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Improving EFL Students' Listening and Critical Thinking Skills through Higher-Order Thinking Questions

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Abstract

This study explores the effectiveness of higher-order thinking skills (HOTS) questions in fostering critical thinking among EFL learners in a Listening for Academic Purposes (LAP) class. While academic listening inherently involves cognitive processes such as inference, evaluation, and analysis, EFL instruction often focuses on lower-order comprehension tasks. To address this gap, the study implements HOTS-based questioning strategies within a Classroom Action Research (CAR) framework, promoting reflective teaching and continuous improvement. The research was conducted with six intermediate EFL students over two cycles, incorporating academic audio materials, structured HOTS questions, and student-centered discussions. Data were collected through observation checklists, student reflection sheets, and pre- and post-tests. Findings indicate that students initially struggled with higher-order questions but showed significant improvement in both critical thinking and listening performance after receiving appropriate scaffolding and practice. The post-test results and classroom observations revealed increased engagement, deeper analysis, and more thoughtful responses. This study concludes that integrating HOTS questions into LAP instruction can effectively enhance critical thinking skills in EFL learners. It also highlights the value of reflective teaching practices in adapting instructional strategies to meet learner needs. Implications are offered for language teachers, curriculum designers, and future researchers aiming to enrich listening pedagogy through critical thinking development.

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INTRODUCTION

In English as a Foreign Language (EFL) context, particularly at the university level, learners are expected to move beyond rote memorization and demonstrate independent and critical thinking, especially in receptive skills such as listening. Listening and critical thinking transform learners from passive receivers into active evaluators who assess message accuracy, identify biases, and make reasoned judgments (Ramadhana, 2024). Rather than merely understanding what is being said, critical listeners assess the message in its context, question its validity, and make thoughtful judgments about its meaning and purpose (Baki, 2025). However, many listening classes still emphasize basic comprehension tasks resulting in passive engagement and limited opportunities for deeper cognitive processing.

Studies show that when listening instruction relies heavily on lower-order skills, students experience anxiety, reduced confidence, and a tendency to depend on mental translation (Fu et al., 2023). Common obstacles, including unfamiliar vocabulary (Lengkoan et al., 2022), complex sentence structures (Purwanto et al., 2021), and lengthy spoken passages (Alzamil, 2021), further hinder learners' ability to interpret spoken texts effectively. These difficulties often lead students to adopt inefficient strategies, such as translating isolated words rather than comprehending meaning holistically (Zhang & Graham, 2020; Latupono & Nikijuluw, 2022; Yudhi Prasetyani et al., 2024).

Although these challenges are well-documented, less attention has been given to how Higher-Order Thinking Skills (HOTS) can be systematically integrated into listening pedagogy to address them. HOTS-oriented tasks, such as analyzing speaker intent, evaluating arguments, and synthesizing information, have been shown to enhance both cognitive engagement and listening comprehension (Khanif, 2022; Hasbullah et al., 2022). However, despite their potential, HOTS-based listening activities remain underutilized. Many curricula continue to prioritize surface-level comprehension, and teachers often lack training or resources to design HOTS-oriented materials. As a result, there is still a noticeable gap between the cognitive demands of listening and the types of tasks commonly implemented in EFL classrooms.

To respond to this gap, HOTS can be operationalized through structured instructional interventions such as guiding questions before listening, which activate learners' prior knowledge and direct attention to analytical aspects of the input Chen (2017); the Think–Pair–Share strategy, which encourages learners to articulate interpretations collaboratively and refine higher-order reasoning Zulkifli (2023); and modelling sample answers, which explicitly demonstrates the reasoning process required to construct analytical and evaluative responses (Li et

al., 2017). These strategies provide practical pathways for embedding HOTS into listening instruction and supporting learners in developing critical listening skills.

Considering the limitation, the present study investigates the use of HOTS questions as an instructional strategy to foster critical thinking in an EFL Listening class. The study employs a Classroom Action Research (CAR) approach, which allows for iterative, reflective cycles of planning, action, observation, and reflection. This methodology is particularly well-suited to educational contexts where the goal is not only to examine pedagogical interventions but also to enhance and refine them through ongoing teacher reflection and student feedback. CAR empowers educators to respond to classroom dynamics in real time, making it an ideal framework for investigating how HOTS questions can be integrated meaningfully and sustainably into listening instruction. By grounding the study in practical classroom experience, the research seeks to generate contextually relevant insights that can inform both theory and practice in EFL listening pedagogy.

METHODS

This study employed a Classroom Action Research (CAR) design to investigate the use of higher-order thinking questions in a Listening class. CAR was selected because it enables systematic, iterative improvement of classroom practices through cycles of planning, action, observation, and reflection (Kemmis et al., 2013; Sagor, 2000). In this research, the CAR framework served primarily as a procedural guide rather than a theoretical focus. The study followed two full cycles of CAR. In the planning stage, the researcher identified challenges related to students' limited engagement with higher-order thinking skills (HOTS) in academic listening tasks. Based on this problem, the researcher formulated the research focus, reviewed relevant literature, and designed an intervention consisting of listening activities enriched with HOTS-oriented questions. The lesson plans also included pre-listening scaffolding and guided-practice activities to support students' comprehension.

In the action stage, the researcher implemented the planned instructional activities in the Listening for Academic Purposes course. HOTS-based questions were integrated into each listening task. The researcher facilitated classroom discussions, guided students through the questioning process, and provided prompts when necessary to maintain engagement and encourage deeper cognitive processing. During the observation stage, data were collected to document the implementation and its effects on student learning. Observation checklists were used to record indicators such as participation, engagement, and evidence of higher-order thinking during classroom interactions. Additional data were

obtained from audio-recorded student discussions, pre and post-tests, and student reflection sheets completed at the end of each meeting.

In the reflection stage, the researcher reviewed both quantitative and qualitative findings to evaluate the strengths and weaknesses of each cycle. Quantitative data from pre and post tests were analyzed descriptively to determine changes in students' comprehension and HOTS performance. Qualitative data, including classroom observations, reflection sheets, and discussion transcripts, were analyzed through thematic coding. The coding process involved (1) initial open coding of recurring ideas, behaviors, or patterns; (2) grouping these codes into broader categories related to engagement, cognitive processes, and challenges; and (3) identifying themes that informed decisions for the next cycle. Insights from this analytic process guided revisions to the subsequent planning stage, consistent with the iterative nature of CAR (Kemmis & McTaggart, 2013).

The participants were six fourth-semester students enrolled in a Listening for Academic Purposes course at a private university in Banjarmasin, South Kalimantan, Indonesia. Five participants were female and one was male. Their general listening proficiency, based on prior coursework, ranged from A2 to mid B1 according to the Common European Framework of Reference for Languages (CEFR). Although they had completed general listening materials, the academic listening tasks in this course required more advanced comprehension and higher-order reasoning, making the group appropriate for examining the effectiveness of HOTS-focused instruction.

RESULTS AND DISCUSSION

This section presents the empirical results from the two cycles of Classroom Action Research (CAR). The findings integrate quantitative outcomes with qualitative insights to demonstrate how students' engagement and critical listening skills developed throughout the intervention.

Cycle 1: Initial Engagement and Challenges

Figure 1 illustrates the overall pattern of students' engagement and participation during Cycle 1, showing that only a small number of students demonstrated active involvement across the four observed indicators. As reflected in the chart, the highest level of participation occurred when students were asked to engage in group or pair discussions post-listening and when they were required to listen attentively to the audio material. In contrast, participation sharply declined when students needed to respond to listening tasks or ask questions about the listening content. This uneven distribution of engagement aligns with classroom observations indicating that students were more comfortable with

passive or guided activities, while tasks requiring independent reasoning or the formulation of questions posed a greater challenge.

These patterns further support the finding that many students hesitated when responding to HOTS-oriented questions, particularly those involving inference, interpretation, or evaluation, suggesting that their difficulty stemmed not from unwillingness but from cognitive unfamiliarity with higher-order processing. Hilly and Hasan (2024) substantiate this interpretation by noting that students commonly face listening comprehension difficulties due to unfamiliar lexical patterns (Zhang & Zhang, 2020), ambiguous English sounds (Gwilliams et al., 2023), distracting noise (Nagaraj, 2021), and limited understanding of contextual clues (Mukhtorova & Ilxomov, 2024). Taken together, the quantitative results in Figure 1 and supporting literature indicate that students' low performance on higher-order listening tasks reflects an early-stage cognitive gap, highlighting the need for more structured scaffolding rather than a lack of engagement or resistance to the learning process.

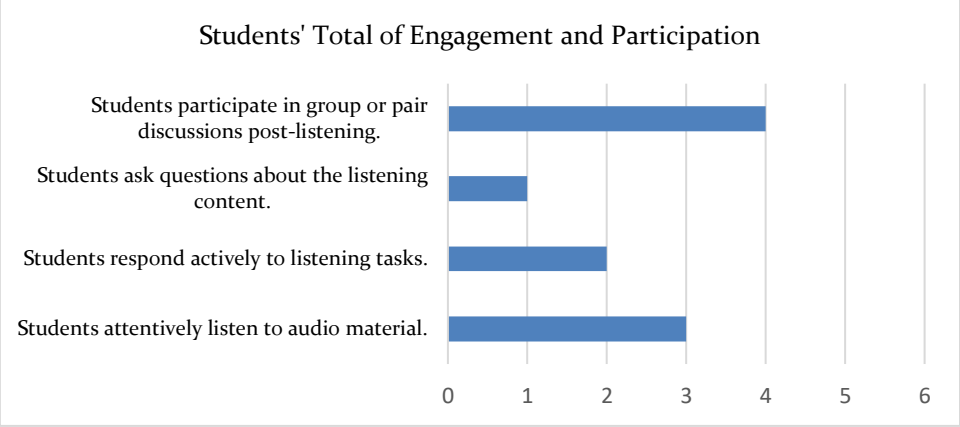

Figure 1 : Students' Total of Engagement and Participation in Cycle one

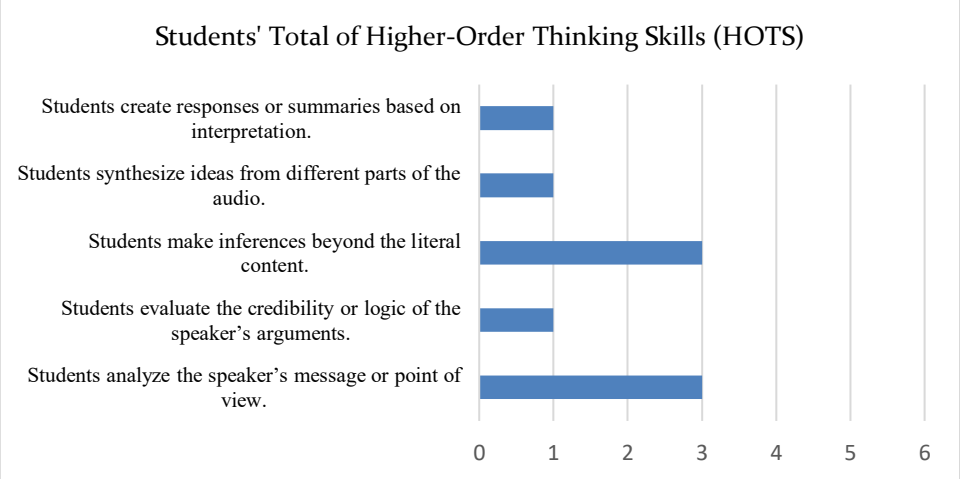

Figure 2 : Students' Total Evidence of HOT Skill in Listening Skill in Cycle One

Figure 2 provides a clearer illustration of the extent to which students demonstrated Higher-Order Thinking Skills (HOTS) during Cycle 1, revealing that evidence of advanced cognitive processing remained minimal across all five indicators. As shown in the chart, only a small number of students were able to engage in HOTS-related tasks, with the highest frequency occurring in making inferences beyond the literal content and analyzing the speaker's message or point of view. In contrast, far fewer students synthesized ideas from different parts of the audio, created interpretive summaries, or evaluated the credibility or logic of the speaker's arguments. This distribution indicates that students were more capable of attempting tasks that relied on intuitive sense-making (such as inference) but struggled considerably with tasks requiring integration of information, critical judgment, or conceptual abstraction. These findings align with previous research showing that EFL learners frequently encounter difficulty transitioning from literal comprehension tasks to more cognitively demanding operations (Wallace, 2020). The low frequencies displayed in Figure 2 are consistent with students' prior learning experiences, which mainly emphasized basic listening skills such as recognizing details, identifying key words, or recalling explicit information.

Despite these limitations, qualitative reflections collected through students' self-reports indicate an emerging shift in mindset. Several students described the HOTS-oriented tasks as "challenging but interesting," emphasizing that the questions encouraged them to view the listening material from perspectives they had not previously considered. This positive orientation suggests that although students have not yet consistently demonstrated high-level performance (as shown in the limited numerical results of Figure 2), they are beginning to appreciate the intellectual value of such tasks. Such developing dispositions are important, as sustained motivation and openness to challenge are strongly associated with improved cognitive engagement and reduced listening anxiety (Awinindia, 2023). Thus, while Figure 2 highlights students' initial difficulties, the qualitative insights point to a promising foundation for further growth in HOTS-focused listening.

Table 1. Pre-test Result of Listening Skill using HOT Questions

No	Students' Name	Pre-test Score	Category
1	Student 1	50	Low
2	Student 2	60	Low
3	Student 3	50	Low
4	Student 4	64	Fair
5	Student 5	75	Fair
6	Student 6	70	Fair
Total		369	
Average		61,5 = 62	
The Highest Score		75	
The Lowest Score		50	

Table 1 presents the pre-test results, which show an average score of 62. Students generally performed well on factual questions but struggled with inference and evaluation items. These results corroborate observational findings by confirming that students lacked proficiency in higher-order listening skills at the outset. The pre-test thus served as a baseline indicator of the specific cognitive skills that required targeted instructional support.

Cycle 2: Scaffolding and Enhanced Performance

Based on the challenges identified in Cycle 1, several targeted adjustments were incorporated into Cycle 2 to provide clearer cognitive support and reduce the barriers students previously faced when engaging with higher-order listening tasks. These adjustments included the introduction of guiding questions before listening, structured think-pair-share activities, and explicit modeling of reasoning processes during instruction. Together, these scaffolding strategies were designed to break down the cognitive demands of HOTS-oriented tasks, enabling students to understand not only what to answer but how to approach analysis, interpretation, and evaluation in a systematic manner.

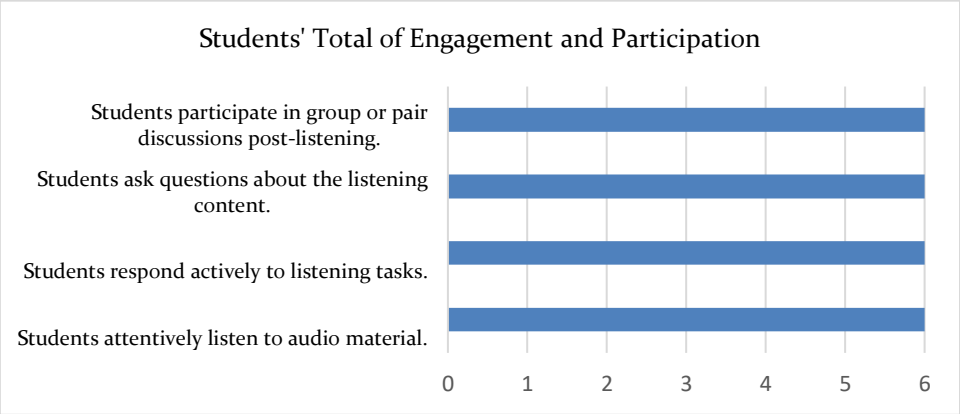

Figure 3 : Students' Total of Engagement and Participation in Cycle Two

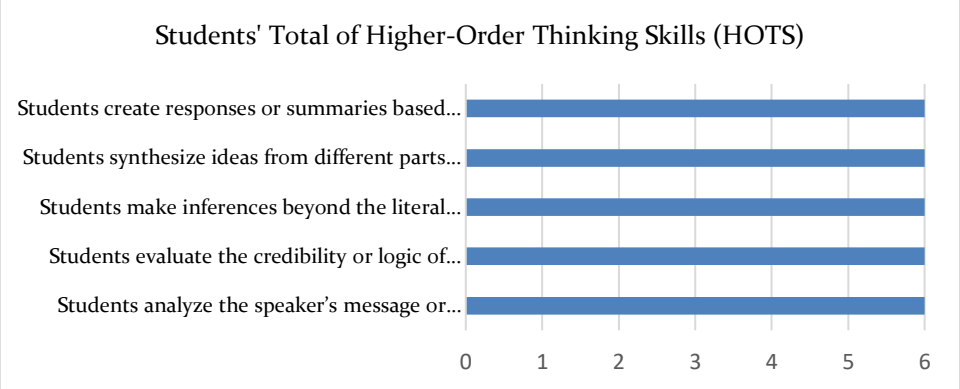

Figure 4 : Students' Total Evidence of HOT Skill in Listening Skill in Cycle Two

The effects of these interventions are illustrated in Figures 3 and 4, which show substantial improvements in both engagement and the demonstration of HOTS during Cycle 2. As seen in Figure 3, all five HOTS indicators reached a total full of score, indicating that every student was able to demonstrate each of these higher-order skills. This marks a considerable increase compared to Cycle 1, where these indicators showed minimal frequency. Likewise, Figure 4 demonstrates a parallel rise in students' engagement and participation, with all categories also reaching the maximum score. This improvement suggests that the scaffolding not only strengthened students' cognitive processing but also boosted their confidence, willingness to participate, and overall classroom involvement. Students became more active contributors in group discussions, exhibited clearer reasoning when identifying key arguments, and even began posing their own questions an important indicator of emerging cognitive autonomy. This finding aligns with Ong and Zhang (2012), who argue that various forms of instructional planning can support students in enhancing their English language learning abilities.

Table 2. Post-test Result of Listening Skill using HOT Questions (End of Cycle 2)

No	Students' Name	Pre-test Score	Category
1	Student 1	70	Good
2	Student 2	75	Good
3	Student 3	75	Good
4	Student 4	80	Excellent
5	Student 5	85	Excellent
6	Student 6	85	Excellent
Total		470	
Average		78,3 = 78	
The Highest Score		85	
The Lowest Score		70	

The quantitative improvement in learning outcomes is further supported by the post-test results shown in Table 2. The average score increased to 78, with most students falling within the 'Good' to 'Excellent' categories. This upward shift confirms that the intervention effectively enhanced students' ability to answer higher-level listening questions independently. These results align with Faravani & Taleb (2020), who argue that instructional questioning practices, particularly the quality, variety, and purposeful delivery of questions, play a crucial role in strengthening EFL learners' listening comprehension. Additionally, the improvement mirrors theoretical perspectives emphasizing the importance of

scaffolding in helping learners transition from lower-order to higher-order cognitive processes (Anderson & Krathwohl, 2001). Once students received explicit guidance on how to navigate HOTS tasks, they were able to transfer these reasoning strategies to formal assessment contexts without relying on teacher support.

More broadly, the findings from Cycle 2 contribute to ongoing discussions in EFL listening pedagogy that advocate for shifting instructional emphasis from basic comprehension skills to more cognitively demanding tasks (Khanif, 2022; Hasbullah et al., 2022). The challenges observed in Cycle 1, such as difficulties with unfamiliar vocabulary, complex structures, and ineffective listening strategies, resonate with patterns documented in the literature. Importantly, this study provides empirical evidence that such difficulties can be mitigated through carefully designed scaffolding interventions. As also noted by Ramadhana (2024), improvements in listening comprehension are strongly tied to the strategic development of students' cognitive engagement and metacognitive awareness.

CONCLUSION

This Classroom Action Research study explored how using Higher-Order Thinking Skills (HOTS) questions in a Listening for Academic Purposes class can support EFL students in developing critical thinking. Across the two research cycles, students initially struggled to respond to HOTS-based listening tasks, but their performance improved noticeably once targeted scaffolding strategies were introduced in Cycle 2. These supports, such as guided questions and structured collaboration, helped students become more confident, more engaged, and more capable of processing listening tasks at a deeper cognitive level. The study thus offers practical guidance on how HOTS can be intentionally and effectively integrated into academic listening instruction.

The study's limitations should also be considered when interpreting the findings. Because only six students were involved, the results cannot be generalized to larger or more diverse learner groups. The CAR design, situated in one classroom within a particular institution, means that the outcomes reflect that specific teaching and learning environment. The researcher's dual role as both teacher and investigator may also have influenced classroom interactions or interpretations of student progress, even though structured observation tools and student reflections were used to minimize bias. In addition, the study was conducted over a relatively short period, making it difficult to determine whether the improvements observed would continue over time or emerge in other types of academic listening tasks.

Even with these limitations, the study adds to broader conversations about HOTS pedagogy by showing how reflective, cyclical teaching practices can strengthen students' critical listening skills. Integrating HOTS-oriented questioning within a CAR framework highlights the value of ongoing reflection and

adjustment in helping learners develop higher-level cognitive abilities. Future research involving larger and more varied student groups, extended timelines, or different scaffolding approaches would offer deeper insight into how HOTS-based listening instruction can be adapted and sustained across diverse educational contexts.

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