Deep Learning-Based English Language Learning Management: Improving Elementary Students' Listening Comprehension Skills

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Abstract
Elementary students' listening skills remain inadequate despite the critical role of listening comprehension in English language acquisition. Traditional teacher-centered approaches fail to engage students meaningfully, creating a gap between curriculum demands and classroom practices. This study examined the implementation of Deep Learning-based English language learning management in improving elementary students' listening skills.
A qualitative case study design was employed at two elementary schools in West Java, Indonesia. Data were collected through interviews with teachers and principals, classroom observations, and document analysis, then analyzed using the Miles and Huberman interactive model. Deep Learning implementation through systematic planning, interactive instruction, and authentic assessment significantly improved students' listening comprehension. At SDN 214 Perumnas Cijerah, main idea identification increased from 45% to 78%, while at SDN Rancanileum improvements rose from 42% to 64%. Students demonstrated enhanced abilities in identifying main ideas, comprehending details, and interpreting contextual meaning. Unexpectedly, students developed metalinguistic awareness, spontaneously comparing English and Indonesian language structures. Supporting factors included teacher readiness and technological infrastructure, while obstacles involved resource limitations and variations in teacher competence. Deep Learning-based learning management effectively enhances elementary students' listening skills across diverse contexts. The study demonstrates that constructivist pedagogical approaches, when systematically implemented, foster active knowledge construction and holistic language development beyond intended instructional objectives.

INTRODUCTION

English language proficiency has become increasingly essential in the globalized world, where effective communication across linguistic boundaries is fundamental to academic, professional, and social success. In the context of elementary education, English language learning serves as a critical foundation for developing comprehensive language competencies that students will build upon throughout their educational journey. Among the four fundamental language skills—listening, speaking, reading, and writing—listening occupies a particularly pivotal position as it functions as the primary gateway through which learners access and process linguistic input. Research has consistently demonstrated that listening comprehension is not merely a passive receptive skill but rather an active cognitive process in which individuals focus on selected aspects of aural input, construct meaning from passages, and relate what they hear to existing knowledge (Vandergrift, 2004). Despite its foundational importance, listening remains one of the most challenging skills for young English language learners to master, particularly in non-native English-speaking contexts where authentic exposure to the target language is limited.

The implementation of Indonesia's Merdeka Curriculum, which emphasizes student-centered learning and the development of 21st-century competencies, has brought renewed attention to the need for innovative pedagogical approaches in English language instruction. This curriculum framework explicitly calls for teaching methodologies that foster critical thinking, creativity,

collaboration, and communication skills—competencies identified as essential for success in contemporary society (Fullan et al., 2018). However, empirical observations in Indonesian elementary schools reveal a significant disconnect between curriculum aspirations and classroom realities. Preliminary observations conducted at several elementary schools in Bandung demonstrate that many students struggle to comprehend even basic information from English audio texts. Teachers report that conventional instructional methods, which predominantly rely on teacher-centered transmission models with minimal integration of digital technologies, remain the norm rather than the exception. Traditional teacher-centered approaches, characterized by rote memorization and passive learning, often fail to engage students meaningfully, leading to reduced motivation and limited language acquisition (Hashim, 2025; Mehdizade, 2025). This pedagogical inertia has resulted in limited opportunities for students to engage actively with authentic listening materials, thereby constraining the development of their aural comprehension abilities.

The existing body of research has identified several critical factors contributing to inadequate listening skill development among elementary school students. Studies have documented that monotonous teaching methodologies constitute a major impediment to effective listening instruction, as they fail to engage students' cognitive and affective domains simultaneously. Furthermore, the absence of systematic learning management frameworks that integrate planning, implementation, and evaluation processes has been recognized as a fundamental weakness in current pedagogical practices. The literature also emphasizes the crucial role of teacher adaptability and competence in implementing curriculum innovations successfully. Recent investigations into Deep Learning approaches—defined as pedagogical strategies that promote profound understanding through active engagement, critical reflection, and meaningful knowledge construction—have demonstrated promising results in enhancing various aspects of literacy and cognitive development. Deep Learning occurs when students gradually take a more active role in their learning processes, practice what they have learned in unfamiliar situations, and transfer knowledge to new contexts to find solutions (Fullan & Langworthy, 2014). Benu (2025) found that Deep Learning methodologies significantly improved students' critical thinking capabilities in English as a Foreign Language classrooms, while Torshizi & Bahraman (2019) documented substantial gains in overall literacy when Deep Learning principles were systematically applied.

Despite these advances, a notable knowledge gap persists in the literature regarding the specific application of Deep Learning principles to listening skill development in elementary English language education. Previous studies have predominantly focused on either general literacy outcomes or secondary education contexts, leaving the unique challenges and opportunities associated with young learners' listening comprehension largely unexplored. Moreover, limited attention has been given to the comprehensive learning management dimensions—encompassing planning, implementation, and evaluation—necessary for effective Deep Learning integration in resource-constrained educational settings. This study addresses these gaps by examining how Deep Learning-based English language learning management can be systematically designed and implemented to enhance elementary school students' listening skills.

The novelty of this investigation lies in its integrated approach to learning management that synthesizes Deep Learning pedagogical principles with specific focus on listening skill development at the elementary level. Unlike previous research that treated these elements separately, this study proposes a holistic model encompassing authentic planning processes, interactive implementation strategies, and process-oriented evaluation mechanisms. Furthermore, this research explicitly considers the multifaceted support systems—including technological infrastructure, parental involvement, and institutional collaboration—that are essential for successful implementation in diverse school contexts.

This study is theoretically grounded in constructivism, which posits that meaningful learning occurs when students actively construct knowledge by connecting new information with existing cognitive schemas (Çelik & Ersanlı, 2025; Bada & Olusegun, 2015). Constructivist theory emphasizes

that learners build new knowledge upon the foundation of previous learning, with prior knowledge serving as a critical foundation for knowledge construction (Cooperstein & Kocevar-Weidinger, 2004; Phillips, 1995). By examining Deep Learning implementation through this theoretical lens, the research contributes to understanding how elementary students develop listening comprehension through active engagement rather than passive reception. The findings hold significant practical implications for educators, curriculum developers, and educational policymakers seeking evidence-based strategies to enhance English language instruction in alignment with 21st-century learning demands. Therefore, this study aims to provide a comprehensive description of Deep Learning-based English language learning management implementation and its effectiveness in improving elementary school students' listening skills, while identifying the factors that facilitate or inhibit successful adoption of this pedagogical approach.

METHODS

This study employed a qualitative approach with a case study research design to explore in depth the implementation of Deep Learning-based English language learning management in improving elementary school students' listening skills. The qualitative case study methodology was selected as it enables researchers to investigate complex phenomena within their real-life contexts through detailed examination of bounded systems (Baxter & Jack, 2008; Stake, 1995; Yin, 2018). This design was particularly appropriate given the research objective of understanding how Deep Learning principles are enacted in authentic classroom settings and the factors that influence implementation success. The case study approach allowed for comprehensive data collection through multiple sources, facilitating an in-depth understanding of the practices, challenges, and outcomes associated with Deep Learning-based instruction in two distinct elementary school contexts (Creswell & Poth, 2018).

The research was conducted at two purposefully selected elementary schools in West Java Province, Indonesia: SDN 214 Perumnas Cijerah in Bandung City and SDN Rancanileum in Bandung Regency. These schools were deliberately chosen to represent contrasting contexts—urban and suburban settings with varying levels of technological infrastructure and resource availability—enabling rich comparative insights into implementation across diverse conditions. Participants were selected using snowball sampling, a purposeful non-probability sampling technique particularly valuable when studying specialized populations or when initial participants can identify other information-rich cases relevant to the phenomenon under investigation (Naderifar et al., 2017; Palinkas et al., 2015). The sampling process commenced with English teachers as primary informants who possessed firsthand experience implementing Deep Learning approaches in listening instruction. These teachers subsequently identified school principals and students who could provide additional perspectives essential for comprehensive understanding of the phenomenon. The final sample comprised two English teachers, two school principals, and six fifth and sixth grade students (three from each school), totaling ten participants whose collective insights enabled data triangulation across multiple stakeholder perspectives.

Data were collected through three complementary techniques to ensure methodological rigor and comprehensive coverage of the research questions. First, in-depth semi-structured interviews were conducted with all participants to elicit detailed information regarding learning planning processes, implementation strategies, evaluation mechanisms, and factors supporting or inhibiting Deep Learning adoption. Second, non-participant classroom observations were undertaken to directly document instructional practices, student engagement patterns, and the application of Deep Learning principles during English listening lessons. Third, documentary analysis was performed on relevant artifacts including lesson plans, teaching modules, curriculum syllabi, and student evaluation records to corroborate interview and observation data. This multi-method approach to data collection enhanced the credibility and trustworthiness of findings through triangulation, a fundamental strategy in qualitative research that involves cross-verifying information from different sources, methods, and perspectives to minimize bias and increase validity (Carter et al., 2014).

The research procedure unfolded in three systematic phases. The preparatory phase involved obtaining ethical clearance, conducting preliminary school site visits, and establishing rapport with gatekeepers and potential participants. The data collection phase spanned three months, during which interviews were audio-recorded and transcribed verbatim, classroom observations were documented through detailed field notes, and relevant documents were systematically gathered and catalogued. The verification phase employed triangulation of sources and methods to ensure data credibility, with member checking conducted to validate researcher interpretations with participant perspectives. Data analysis followed the interactive model proposed by Miles et al. (2019), which conceptualizes analysis as a continuous, iterative process occurring concurrently with data collection. This model comprises three interconnected components: data reduction, in which raw data were condensed through coding and categorizing processes to identify salient patterns; data display, wherein information was organized into matrices and narrative summaries to facilitate pattern recognition and comparison; and conclusion drawing and verification, through which tentative findings were progressively refined and validated against the accumulated evidence. The cyclical nature of this analytical approach enabled researchers to move fluidly between data collection and analysis, allowing emerging insights to inform subsequent data gathering while maintaining analytical rigor and ensuring that conclusions were systematically grounded in empirical evidence.

RESULTS AND DISCUSSION

Results

The implementation of Deep Learning-based English language learning management at SDN 214 Perumnas Cijerah and SDN Rancanileum revealed systematic practices across planning, implementation, and evaluation phases. The findings presented below address the research objective of describing how Deep Learning principles were enacted to improve elementary students' listening skills.

Planning Phase Findings

Observation of lesson planning documents (RPP) from both schools indicated that teachers integrated Deep Learning principles into their instructional designs, although with varying degrees of sophistication. Table 1 presents the key elements identified in the lesson plans analyzed.

Table 1. Deep Learning Elements in Lesson Planning

Planning Component	SDN 214 Perumnas Cijerah	SDN Rancanileum
Learning Objectives	Explicitly stated listening comprehension goals with measurable outcomes	General listening skill development stated
Audio-Visual Media	Integration of digital audio files, videos, and interactive applications	Audio CD players and printed visual aids
Student Reflection Activities	Structured reflection prompts after each listening activity	Limited reflection opportunities noted
Group Discussion Design	Detailed protocols for collaborative listening tasks	Brief mention of pair work

Data source: Document analysis of lesson plans, November 2024

Interview data from Teacher 1 (SDN 214 Perumnas Cijerah) revealed: "I design my lessons to encourage students to actively think about what they hear, not just passively listen. I incorporate prediction activities before listening and reflection sessions afterward." In contrast, Teacher 2 (SDN Rancanileum) stated: "I try to plan reflection activities, but our limited facilities make it challenging to implement interactive listening activities consistently."

The planning phase demonstrated that both schools attempted to incorporate Deep Learning elements, though resource availability significantly influenced the depth of integration. Student participation in planning remained minimal at both sites, with teachers primarily determining learning pathways and activities.

Implementation Phase Findings

Classroom observations documented over six sessions at each school revealed distinct patterns in how Deep Learning principles manifested during actual instruction. Table 2 summarizes the observed instructional practices.

Table 2. Observed Deep Learning Practices During Implementation

Instructional Practice	Frequency at SDN 214	Frequency at SDN Rancanileum	Description
Pre-listening Activation	6/6 sessions	4/6 sessions	Activating prior knowledge through discussion
Interactive Audio Use	6/6 sessions	5/6 sessions	Playing audio materials with pause-and-discuss
Collaborative Meaning-Making	6/6 sessions	3/6 sessions	Group discussions to interpret listening content
Individual Reflection	5/6 sessions	2/6 sessions	Written or verbal personal reflections
Teacher Scaffolding	6/6 sessions	6/6 sessions	Guided support during listening activities

Data source: Classroom observation field notes, November-December 2024

At SDN 214 Perumnas Cijerah, observation protocols documented: "Students actively engaged in predicting content before listening. During audio playback, the teacher paused strategically to facilitate group discussions about meaning. Students demonstrated visible enthusiasm, with 24 out of 28 students (86%) actively participating in collaborative interpretation activities" (Observation Note 3, November 15, 2024).

Contrasting patterns emerged at SDN Rancanileum, where observation notes indicated: "Teacher-led instruction remained more prominent due to limited technological resources. However, when students worked in pairs with shared audio devices, collaborative engagement increased noticeably. Approximately 18 out of 30 students (60%) demonstrated active participation during pair work activities" (Observation Note 4, November 22, 2024).

Student interview data provided additional insight into their learning experiences. Student A (Grade 6, SDN 214) articulated: "I used to just try to catch every word, but now I understand that listening is about understanding the main message. Working with my group helps me understand better." Student B (Grade 5, SDN Rancanileum) noted: "It's easier to understand when we can discuss with friends what we heard. Sometimes my partner catches things I missed."

An unexpected finding emerged regarding students' metalinguistic awareness. At SDN 214 Perumnas Cijerah, students spontaneously began comparing English and Indonesian language structures during listening activities, asking questions such as "Why do they say it differently in English?" This emergent metalinguistic consciousness, not explicitly targeted in the lesson plans, suggests that Deep Learning approaches may activate broader cognitive processes beyond intended learning objectives.

Evaluation Phase Findings

Both schools implemented authentic assessment approaches, though with different emphases and methodologies. Table 3 presents the assessment strategies observed. Principal 1 (SDN 214) explained their evaluation philosophy: "We've shifted from only testing final products to evaluating the process. We observe how students approach listening tasks, how they collaborate, and how they reflect on their understanding. This gives us much richer information about their actual listening development."

Quantitative indicators from teacher assessment records showed measurable improvements in listening skills. At SDN 214 Perumnas Cijerah, pre-implementation baseline assessments (September 2024) indicated that 45% of students could identify main ideas in simple English narratives, while post-implementation assessments (December 2024) showed 78% achieving this competency. For detailed information comprehension, baseline scores showed 38% proficiency, increasing to 72%

post-implementation. At SDN Rancanileum, improvements were more modest but still notable: main idea identification increased from 42% to 64%, and detailed comprehension from 35% to 58%.

Table 3. Authentic Assessment Practices

Assessment Type	Implementation at SDN 214	Implementation at SDN Rancanileum
Listening Comprehension Tests	Multiple-choice and short-answer formats assessing main ideas and details	Primarily multiple-choice focused on literal comprehension
Group Reflection Sessions	Structured group discussions with teacher facilitation (weekly)	Informal whole-class discussions (bi-weekly)
Individual Feedback	Written comments on specific strengths and areas for improvement	Oral feedback during class time
Self-Assessment	Structured self-assessment rubrics completed by students	Informal self-evaluation through class discussion

Data source: Assessment document analysis and teacher interviews, December 2024

Factors Influencing Implementation

Interview and observation data revealed multiple factors influencing Deep Learning implementation success. Supporting factors identified included: (1) teacher pedagogical readiness and openness to innovative approaches, (2) technological infrastructure availability, particularly at SDN 214, (3) supportive school leadership that provided time and resources for planning, and (4) parental awareness and support for different assessment approaches.

Principal 2 (SDN Rancanileum) acknowledged implementation challenges: "Our teachers are enthusiastic and committed, but we struggle with limited digital resources. We have only two functioning LCD projectors for the entire school, which constrains how often teachers can use multimedia listening materials."

Inhibiting factors identified included: (1) insufficient technological infrastructure, particularly affecting SDN Rancanileum, (2) variations in teacher technological competence and confidence in using digital tools, (3) large class sizes (28-32 students) that complicated individualized attention during listening activities, and (4) time constraints within the curriculum that pressured teachers to cover content quickly rather than allowing for deep processing.

Discussion

This study's principal finding—that Deep Learning-based English language learning management can systematically improve elementary students' listening skills—addresses a significant gap in understanding how contemporary pedagogical approaches can be adapted for young learners in resource-diverse contexts. The documented improvements in students' ability to identify main ideas, comprehend detailed information, and interpret contextual meaning provide empirical support for the effectiveness of Deep Learning principles in elementary listening instruction.

The findings strongly corroborate constructivist learning theory, which posits that meaningful learning occurs when students actively construct knowledge by connecting new information with existing cognitive schemas (Çelik & Ersanlı, 2025; Bada & Olusegun, 2015). The observed classroom practices—particularly pre-listening activation activities, collaborative meaning-making, and structured reflection—exemplify how teachers created opportunities for students to build upon prior knowledge. When students at SDN 214 spontaneously began comparing English and Indonesian language structures, they demonstrated the type of active knowledge construction central to constructivist frameworks (Szabó & Csépes, 2024). This emergent metalinguistic awareness suggests that Deep Learning approaches may activate broader cognitive processes than initially anticipated, extending beyond listening comprehension to encompass critical language awareness.

The study's findings align with and extend previous research on Deep Learning in language education. Benu (2025) demonstrated that Deep Learning methodologies improved critical thinking in EFL contexts at the secondary level; the current study extends these findings to elementary education and specifically to listening skill development. Similarly, while Torshizi & Bahraman (2019) documented

literacy improvements through Deep Learning, this study provides granular evidence of how these improvements manifest in the specific domain of aural comprehension. The interactive implementation strategies observed—particularly the strategic use of pause-and-discuss techniques and collaborative interpretation activities—resonate with Fullan and Langworthy's (2014) characterization of Deep Learning as involving active engagement with content, where students "gradually take a more active role in their learning processes, practice what they have learned in unfamiliar situations, and transfer knowledge to new contexts".

The shift toward process-oriented authentic assessment represents a particularly significant finding that merits deeper analysis. Traditional language assessment often emphasizes summative evaluation of discrete listening skills through decontextualized tests, which may fail to capture the complex, dynamic nature of listening comprehension development. The authentic assessment practices observed in this study—group reflections, individualized feedback, and self-assessment rubrics—align with contemporary assessment scholarship emphasizing formative approaches that support ongoing learning rather than merely measuring achievement (Gulikers et al., 2004; Román et al., 2019). As Gulikers et al. (2004) assert, authentic assessment requires "students to use the same competencies, or combinations of knowledge, skills, and attitudes that they need to apply in the criterion situation in professional life."

The documented improvements in listening skills cannot be disentangled from the assessment approaches employed. When teachers at SDN 214 provided specific feedback on how students approached listening tasks rather than simply marking answers correct or incorrect, they enacted formative assessment principles that have demonstrated effectiveness in EFL contexts (Zhang et al., 2024; Román et al., 2019). The integration of self-assessment rubrics represents a particularly valuable innovation, as research indicates that self-assessment encourages students to monitor their own learning needs and can serve as an additional source of information on student learning, promoting metacognitive awareness essential for autonomous language development (National Council of Teachers of English, 2021).

The differential outcomes between SDN 214 Perumnas Cijerah and SDN Rancanileum illuminate how resource availability shapes pedagogical possibilities and student outcomes. While both schools implemented Deep Learning principles, the 14-percentage-point difference in main idea identification improvement (33% at SDN 214 versus 22% at SDN Rancanileum) suggests that technological infrastructure significantly mediates implementation effectiveness. This finding aligns with research indicating that technology-assisted approaches can enhance listening comprehension when appropriately integrated (Xiao, 2025), while also highlighting persistent equity challenges in educational technology access.

However, the notable improvements at SDN Rancanileum—despite limited resources—demonstrate that Deep Learning principles can be meaningfully implemented without extensive technological infrastructure. The effective use of pair work with shared audio devices and teacher-led scaffolding at SDN Rancanileum suggests that pedagogical innovation need not be technology-dependent. This finding has important implications for educational equity, indicating that Deep Learning approaches can be adapted to diverse resource contexts rather than remaining accessible only to well-resourced schools.

The unexpected emergence of students' metalinguistic awareness at SDN 214 merits particular attention as it suggests that Deep Learning approaches may activate cognitive processes extending beyond intended instructional objectives. When students spontaneously began comparing English and Indonesian structures, they demonstrated emergent linguistic consciousness that research associates with more sophisticated language learning (Szabó & Csépes, 2024). This finding suggests that Deep Learning approaches create intellectual space for students to engage in higher-order thinking about language itself, not merely processing linguistic input for comprehension.

While the findings demonstrate Deep Learning's potential, acknowledging implementation challenges provides a more complete and honest assessment of practical feasibility. Teacher

competency variations represent a significant concern requiring systemic attention. As Principal 2 noted, teacher enthusiasm does not automatically translate to effective technological integration. This finding resonates with research emphasizing the importance of comprehensive teacher professional development in implementing innovative pedagogical approaches (Palinkas et al., 2015).

Large class sizes (28-32 students) complicated individualized attention during listening activities, a challenge that persists across many Indonesian elementary schools. The tension between Deep Learning's emphasis on individualized support and the practical realities of large classes suggests that implementation models must incorporate strategies for managing this complexity. The successful use of pair and small group work observed in this study offers one potential solution, enabling more differentiated support within large-class constraints.

This study's theoretical contribution lies in demonstrating how constructivist learning principles can be operationalized specifically for elementary listening instruction through Deep Learning frameworks. By providing detailed documentation of planning, implementation, and evaluation practices, the study offers a concrete model that addresses the "rhetoric-to-reality" gap often noted in educational innovation literature (Yang & Wilson, 2006). The findings suggest that successful Deep Learning implementation requires alignment across multiple dimensions: pedagogical philosophy, instructional practices, assessment approaches, and support systems.

Practically, this research offers educators a viable framework for enhancing listening instruction that can be adapted to varying resource contexts. The detailed documentation of strategies employed at both schools provides actionable guidance for teachers seeking to implement Deep Learning approaches. For administrators and policymakers, the findings underscore the importance of supporting teachers through professional development, providing adequate technological infrastructure where possible, and recognizing that pedagogical innovation can occur even with limited resources when teachers receive appropriate support.

For curriculum developers working within frameworks emphasizing 21st-century competencies— such as Indonesia's Merdeka Curriculum—this study demonstrates how Deep Learning approaches can operationalize curricular goals. The observed development of not only listening skills but also collaborative abilities, critical thinking, and metacognitive awareness aligns with broader educational objectives emphasizing holistic competency development (Fullan et al., 2018).

This study's limitations warrant acknowledgment as they contextualize the findings and suggest directions for future research. First, the research was conducted at only two schools with relatively small sample sizes, limiting generalizability to broader populations. The schools studied, while differing in resource availability, both had teachers who were willing participants in implementing innovative approaches—selection bias that may not represent typical implementation conditions. Second, the three-month implementation period, while sufficient to document initial improvements, cannot reveal long-term sustainability or deeper transformational effects. Longitudinal research would provide insight into whether observed improvements persist and whether Deep Learning approaches continue to be implemented faithfully over time. Third, this study focused exclusively on listening skills; whether similar approaches would prove equally effective for speaking, reading, or writing remains an empirical question. Finally, the qualitative case study design, while appropriate for exploratory research, does not permit causal claims about the relationship between Deep Learning approaches and improved listening skills, as multiple factors beyond the pedagogical approach may have contributed to observed improvements.

This research demonstrates that Deep Learning-based learning management represents a viable and effective approach for improving elementary students' English listening skills across diverse resource contexts. The study's value extends beyond demonstrating effectiveness to illuminating how Deep Learning principles can be systematically enacted through aligned planning, implementation, and evaluation practices. By documenting both successes and challenges, the research provides realistic guidance for educators and policymakers seeking to implement evidence-based listening instruction.

The findings suggest that successful listening instruction requires more than methodological techniques—it demands a fundamental reconceptualization of the teacher's role from knowledge transmitter to facilitator of active meaning construction, and of assessment from summative judgment to formative support for ongoing development. When these elements align within a coherent Deep Learning framework, elementary students can develop not only improved listening comprehension but also the metacognitive awareness, collaborative capacities, and critical thinking skills essential for 21st-century learning. This holistic development represents Deep Learning's ultimate promise: not merely improving specific skills but fostering the kinds of deep understanding and adaptive capabilities that enable students to thrive in an increasingly complex and interconnected world.

CONCLUSION

This study demonstrates that Deep Learning-based English language learning management effectively improves elementary students' listening skills through systematic integration of planning, implementation, and evaluation practices. The findings reveal significant improvements in students' ability to identify main ideas, comprehend detailed information, and interpret contextual meaning, with gains of 33 percentage points at SDN 214 Perumnas Cijerah and 22 percentage points at SDN Rancanileum. The unexpected emergence of metalinguistic awareness among students suggests that Deep Learning approaches activate broader cognitive processes beyond intended instructional objectives, extending to critical language consciousness and comparative linguistic analysis.

This research contributes theoretically by operationalizing constructivist learning principles specifically for elementary listening instruction, demonstrating how active knowledge construction can be systematically enacted through authentic assessment, collaborative meaning-making, and structured reflection. Practically, the study provides educators with an adaptable implementation model applicable across diverse resource contexts, demonstrating that pedagogical innovation need not be technology-dependent when supported by sound instructional design and teacher commitment. The findings underscore the importance of teacher readiness, technological support where available, and collaborative engagement among schools, parents, and students as critical success factors.

However, the study's limitations—including small sample size, three-month implementation period, and focus solely on listening skills—necessitate cautious interpretation of generalizability. Future research should adopt longitudinal designs to examine sustainability of Deep Learning implementation and its long-term effects on language development. Comparative studies exploring Deep Learning effectiveness across other language skills (speaking, reading, writing) would provide comprehensive understanding of this pedagogical approach. Additionally, experimental designs incorporating control groups would strengthen causal inferences regarding Deep Learning's impact on listening comprehension. Investigation of scalability mechanisms for broader implementation across diverse Indonesian educational contexts represents another critical research direction, particularly regarding teacher professional development models that support sustained pedagogical innovation.

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