower proficiency rely too much on bottom-up processing, which makes listening harder in real situations. Because of this, listening instruction should help students combine both types of processing to improve understanding and adapt better in real-life communication.

Factors Affecting Listening Proficiency

Listening proficiency is influenced by a wide range of cognitive, linguistic, and contextual factors. Goh (2000) classifies these into listener-related factors (e.g., vocabulary knowledge, working memory, motivation), input-related factors (e.g., speech rate, accent, background noise), and task-related factors (e.g., purpose and complexity of the listening task). These variables interact and significantly affect how well learners comprehend spoken texts. Supporting this view, Rahimi & Abedi (2014) found a strong positive relationship between metacognitive awareness and listening performance, suggesting that learners who actively monitor their listening processes tend to achieve better outcomes. In addition, vocabulary size and familiarity with different English accents have also been shown to play a critical role in listening comprehension, particularly in diverse or authentic input conditions. Bril et al. (2022) further identify cognitive load and limited automaticity as major challenges faced by L2 listeners, especially during real-time tasks that demand quick processing. This highlights the importance of designing instruction that fosters not only linguistic competence but also strategic listening and cognitive readiness. In summary, improving listening proficiency requires a holistic approach that considers learner-specific factors, task demands, and the broader learning environment.

Proficiency

The term *proficiency* is widely associated with English Language Teaching (ELT) and is commonly regarded as the ultimate goal of language learning and instruction. Proficiency encompasses not only knowledge about the language ("knowing what") but also the practical ability to use it effectively ("knowing how") in communicative contexts (Harsch, 2017). It reflects a learner's capability to perform language tasks that are appropriate to their level, indicating both linguistic knowledge and communicative competence. American Council on the Teaching of Foreign Languages (2012) defines proficiency as the ability to use language spontaneously and appropriately in real-world, unrehearsed situations, in a manner acceptable to native speakers. Similarly, the Council of Europe (2001) explains that proficiency refers to what an individual can do or knows in terms of applying the language in real-life contexts. In this sense, proficiency is not limited to theoretical knowledge but includes the ability to function linguistically across various settings, regardless of when, where, or how the language is used. Historically, a major debate emerged in the late 1970s concerning whether language proficiency should be viewed as a unified or divisible construct. Oller (1979) argued for

an indivisible model of proficiency, suggesting it is a single, integrated competence. In contrast, Palmer et al. (1981) proposed that proficiency is divisible into distinct components or skills, such as listening, speaking, reading, and writing. This view has since been widely accepted, acknowledging that learners may demonstrate varying levels of proficiency across different modalities. In conclusion, language proficiency can be understood as an individual's demonstrated ability to use a language accurately and appropriately in real-life, spontaneous communication, reflecting both general competence and specific skill-based capacities.

The Interplay Between Metacognitive Awareness and Listening Proficiency: Contemporary Perspectives

This Contemporary research in second language acquisition increasingly emphasizes the significant role of metacognitive awareness in enhancing listening proficiency. Studies within the last decade have explored how learners' understanding and regulation of their cognitive processes directly impact their ability to comprehend spoken language. For instance, Cao & Lin (2020) emphasize a positive correlation between the use of metacognitive listening strategies and students' listening comprehension skills. Their analysis indicates that students who use these strategies more often generally demonstrate better listening comprehension. This result highlights the importance of metacognitive awareness in improving learners' ability to effectively interpret and understand spoken language.

Furthermore, Wang & Yang (2024) reviewed various studies on metacognitive strategies in English listening instruction and concluded that these strategies significantly enhance EFL learners' listening performance. Supporting this, Maftoon & Fakhri Alamdari (2020) found that metacognitive strategy instruction positively impacts learners' metacognitive awareness and listening comprehension, emphasizing the importance of strategic regulation in improving listening skills. These findings highlight that metacognitive strategies do not merely facilitate passive reception of input but actively engage learners in planning, monitoring, and evaluating their listening processes. This active engagement is crucial because listening in a foreign language is inherently complex and requires learners to manage various cognitive demands simultaneously. Therefore, incorporating metacognitive strategy instruction in EFL classrooms can empower students to become more autonomous and effective listeners, which is essential for achieving higher proficiency levels and real-world communicative competence. However, while the benefits are evident, successful implementation depends on contextual factors such as learners' motivation, teacher expertise, and availability of appropriate instructional materials, which should be carefully considered in future research and pedagogical practice. The following diagram illustrates the internal components of metacognitive awareness and how they influence listening proficiency:

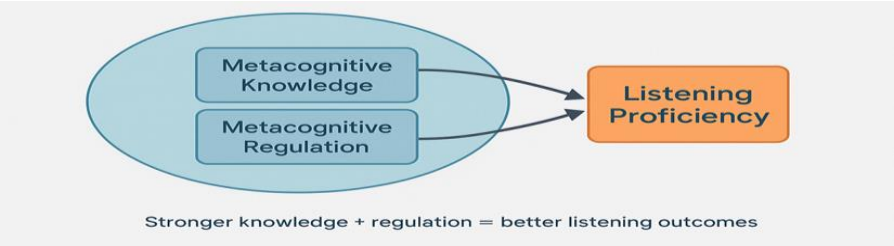

Figure 1. The correlation between metacognitive awareness and listening proficiency

Recent studies have also delved into the specific metacognitive processes that are most effective for listening. Rahimi & Katal (2012) explored the impact of different metacognitive strategy training on listening comprehension, identifying specific strategies that yielded significant improvements. Moreover, research has shown that learners' beliefs about their listening abilities, which form a key part of metacognitive knowledge, significantly influence their listening comprehension. For example, Vandergrift & Goh (2012) emphasize that higher self-efficacy in listening contributes to better performance, as learners who are confident are more likely to engage in effective listening strategies. These contemporary perspectives underscore the dynamic and facilitative relationship between learners' awareness and control of their cognitive processes and their success in understanding spoken language.

METHOD

This research utilized a quantitative correlational approach to explore the link between metacognitive awareness and listening proficiency among 42 vocational high school (SMK) students in Cimahi, Indonesia. The primary objective was to assess the extent of the relationship between these two variables. Data was collected using two instruments and analyzed statistically. This approach aligns with quantitative research methods, focusing on describing relationships between variables through numerical data and statistical analysis (Creswell, 2012).

The independent variable in this study was metacognitive awareness, assessed through the Metacognitive Awareness Listening Questionnaire (MALQ), which was adapted from Vandergrift et al., (2006). The MALQ includes 21 items that evaluate five dimensions of metacognitive awareness: problem-solving, planning and evaluation, mental translation, directed attention, and person knowledge, using a six-point Likert scale. The dependent variable, listening proficiency, was measured using the listening comprehension section of a TOEFL prediction test, specifically taken from Phillips, D. (2001), *Longman Complete Course for the TOEFL Test: Listening Comprehension, Structure, Reading*. Longman.

Data collection involved administering the MALQ and the TOEFL ITP listening test to 42 participating students in their classrooms. The participants were selected using purposive sampling, considering their enrollment in the English language program and availability during the data collection period. Students completed the questionnaire and the listening test within a single session. The collected data were then analyzed using SPSS 23. Descriptive statistics were calculated for both variables. The normality of the data was assessed, and the appropriate correlation coefficient—either Pearson's r or Spearman's ρ—was calculated to determine the strength and direction of the relationship between metacognitive awareness and listening proficiency. The coefficient of determination (r^2) was calculated to estimate the proportion of variance in listening proficiency that can be explained by metacognitive awareness.

Ethical considerations were paramount throughout the study. Permission was obtained from the relevant school authorities, and participants were informed about the purpose of the research, assured of the confidentiality and anonymity of their responses, and their voluntary participation was emphasized.

FINDINGS AND DISCUSSION

This section outlines and examines the results of the correlational analysis aimed at exploring the connection between metacognitive awareness and listening proficiency among the SMK students in Cimahi. Descriptive statistics for both variables are initially provided, followed by the results of the normality test and the subsequent correlation analysis. The interpretation of the identified relationship, its comparison with prior research in the field, particularly within the context of second language learning and vocational education, and its potential implications for English language teaching and learning in SMK settings are then elaborated upon. The coefficient of determination is also discussed to quantify the extent to which metacognitive awareness explains the variance in listening proficiency.

The correlation between students' metacognitive awareness and students' listening proficiency

The Students' Metacognitive Awareness

Table 1 summarizes the means, standard deviations, and per-item averages of the 42 students on the Metacognitive Awareness Listening Questionnaire (MALQ) and its subscales. The overall average score on the MALQ was 3.99. Given that each item was measured on a 6-point Likert scale, this suggests that the students, as a whole, exhibited a moderate level of metacognitive awareness.

Table 1. Descriptive statistics of students' performance on MALQ and its subscales

No	Subscales	No Items	Possible Range	Mean	Average	Min	Max	Standard Deviation
1	Problem Solving	6	6-36	25.07	4.15	19	32	0.83
2	Planning/Evaluation	5	5-30	18.33	3.67	11	25	0.95
3	Mental Translation	3	3-18	11.92	3.98	8	16	0.96
4	Person Knowledge	3	3-18	12.09	4.03	6	16	1.03
5	Directed Attention	4	4-24	16.54	4.14	11	22	0.92
	MALQ (42 students)	21	21-126	83.98	3.99	70	103	7.60

As shown in Table 1, the analysis indicated that the participants most frequently employed problem-solving strategies (Mean = 4.15, SD = 0.83), followed by directed attention (Mean = 4.14, SD = 0.92), and person knowledge (Mean = 4.03, SD = 1.03). Mental translation (Mean = 3.98, SD = 0.96) and planning/evaluation (Mean = 3.67, SD = 0.95) were used less often. Regarding overall listening strategy use, the participants demonstrated a moderate level of metacognitive awareness (Mean = 3.99, SD = 7.60). According to Vandergrift (2007), problem-solving strategies involve using known words and the general idea of a text to infer the meaning of unknown words, drawing on prior experience and general knowledge for interpretation, adjusting interpretations when incorrect, monitoring the accuracy of inferences for consistency, and comparing interpretations with topic knowledge. Problem-solving also encompasses top-down

processes like interpretation and relating information to a broader communicative context. Conversely, planning and evaluation was the least utilized subscale (Mean = 3.67, SD = 0.95), which includes strategies such as having a listening plan, using similar texts as a guide, having a listening goal, occasionally checking satisfaction with ongoing interpretation, and evaluating the effectiveness of one's listening efforts. This finding aligns with the background of the research, which suggested that the students lacked knowledge of independent listening improvement strategies and exhibited reluctance towards engaging with listening practice, potentially explaining their lower use of planning and evaluation.

Students' Listening Proficiency Level

Table 2 summarized the 42 students' means (M = 25.29), standard deviations (SD = 5.30), and minimum (19) and maximum (41) scores for listening proficiency. According to the assessment rubric, which was adapted from American Council on the Teaching of Foreign Languages (2012), the students as a whole demonstrated a level of listening proficiency at the Advanced level.

Table 2. Descriptive statistics of students' listening proficiency level

	Mean	Min	Max	SD
Students' listening proficiency level	25.29	19	41	5.30

According to American Council on the Teaching of Foreign Languages (2012), at the Advanced level, listeners are able to grasp the main ideas and most supporting details in extended spoken texts covering a broad range of everyday topics, including news reports, instructions, personal stories, and travel narratives. Even with some gaps in vocabulary and grammar, they can use their background knowledge and contextual cues to aid comprehension. If they are particularly familiar with the subject matter or situation, they may also understand more complex oral texts. Typically, the language they comprehend is structurally and lexically straightforward, with clearly organized and predictable discourse. Advanced listeners can understand spoken language across various familiar topics and demonstrate adequate command of linguistic structures to interpret references to basic time frames (American Council on the Teaching of Foreign Languages, 2012). Nonetheless, the listeners' understanding is most often limited to concrete, real conversation. The distribution of students' listening proficiency levels can be seen in Figure 2.

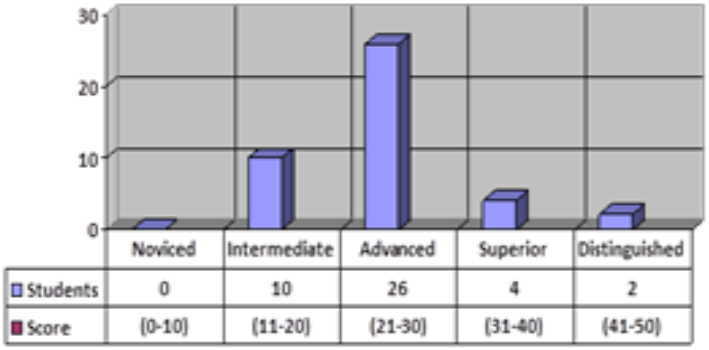

Figure 2. Diagram of 42 students' listening proficiency level

Test of Normality

Before performing the correlation test, the researchers conducted a normality test to ascertain whether the data for both variables were normally distributed. This step was crucial for selecting the appropriate correlation coefficient. The Kolmogorov-Smirnov test was employed using SPSS 23 to assess the normality of the data.

Table 3. Test of normality

	Kolmogorov-Smirnova		
	Statistic	Df	Sig.
MALQ	,153	42	,015
LP	,188	42	,001

a.Lilliefors Significance Correction

The H_0: Data are normally distributed if the significance value (sig.) is greater than the alpha level (α). Level of Significance: α = 0.05 (5%). As presented in Table 3, the significance values for both datasets were 0.015 and 0.001. Since both of these values are less than the alpha level of 0.05 (0.015 < 0.05 and 0.001 < 0.05), the null hypothesis (H_0) was rejected. Therefore, it can be concluded that the data are not normally distributed. Consequently, the Spearman correlation test was used to perform the correlation analysis. Several factors may have contributed to the non-normal distribution of the data. Firstly, the sample size was relatively small (N = 42). Secondly, convenience sampling was employed, which might have introduced bias. Lastly, the presence of extreme values or outliers in the data could have also skewed the distribution.

Test of Correlation

To answer the first research question and to test the hypothesis, the researcher used Spearman's coefficient of correlation (see table 4).

Table 4. Correlation test

			Score MA	Score LP
Spearman's rho	Score MA	Correlation Coefficient	1.000	,500**
		Sig. (2-tailed)		,001
		N	42	42
	Score LP	Correlation Coefficient	,500**	1.000
		Sig. (2-tailed)	,001	
		N	42	42

**. Correlation is significant at the 0.01 level (2-tailed).

The results (Table 4) indicated a statistically significant positive correlation between metacognitive awareness and listening proficiency (r = .500, p = .01). This finding aligns with the theoretical assumption that learners' knowledge and ability to regulate their cognitive strategies—core components of metacognitive awareness (Vandergrift & Goh, 2012)—enhances their capacity to comprehend spoken input more effectively. According to the theoretical framework of metacognition, learners who are

metacognitively aware are better equipped to regulate their listening processes, resulting in more strategic and autonomous engagement with listening tasks (Graham, 2017; Rahimirad & Zare-ee, 2015).

By squaring the correlation coefficient ($r^2 = 0.25$), it was found that 25% of the variance in listening proficiency can be explained by students' metacognitive awareness, suggesting a substantial contribution of strategic awareness to listening success. Even though it is not significant, there is a positive impact of metacognitive awareness that students can use to support listening comprehension, especially in the TOEFL test, which requires knowledge of tasks and strategies, the components of metacognitive knowledge, and the ability to use strategies which include the process of planning, monitoring and evaluating the process of understanding and completing a task as the components of metacognitive regulation. This supports the theoretical claim that metacognitive awareness, particularly problem-solving and self-monitoring, serve as regulatory mechanisms in listening comprehension (Vandergrift & Goh, 2012; Zhang & Goh, 2006). These results are also consistent with a growing body of empirical research. For instance, Wang & Treffers-Daller (2017) found that metacognitive awareness, alongside vocabulary knowledge and general proficiency, significantly predicts L2 listening comprehension. Similarly, Umam et al. (2020) and Ummah & Arifani (2019) reported that higher use of metacognitive strategies correlates with better listening outcomes among Indonesian EFL learners. In line with the current finding, a meta-analysis by In'nami et al. (2023) also confirmed a moderate yet consistent positive correlation ($r = .275$) between metacognitive awareness and listening performance across diverse EFL contexts. Moreover, the current study's findings reaffirm the relevance of metacognitive strategy instruction in classroom practice, especially in vocational high school settings. As Vandergrift and Goh (2012) argue, instruction that explicitly targets planning, monitoring, and evaluation can develop learners' awareness of their cognitive behaviors during listening.

However, the remaining 75% of unexplained variance suggests that other factors—such as linguistic knowledge, working memory, motivation, and listening anxiety (Vandergrift & Baker, 2015; Goh, 2000)—also significantly contribute to listening performance. This calls for a more comprehensive instructional approach that incorporates not only metacognitive training but also cognitive, affective, and contextual support. Finally, this study contributes to the theoretical discourse by situating metacognitive awareness as a central component in L2 listening development, particularly among Indonesian vocational learners—an underrepresented group in SLA literature. It also bridges theory and practice by affirming that even moderately strong correlations ($r = .500$) have meaningful pedagogical implications when aligned with well-established frameworks in metacognitive instruction.

CONCLUSION

In summary, the findings of this study offer empirical support for a strong positive relationship between metacognitive awareness of listening strategies and listening proficiency among 12th-grade vocational high school students in Cimahi. This finding corroborates existing research in second language acquisition, highlighting the important role of learners' understanding and regulation of their listening processes in achieving better comprehension outcomes. This study implies that integrating metacognitive awareness into EFL listening instruction at vocational high schools may serve as an effective pedagogical strategy. Future research could explore the

effectiveness of specific metacognitive strategy training interventions tailored to the unique learning needs of vocational high school students in Indonesia. Furthermore, investigating the interplay of other cognitive and affective factors alongside metacognition in this specific educational setting could provide a more comprehensive understanding of the factors influencing listening proficiency.

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