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Metacognitive Approaches for Low-Proficiency EFL Undergraduate Students: Enhancing Listening Comprehension in Co-Regulated Environments

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Abstract

This study explored the integration of metacognitive strategies within co-regulated learning environments to improve listening comprehension among low-proficiency English as a Foreign Language (EFL) undergraduate students in Thailand. Sixteen participants, all with A1 and A2 proficiency levels as per the Common European Framework of Reference for Languages (CEFR), were involved. The research objectives were to: (1) evaluate the impact of the intervention on listening comprehension, (2) identify the most effective metacognitive listening strategies, and (3) assess student perceptions of the intervention. A mixed-methods approach was employed, incorporating pre- and post-intervention listening tests, observations, interviews, and the Metacognitive Awareness Listening Questionnaire (MALQ). Quantitative analysis demonstrated a significant improvement in both listening comprehension ($t(15) = -5.15$, $p < 0.001$) and metacognitive awareness ($t(15) = -2.78$, $p < 0.05$). Qualitative findings highlighted the importance of co-regulated learning in reducing learner anxiety, fostering strategy sharing, and enhancing motivation. The results underscore the effectiveness of combining metacognitive and co-regulated strategies to support low-proficiency learners, suggesting potential avenues for further research, including the long-term retention of strategies and the use of technology to enhance learning outcomes.

Keywords: Metacognition, Metacognitive Listening Strategies, Co-regulated Learning, Low-Proficiency Learners, EFL Listening Comprehension

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Introduction

Listening comprehension poses a significant challenge for low-proficiency EFL learners, particularly those at A1-A2 levels on the CEFR scale. These students often struggle with decoding spoken language and lack the strategies necessary for effective comprehension, leading to frustration, reduced motivation, and academic underachievement. At Phetchabun Rajabhat University in Thailand, this issue is especially pronounced among Business English majors from rural areas with limited English exposure. Despite formal instruction, their comprehension remains suboptimal, highlighting the need for more innovative teaching methods. This study addresses these challenges by exploring the integration of metacognitive strategies within co-regulated learning environments to enhance listening skills among low-proficiency learners. Although previous research has demonstrated the benefits of metacognitive strategies for improving listening (Vandergrift & Goh, 2012; Panadero, 2017), there has been limited exploration of these strategies in co-regulated environments, particularly for A1-A2 learners. Metacognitive strategies enable learners to plan, monitor, and evaluate their comprehension, making them more active participants in the listening process.

Co-regulated learning environments, which emphasize collaboration and shared responsibility, provide essential support for reducing anxiety, promoting strategy sharing, and boosting motivation—critical factors for low-proficiency learners. This mixed-methods study investigates the potential of combining metacognitive strategy training with co-regulated learning to improve listening skills among A1-A2 level EFL students. The findings aim to offer valuable insights for educators seeking to empower low-proficiency learners, contributing to the field of language education by building on the foundational work of scholars such as Vandergrift & Goh (2012), Panadero (2017), and Zheng et al. (2023).

Research Objectives

1. To evaluate the intervention's effect on participants' listening comprehension.
2. To analyze the effectiveness of specific metacognitive listening strategies used in the intervention.
3. To explore students' perceptions of the intervention, including its challenges and benefits.

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Research Methodology

Research Design

This study used a mixed-methods design with a convergent parallel approach, allowing for simultaneous collection and analysis of quantitative and qualitative data. Quantitative data focused on pre- and post-intervention listening comprehension assessments, while qualitative data explored participants' experiences through interviews, observations, and focus groups. This approach provided a comprehensive understanding of the intervention's effectiveness.

Participants

Sixteen low-proficiency EFL students in the Business English major at Phetchabun Rajabhat University were purposively selected. These students, primarily from rural areas with limited English exposure, were at A1 or A2 levels on the CEFR scale, ensuring a focus on those most in need of listening comprehension support. The 15-week intervention focused on integrating metacognitive listening strategies within a co-regulated learning environment. Strategies such as planning, monitoring, evaluating, and problem-solving were taught through structured lesson plans that included modeling, guided practice, and independent application. Lessons featured warm-up discussions, strategy modeling with think-aloud methods, paired practice, independent reflection, and group discussions to reinforce learning. Grounded in Vygotsky's social constructivist theory, the co-regulated learning environment promoted shared regulation among peers. Small group tasks facilitated interactive dialogue and dynamic interaction, helping students adjust their approaches based on peer feedback and reflection.

Research Instruments

Listening Tests: Pre- and post-intervention tests with 40 multiple-choice items assessed listening comprehension in various domains, with a reliability score (Cronbach's alpha) of 0.87. *Metacognitive Awareness Listening Questionnaire (MALQ):* The MALQ, adapted for this study, measured changes in metacognitive strategy use, achieving a Cronbach's alpha of 0.89. *Observations:* Classroom observations monitored strategy use, collaboration, and engagement, validated through expert review and pilot testing. *Interviews and Focus Groups:* Semi-structured interviews and focus groups provided insights into individual and collective experiences. Protocols were refined through expert consultation and piloting.

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Data Collection

Data were collected in three phases: *Pre-intervention Phase:* Administration of the pre-intervention listening test and MALQ, along with initial interviews to gather baseline data. *Intervention Phase:* Ongoing classroom observations and weekly reflective journals documented students' use of strategies and learning experiences. *Post-intervention Phase:* Completion of the post-intervention listening test and MALQ, followed by follow-up interviews and focus groups to evaluate the intervention's effectiveness.

Data Analysis

Quantitative data from the listening tests and MALQ were analyzed using paired t-tests to compare pre- and post-intervention scores. Descriptive statistics summarized performance and metacognitive awareness, with effect sizes calculated to measure the impact of the intervention.

1) Ethical Considerations

Ethical guidelines were strictly followed, with informed consent obtained from all participants. Confidentiality and anonymity were maintained, and measures were in place to ensure participants could provide honest feedback without bias.

Results

1) Quantitative Findings

The intervention’s impact on listening comprehension was assessed using a paired samples t-test, revealing a statistically significant improvement in scores ($t(15) = -5.15$, $p < 0.001$).

Table 1: Descriptive Statistics for Listening Comprehension

Measure	Pre-Intervention	Post-Intervention
Mean	55	72
Standard Deviation	8.5	9.2

The mean score increased from 55 to 72, showing a substantial improvement. The 17-point increase underscores the effectiveness of the metacognitive strategies taught during the intervention.

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Table 2: Paired Samples t-test Results for Listening Comprehension

Measure	Mean Difference	Standard Deviation	t-value	df	p-value
Pre-Post Listening Scores	-17	6.5	-5.15	15	< 0.001*

*Indicates statistical significance at the $p < 0.001$ level.

The improvement aligns with previous research (Vandergrift & Goh, 2012; Teng & Zhang, 2020) supporting the efficacy of metacognitive strategies. However, the small sample size (n=16) limits the generalizability, suggesting the need for larger studies. The Metacognitive Awareness Listening Questionnaire (MALQ) also showed a significant increase in awareness ($t(15) = -2.78$, $p < 0.05$).

Table 3: Descriptive Statistics for Metacognitive Awareness (MALQ)

Measure	Pre-Intervention	Post-Intervention
Mean	3.2	3.6
Standard Deviation	0.55	0.62

The mean MALQ score increased from 3.2 to 3.6, indicating that students became more adept at employing metacognitive strategies during listening tasks. This improvement in metacognitive awareness suggests that students not only enhanced their comprehension skills but also became more conscious of their cognitive processes during listening.

Table 4: Paired Samples t-test Results for Metacognitive Awareness (MALQ)

Measure	Mean Difference	Standard Deviation	t-value	df	p-value
Pre-Post MALQ Scores	-0.4	0.35	-2.78	15	< 0.05*

*Indicates statistical significance at the $p < 0.05$ level.

Students were taught to set specific goals, activate prior knowledge, and anticipate challenges before listening. This strategy helped them focus on critical elements of the audio, improving overall comprehension. One student noted, *"Planning helps me know what to expect and focus on important parts,"* illustrating how foresight and preparation enhanced listening efficiency. During listening tasks, students regularly

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assessed their understanding and identified areas of confusion, allowing real-time adjustments to their strategies. A student shared, *"While listening, I keep asking myself if I understand. If I don't, I try to catch up by focusing more,"* highlighting the importance of continuous self-monitoring. This involved techniques like seeking clarification, making inferences from context, and re-listening to difficult parts. Problem-solving was crucial for overcoming comprehension obstacles. A student described, *"When I get confused, I try to rewind or ask someone to help me understand,"* reflecting the practical application of this strategy during listening tasks.

The increase in metacognitive awareness and effective use of these strategies were particularly beneficial for low-proficiency learners, consistent with the findings of Vandergrift and Goh (2012).

2) Qualitative Findings

Interviews and focus groups revealed key themes that highlighted both cognitive and emotional impacts: *Pre-listening Preparation:* Predicting content and activating prior knowledge helped students focus more effectively. *Active Monitoring:* Students frequently reassessed their understanding, aiding real-time problem-solving. *Post-listening Reflection:* Regular discussions deepened understanding and strategy effectiveness. *Collaborative Environment:* Peer support reduced anxiety and increased motivation, facilitating strategy sharing and enhancing learning. Students noted challenges in initially adopting these strategies and managing time effectively. Some required additional support to fully integrate these practices into their learning.

The integration of quantitative and qualitative data confirms the effectiveness of combining metacognitive strategies with a co-regulated learning environment. This approach significantly improved listening comprehension and fostered a supportive learning atmosphere for low-proficiency EFL students. While these findings align with existing research, they also offer new insights into practical applications, highlighting areas for future exploration, such as time management and strategy adoption.

Summary

The findings of this study demonstrate the effectiveness of integrating metacognitive strategies with co-regulated learning to enhance listening comprehension skills in low-proficiency EFL undergraduate students. This approach, which emphasizes both self-regulation and collaboration, significantly improved students' ability to manage their listening tasks, reduced their anxiety, and increased their motivation. The research provides a holistic method to address the challenges faced by learners at lower proficiency levels.

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Discussion

The significant improvement in listening comprehension skills observed in this study aligns with existing literature that supports the use of metacognitive strategy instruction to enhance language comprehension. For instance, these findings are consistent with those of Goh (2008) and Vandergrift (2007), who also reported the effectiveness of metacognitive strategies in improving listening skills. However, it is important to note that while our results mirror these studies, the specific context of low-proficiency EFL learners in Thailand may influence the extent to which these findings can be generalized. Furthermore, the study's findings are underpinned by Vygotsky's social constructivist theory, which emphasizes that learning is most effective in collaborative environments where learners can interact and share strategies. The increase in metacognitive awareness among participants further validates the intervention's success, reflecting similar outcomes reported by Derakhshan, Taherian, and Khodabakhshzadeh (2021). However, the dynamics within the co-regulated learning environment—such as the varying levels of student engagement and the influence of peer interactions—warrant further exploration to fully understand how these factors contributed to the outcomes observed.

Qualitative data from this study also highlight the effectiveness of strategies like predicting content, monitoring comprehension, and problem-solving, aligning with broader literature on metacognitive strategy training. These strategies not only improved listening comprehension but also played a crucial role in reducing anxiety and boosting motivation. While these findings resonate with research by Panadero (2017) and Zheng et al. (2023), which emphasize the importance of collaborative learning environments, they also suggest that individual differences among learners—such as their initial levels of motivation and anxiety—may impact the effectiveness of these strategies. Overall, the positive outcomes reported by students underscore the importance of a co-regulated learning environment in providing the necessary emotional and social support for effective learning. However, the study's small sample size and specific focus on Business English majors at Phetchabun Rajabhat University limit the generalizability of the findings, suggesting a need for further research in different contexts.

Recommendations

Educators should prioritize the explicit instruction of metacognitive strategies to help learners develop self-regulation and reflective listening practices. Creating a supportive co-regulated learning environment is also crucial for reducing anxiety, encouraging strategy sharing, and enhancing motivation. Regular assessment and feedback on metacognitive

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strategy use are vital for helping learners refine their approaches and adapt strategies to their individual needs.

Future Research Directions:

1) Long-term Retention and Application: Educators should prioritize the explicit instruction of metacognitive strategies to help learners develop self-regulation and reflective listening practices. Creating a supportive co-regulated learning environment is also crucial for reducing anxiety, encouraging strategy sharing, and enhancing motivation. Regular assessment and feedback on metacognitive strategy use are vital for helping learners refine their approaches and adapt strategies to their individual needs.

2) Diverse Cultural and Educational Settings: Further research is needed to assess the effectiveness of metacognitive strategy instruction and co-regulated learning across various cultural and educational settings. This will help determine the generalizability of these findings and inform more inclusive and adaptable teaching practices.

3) Role of Technology: Investigating the role of technology in enhancing co-regulated learning and metacognitive strategy use could lead to innovative language instruction methods. Future studies should explore the effectiveness of online platforms and digital tools in promoting collaboration and metacognitive awareness, particularly in remote or blended learning environments.

To enhance the generalizability of future findings, studies should consider expanding the sample size and conducting more detailed examinations of individual differences among learners—such as their motivation, anxiety levels, and prior knowledge. Understanding these factors will help tailor instructional approaches to meet the diverse needs of learners and ensure that metacognitive strategies are effectively integrated into their language learning processes.

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