



Scaffolding EFL Development through Recurrent Multi-Word Sequences in Indonesian Primary Schools

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Abstract

This study examines the role of recurrent multi-word sequences (RMS) as scaffolding devices for enhancing English as a Foreign Language (EFL) proficiency development among Indonesian primary school learners. Grounded in psycholinguistic theories of chunking and processing efficiency, the research investigates how repeated exposure to RMS supports young learners' automaticity, fluency, and confidence in EFL language production. A quasi-experimental design was implemented in two public primary schools that follow Indonesia's Deep Learning framework, which emphasises mindful, meaningful, and joyful learning. The intervention group received explicit instruction in high-frequency multi-word sequences integrated into reading and speaking tasks, while the comparison group followed conventional vocabulary-focused activities. Data were collected through pre- and post-tests, classroom observations, and stimulated-recall protocols to capture both performance outcomes and underlying cognitive processes. Results indicate that learners exposed to RMS showed significantly greater gains in oral fluency, phrase-level accuracy, and task engagement, demonstrating the psycholinguistic value of formulaic language as a scaffold in early EFL education. The study provides empirical evidence for integrating multi-word sequence instruction into Indonesian primary classrooms and offers pedagogical implications for strengthening scaffolded language learning within the national Deep Learning agenda.

A. Introduction

Developing English proficiency among young learners has become one of the most pressing educational challenges worldwide as globalization, digital communication, and multilingual interactions increasingly require children to acquire communicative competence from the earliest stages of schooling (OECD, 2023; UNESCO, 2024; Ellis, 2012). Despite continuous curriculum reforms and substantial investments in language education, many primary school learners in English as Foreign Language (EFL) contexts continue to struggle with producing fluent and meaningful English because classroom instruction frequently emphasizes isolated vocabulary and grammar rather than authentic language use (Conklin & Schmitt, 2008; Wood, 2015; Gao et al., 2024).

In Indonesia, this challenge has become particularly significant following the implementation of the Deep Learning framework, which promotes Mindful, Meaningful, and Joyful Learning as the foundation of competency-based and student-centered education (Ambarita et al., 2025; Diputera et al., 2024; Ricita et al., 2025). Although this reform seeks to strengthen learners' engagement and communicative competence, many primary EFL classrooms still encounter difficulties in translating these pedagogical principles into meaningful language learning experiences, resulting in hesitant speech and fragmented language production (Safira & Astuti, 2025; Muhria et al., 2025).

These classroom challenges suggest that improving young learners' English proficiency depends not only on curriculum reform but also on how language input is cognitively processed and pedagogically delivered. Psycholinguistic research consistently demonstrates that language acquisition is facilitated through repeated exposure to meaningful linguistic patterns rather than isolated lexical items (Ellis, 2012; Wray, 2002). Formulaic language enables learners to store, retrieve, and produce language as larger units, thereby reducing cognitive load while enhancing fluency, structural accuracy, and communicative confidence (Wood, 2015; Jiang & Nekrasova, 2007; Conklin & Schmitt, 2008). These findings indicate that effective EFL instruction for young learners should prioritize patterned language input capable of supporting both cognitive processing and authentic communication, providing a strong theoretical foundation for exploring more systematic forms of formulaic language instruction.

Within this broader framework, recurrent multi-word sequences (RMS) represent a specific and highly productive type of formulaic language that holds strong potential for supporting early EFL development. RMS refer to frequently

occurring combinations of words that learners encounter repeatedly in authentic language input, allowing them to internalize predictable linguistic patterns (Gheitasi & Enever, 2022; Schulz et al., 2023). These sequences carry not only lexical meaning but also grammatical and pragmatic information, making them particularly valuable for young learners who may struggle to construct sentences from individual words (Ding et al., 2024). Corpus-based and experimental studies have shown that RMS play a crucial role in shaping communicative competence and improving fluency, especially when integrated into contextualized classroom activities (Chen et al., 2023; Vermeki, 2024; Puimège, 2024). Despite these advantages, existing research has largely focused on older learners or second language (ESL) environments, leaving a significant gap in understanding how RMS function within primary EFL classrooms, particularly in the Indonesian context.

The role of RMS becomes even more relevant when viewed through the lens of scaffolding theory, which emphasizes the importance of structured support in enabling learners to perform tasks beyond their current level of competence. Scaffolding provides learners with linguistic and cognitive support that gradually leads to independent performance, often through guided interaction, structured input, and patterned language use. RMS can function as effective scaffolding tools because they provide stable linguistic frames that simplify complex language production (Masoni, 2020). Previous studies have shown that scaffolding through patterned language enhances learners' confidence, participation, and accuracy in classroom communication (Zilin & Zou, 2022). Furthermore, repeated exposure to scaffolded sequences allows learners to transition from controlled production to more spontaneous and fluent use of language (Saito & Hanzawa, 2018). These findings suggest that RMS are not merely linguistic units but also pedagogical tools that can support both cognitive processing and communicative development in early language learning.

From a psycholinguistic perspective, the effectiveness of RMS can be explained through the concept of chunking, which refers to the process of storing and retrieving language in larger units rather than individual words. Chunking enables learners to reduce processing demands, allowing them to focus more on meaning and communication during language tasks (Ellis, 2012). This mechanism is particularly important for primary school learners, whose working memory capacity and linguistic awareness are still developing. Research on automaticity further indicates that learners

who acquire formulaic sequences are able to produce language with fewer pauses and greater fluency because they rely on stored patterns rather than generating sentences word by word (Conklin & Schmitt, 2008; Jiang & Nekrasova, 2007). Stimulated recall studies also reveal that learners frequently use memorized sequences as entry points for speech, demonstrating the role of chunking in real-time language processing (Chen et al., 2023). These psycholinguistic insights provide a strong theoretical foundation for integrating RMS into classroom practice as a means of enhancing fluency and reducing cognitive load.

The integration of RMS into Indonesia's Deep Learning framework offers a promising approach to addressing the gap between policy and practice in EFL classrooms. The principles of mindful, meaningful, and joyful learning align closely with the characteristics of RMS-based instruction, which emphasizes meaningful patterns, repeated exposure, and active engagement (Diputera et al., 2024; Ricita et al., 2025). RMS provide learners with meaningful linguistic units that can be used in authentic communication, supporting deeper understanding and participation (Rakhmasari & Pratiwi, 2025). Classroom-based studies in Indonesia have shown that Deep Learning practices enhance students' engagement, confidence, and collaborative participation (Nurhastuti & Segenil, 2025; Safira & Astuti, 2025). However, the integration of RMS within this framework has not been sufficiently explored, particularly in terms of how it supports both cognitive processing and classroom interaction. This gap highlights the need for empirical research that connects psycholinguistic theory, scaffolding practice, and national curriculum frameworks.

Despite the growing body of literature on formulaic language, scaffolding, and Deep Learning, there remains a lack of comprehensive studies that examine how these elements interact in real classroom contexts. Most existing studies focus on isolated vocabulary instruction or do not capture the dynamic nature of classroom interaction where learners actively construct meaning (Agnesia et al., 2025). There is also limited research combining quantitative measures of learning outcomes with qualitative insights into learners' cognitive processes. Furthermore, few studies have investigated how RMS help young learners move from hesitant speech to more fluent and structured language use in Indonesian primary classrooms (Gao et al., 2024). Even fewer studies have explored how RMS align with and support the principles of the Deep Learning framework that currently guide national educational policy (Ricita et

al., 2025). These gaps indicate a need for a more integrated approach that combines linguistic theory, classroom practice, and empirical analysis.

Based on these considerations, this study aims to investigate how recurrent multi-word sequences function as scaffolding tools to support EFL development among Indonesian primary school learners. Specifically, the study examines how RMS influence learners' fluency, phrase-level accuracy, and engagement in classroom activities, while also exploring the underlying psycholinguistic processes that support these improvements. By employing a quasi-experimental design combined with classroom observations and stimulated recall protocols, the study seeks to provide a comprehensive understanding of both observable outcomes and cognitive mechanisms. This approach offers a novel contribution by integrating RMS instruction within the Deep Learning framework, which has rarely been examined in previous research (Ambarita et al., 2025; Ricita et al., 2025; Van de Pol et al., 2010).

This study argues that recurrent multi-word sequences can significantly enhance young learners' EFL development by acting as both cognitive and linguistic scaffolds. RMS are expected to facilitate faster language processing, reduce hesitation, and support more accurate and confident language production (Schulz et al., 2023; Gao et al., 2024). By enabling learners to process language in larger units, RMS allow for more efficient communication and greater structural control (Jiang & Nekrasova, 2007; Pulido, 2022). At the same time, RMS-based instruction supports the principles of mindful, meaningful, and joyful learning by creating engaging and accessible learning experiences (Diputera et al., 2024; Ricita et al., 2025). Through this integrated approach, the study contributes to both theoretical and pedagogical discussions on how formulaic language can be effectively used to strengthen early EFL development in Indonesian primary education contexts.

B. Method

This study employed a quasi-experimental design using a one-group pretest-posttest approach to examine the development of English as a Foreign Language (EFL) proficiency through the use of recurrent multi-word sequences (RMS) among primary school learners. This design was selected because it enables the measurement of learning gains before and after a targeted instructional intervention in natural classroom settings where random assignment is not feasible due to administrative and ethical constraints (Ali, 2025; Santoso et al., 2025). The focus of the study was on how

RMS-based instruction contributes to improvements in learners' fluency, phrase-level accuracy, and engagement, as well as how these improvements are supported by underlying psycholinguistic processes. The design is particularly appropriate for classroom-based applied linguistics research, as it captures authentic instructional effects while maintaining ecological validity (Puimège, 2024).

The study was conducted in two public primary schools in Indonesia that have implemented the national Deep Learning framework, which emphasizes mindful, meaningful, and joyful learning. These schools were purposively selected because they represent typical classroom contexts where the integration of innovative pedagogical approaches is encouraged but not always fully realized. The participants consisted of Grade 4 students whose level of cognitive and linguistic development allows for meaningful engagement with patterned language input and communicative tasks (Gheitasi & Enever, 2022; Mlakar et al., 2025). In addition to student participants, English teachers from both schools were involved as key informants to provide insights into classroom practices, instructional strategies, and learner responses during the intervention. The inclusion of multiple classroom contexts enhances the robustness of the findings by allowing the study to capture variations in instructional dynamics while maintaining a consistent intervention framework (Vraciu & Pladevall-Ballester, 2020).

The instructional intervention consisted of eight structured lessons focusing on the explicit teaching and practice of high-frequency recurrent multi-word sequences. These lessons were designed to integrate RMS into reading and speaking activities through guided repetition, reading aloud, patterned dialogues, and short communicative tasks. The instructional design was informed by psycholinguistic principles of chunking and automaticity, which emphasize the importance of repeated exposure and meaningful use of language patterns (Ellis, 2012; Conklin & Schmitt, 2008). All lessons were delivered by the same instructor using identical lesson plans across both schools to ensure consistency and reduce variability in instructional delivery. The integration of RMS into classroom activities was aligned with the principles of the Deep Learning framework, particularly in promoting active engagement, meaningful interaction, and enjoyable learning experiences (Diputera et al., 2024; Ricita et al., 2025). This structured yet flexible approach allowed learners to encounter RMS in varied contexts, facilitating both recognition and production.

Data were collected using multiple instruments to capture both performance outcomes and underlying cognitive processes. Pretests and post-tests were administered

to measure learners' fluency, phrase-level accuracy, and recognition of recurrent multi-word sequences. These measures are widely used in EFL research as indicators of language development and processing efficiency. Classroom observations were conducted throughout the intervention to document learner engagement, participation patterns, and the use of RMS during instructional activities (Saito & Hanzawa, 2018). In addition, stimulated recall interviews were carried out with selected students to explore their cognitive processes during language production, particularly how they retrieved and utilized RMS in speaking tasks (Chen et al., 2023). Teachers also provided reflective input regarding students' progress and classroom dynamics, offering additional contextual data that enriched the analysis (Nurhastuti & Segenil, 2025; Ikhwan et al., 2026).

The data analysis combined quantitative and qualitative approaches to provide a comprehensive understanding of the effects of RMS-based instruction. Quantitative data from pretests and post-tests were analyzed using paired-samples t-tests to determine whether the observed improvements in fluency and phrase-level accuracy were statistically significant (Zhu, 2022). Effect size calculations were also employed to assess the magnitude of the intervention's impact. Qualitative data from classroom observations and stimulated recall interviews were analyzed using thematic coding to identify recurring patterns related to scaffolding processes, RMS retrieval, learner engagement, and emerging automaticity (Zilin & Zou, 2022). This mixed-method approach allowed the study to not only measure learning outcomes but also explain how and why these outcomes occurred from a psycholinguistic perspective.

Ethical considerations were carefully addressed throughout the research process. Permission to conduct the study was obtained from the school authorities, and informed consent was secured from teachers and students' guardians prior to data collection. Participants were informed about the purpose of the study, the procedures involved, and their right to withdraw at any time without any negative consequences. All data were treated confidentially, and participants' identities were anonymized in the reporting of findings. The study adhered to ethical standards in educational research, ensuring that the intervention did not disrupt regular learning activities but instead contributed positively to students' learning experiences. By integrating ethical responsibility into the research design, the study maintains both academic rigor and respect for participants' rights.

C. Results and Discussion

This section presents the empirical findings of the study on the use of recurrent multi-word sequences (RMS) to support English as a Foreign Language (EFL) development among Indonesian primary school learners. The results are organized into four interconnected themes: overall learning gains, improvements in fluency and phrase-level accuracy, classroom engagement during RMS-based instruction, and learners' cognitive processing as revealed through stimulated recall interviews. The findings are presented objectively based on quantitative and qualitative evidence, while their theoretical interpretation and broader implications are discussed in the subsequent Discussion section.

1. Results

This section presents the empirical findings of the study on the development of EFL proficiency through the use of recurrent multi-word sequences (RMS) among Grade 4 learners in two Indonesian primary schools. The results are organized into four main areas: overall learning gains, improvements in fluency and automaticity, development of phrase-level accuracy, and observational as well as stimulated recall findings related to engagement and cognitive processing. The presentation focuses strictly on observed data and measurable outcomes derived from pretests, post-tests, classroom observations, and stimulated recall interviews.

a. Overall Learning Gains

The comparison between pretest and post-test results indicates a clear and consistent improvement in learners' EFL performance following the RMS-based intervention. Prior to the intervention, most students demonstrated limited ability to produce extended utterances, often relying on isolated vocabulary and fragmented sentence structures. Their speech was frequently characterized by hesitation, repetition of individual words, and incomplete expressions. However, after the eight-session intervention, a noticeable shift was observed in the way students produced language.

Quantitative analysis revealed a significant increase in overall fluency scores across both schools. The mean fluency score improved substantially, indicating that learners were able to produce longer utterances with fewer pauses. Similarly, phrase-level accuracy scores showed marked improvement, with students demonstrating better control of word order and more consistent use of structured expressions. The paired-samples t-test results confirmed that these improvements were statistically

significant, indicating that the observed changes were not due to chance but were associated with the instructional intervention.

In addition to statistical gains, qualitative observations supported these findings. During the post-test, students appeared more confident in initiating speech and sustaining short conversational turns. Many learners were able to produce complete phrases rather than isolated words, suggesting a shift in how language was processed and retrieved during tasks. These overall gains provide a general picture of improvement, which is further detailed in the following sections.

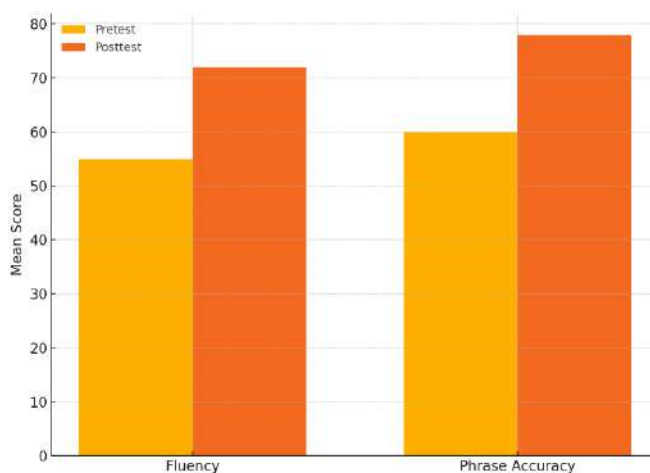


Figure 1. Overall Learning Gains

b. Gains in Fluency and Automaticity

One of the most prominent findings of the study was the improvement in learners' oral fluency, particularly in terms of reduced hesitation and smoother speech production. During the pretest, many students required extended time to initiate responses and frequently paused between words. Their speech patterns indicated a reliance on word-by-word processing, which often disrupted the flow of communication.

Following the RMS-based intervention, a significant change was observed in students' fluency. Post-test recordings showed that learners were able to initiate responses more quickly and maintain a more continuous flow of speech. Pauses became shorter and less frequent, and learners demonstrated greater control over the rhythm of their speech. In several cases, students who had previously struggled to produce even simple sentences were able to complete short speaking tasks independently.

Classroom observation data further illustrate these improvements. During RMS-based activities, students began to produce sequences such as “I want to...”, “Can I have...”, and “There are many...” with minimal hesitation. These sequences were often used as starting points for longer utterances, allowing learners to expand their responses more naturally. By the later sessions of the intervention, many students were observed producing short dialogues with improved continuity and reduced reliance on teacher prompts.

The consistency of these patterns across both schools suggests that the improvement in fluency was not limited to a specific classroom context but occurred broadly among participating learners. These findings are visually represented in the comparative fluency scores shown below.

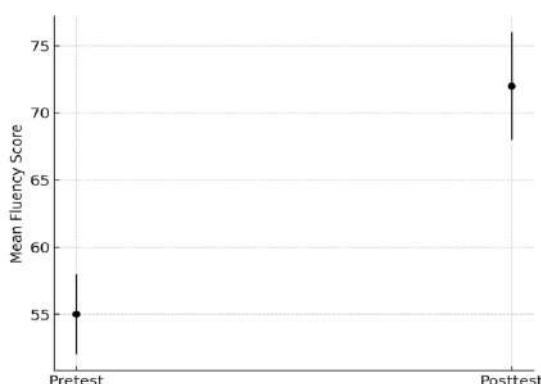


Figure 2. Gains in Fluency and Automaticity

c. Improvements in Phrase-Level Accuracy

In addition to fluency gains, the study also found significant improvements in phrase-level accuracy among the learners. During the pretest, students often produced incomplete or structurally incorrect phrases. Errors in word order, omission of key elements, and incorrect combinations of words were common, reflecting difficulties in constructing meaningful expressions.

After the intervention, a notable shift was observed in the accuracy of students’ language production. Learners began to produce more complete and structurally consistent phrases, particularly when using recurrent multi-word sequences introduced during the lessons. For example, sequences such as “I want to...”, “Can I have...”, and “There are many...” were produced with greater accuracy and consistency across different tasks.

Observation data show that students frequently relied on these sequences as stable linguistic frames during speaking activities. Instead of constructing sentences from scratch, learners appeared to use these patterns as ready-made structures, which allowed them to focus on completing the message rather than organizing individual words. This pattern was evident in both guided activities and more spontaneous interactions, where students demonstrated increased control over phrase construction.

Post-test assessments further confirmed these improvements. Students were able to produce longer utterances with fewer structural errors, and the overall accuracy scores increased significantly compared to the pretest. The consistency of these improvements across both schools indicates that the use of RMS contributed to more reliable and structured language production.

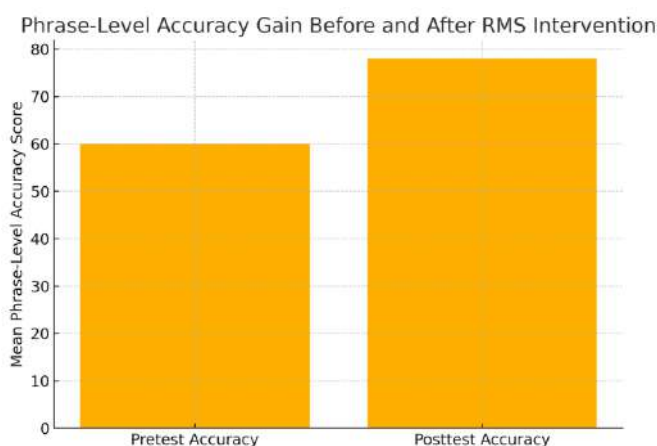


Figure 3. Improvements in Phrase-Level Accuracy

d. Observational Findings: Engagement and Scaffolding

Classroom observation data revealed important changes in learners' engagement and participation throughout the intervention. At the beginning of the study, many students appeared passive during English lessons, often waiting for teacher prompts and showing limited willingness to participate in speaking activities. Their responses were typically short and hesitant, reflecting low confidence in language use.

As the RMS-based lessons progressed, a gradual increase in engagement was observed. Students became more responsive during repetition drills and more active in participating in short dialogues. By the middle of the intervention, many learners

were initiating responses without direct prompting, indicating a shift toward more independent participation.

Teachers also reported noticeable changes in classroom dynamics. Students appeared more attentive during reading-aloud activities and more willing to engage in pair and group tasks. In several instances, learners were observed repeating RMS voluntarily, not only as part of structured activities but also during informal interactions with peers. This behaviour suggests that the use of RMS created a more interactive and engaging learning environment.

By the sixth and seventh sessions, many students demonstrated increased confidence in speaking tasks. They were able to participate in short exchanges with peers, using RMS as part of their responses. This shift from passive to active participation was consistently observed across both schools, indicating a broader pattern of increased engagement.

e. Stimulated Recall: Psycholinguistic Processing

Stimulated recall interviews provided additional insight into how learners processed and utilized RMS during speaking tasks. Students were asked to reflect on their thought processes while completing oral activities, and their responses revealed consistent patterns in how RMS supported language production.

Several learners reported that RMS made speaking easier because they did not need to think of each word individually. Instead, they described recalling whole phrases that they had practiced during the lessons. Some students explained that they used RMS as a way to “start talking,” indicating that these sequences functioned as entry points for speech production.

Other learners described mentally rehearsing RMS before speaking, suggesting that they relied on stored patterns during task performance. This behaviour was particularly evident among students who had shown significant improvement in fluency during the post-test. Their ability to recall and reproduce RMS appeared to support smoother and more continuous speech.

These findings were consistent with classroom observations, where students were seen using RMS repeatedly during speaking activities. The alignment between observed behaviour and students’ reported experiences suggests that RMS played a central role in shaping how learners approached language production tasks.

Overall, the results demonstrate that the use of recurrent multi-word sequences was associated with measurable improvements in fluency, accuracy, engagement, and language processing among Indonesian primary school learners. These findings provide a comprehensive empirical basis for understanding how RMS function in classroom-based EFL instruction.

2. Discussion

The findings of this study confirm that recurrent multi-word sequences (RMS) are not merely supportive linguistic tools but constitute a foundational mechanism in restructuring how young learners engage with English as a Foreign Language (EFL). The improvements observed in fluency, phrase-level accuracy, and engagement indicate a qualitative shift in language processing, suggesting that RMS operate at both cognitive and pedagogical levels. This study firmly argues that early EFL instruction should be reoriented toward patterned and formulaic input, rather than relying on fragmented vocabulary instruction, as this approach better reflects how language is naturally acquired and processed.

The significant gains in fluency demonstrate that learners transitioned from hesitant, word-by-word production to more continuous and structured speech. This transition aligns with the psycholinguistic principle of chunking, where language is stored and retrieved as multi-word units rather than discrete lexical items (Ellis, 2012; Conklin & Schmitt, 2008). However, beyond confirming existing theory, this study contributes by situating chunking within authentic Indonesian classroom practices, thereby extending its applicability beyond controlled experimental environments. Previous studies have often emphasized the role of formulaic language among adult or advanced learners (Wray, 2002; Wood, 2015; Muhria et al., 2025), yet the present findings reveal that even young learners are capable of internalizing and utilizing RMS as functional units that enhance communicative efficiency.

More importantly, the study demonstrates that RMS reduce cognitive load during speech production. Learners were able to initiate responses more quickly and sustain longer utterances, indicating that RMS function as pre-assembled linguistic units that minimize real-time processing demands. This finding is consistent with earlier evidence showing that formulaic sequences are processed faster than non-formulaic language (Jiang & Nekrasova, 2007; Pulido, 2022), yet the present study

advances this understanding by providing classroom-based evidence of how such processing advantages translate into observable performance gains. In this sense, RMS should not be viewed merely as linguistic shortcuts but as essential cognitive resources that enable learners to manage the complexity of real-time communication.

The improvement in phrase-level accuracy further reinforces the argument that RMS act as structural scaffolds. Learners demonstrated increased consistency in producing grammatically appropriate sequences, suggesting that RMS provide stable linguistic frameworks for constructing meaning. This supports findings from Ding et al. (2024) and Chen et al. (2023), who argue that formulaic sequences encode not only lexical but also grammatical and pragmatic information. However, this study emphasizes that accuracy emerges through use rather than explicit instruction. Learners internalized patterns through repeated exposure and meaningful engagement, indicating that grammar acquisition can be facilitated through pattern recognition rather than rule memorization. This perspective aligns with usage-based approaches to language acquisition, which emphasize frequency, repetition, and pattern extraction as key drivers of linguistic development (Bybee, 2006; Tomasello, 2003; Goldberg, 2006).

From a pedagogical standpoint, these findings challenge traditional EFL practices that prioritize isolated vocabulary learning and explicit grammar instruction. Such approaches often assume a linear progression from word knowledge to sentence construction, yet the results of this study suggest a different trajectory. By equipping learners with ready-made linguistic patterns, RMS enable them to bypass some of the cognitive constraints associated with constructing sentences from scratch. This supports the argument that language learning is not solely an analytical process but also a pattern-based and usage-driven phenomenon (Ellis & Wulff, 2015; Larsen-Freeman et al., 2017). Therefore, RMS-based instruction represents not a simplification of language learning but a more authentic reflection of how language is naturally acquired.

Another significant contribution of this study lies in its integration of RMS within the Deep Learning framework. The observed increase in student engagement indicates that RMS-based instruction aligns closely with the principles of mindful, meaningful, and joyful learning (Diputera et al., 2024; Ricita et al., 2025). Learners were more willing to participate, more confident in initiating speech, and more actively engaged in classroom activities. This suggests that RMS not only facilitate linguistic development but also enhance affective dimensions of learning. Engagement has been

widely recognized as a critical factor in educational success (Fredricks et al., 2004; Mercer & Dörnyei, 2020), and the present study demonstrates that engagement can be fostered through the strategic use of patterned language input.

In addition, the findings indicate that RMS can serve as a bridge between curriculum policy and classroom practice. While Indonesia's Deep Learning framework promotes student-centered and meaningful learning, its implementation often remains abstract and difficult for teachers to operationalize (Ambarita et al., 2025; Ricita et al., 2025). This study shows that RMS provide a concrete pedagogical tool that aligns with these principles by combining structure with flexibility. Teachers can integrate RMS into communicative activities, enabling learners to engage in meaningful interaction while receiving sufficient linguistic support. This aligns with broader discussions in educational research that emphasize the importance of practical strategies in translating policy into classroom practice (Fullan, 2007; Hattie, 2009).

The implications of this study extend beyond the Indonesian context and contribute to global discussions on EFL pedagogy, particularly in the Global South. Many educational systems continue to rely on traditional, teacher-centered approaches that emphasize memorization and discrete language items. The findings of this study suggest that a shift toward pattern-based instruction could enhance both learning outcomes and student engagement. This aligns with international calls for more communicative and learner-centered approaches in language education (Richards, 2017; Nation, 2013; Ellis, 2015; Ikhwan et al., 2026). Moreover, studies published in journals such as *Jurnal Ilmiah Peuradeun* have increasingly emphasized the need for integrating local educational contexts with global pedagogical frameworks, particularly in addressing challenges of language learning and curriculum implementation in Asia (Salim et al., 2026). In this regard, the present study contributes to this discourse by offering an empirically grounded model that connects psycholinguistic theory, classroom practice, and national curriculum reform.

At the same time, this study adopts a critical stance toward the uncritical adoption of formulaic language instruction. While RMS proved effective in this context, their success depends on how they are implemented. The structured integration of RMS into meaningful activities, rather than mere repetition, is a key factor in their effectiveness. Without contextualization, repeated exposure to sequences may not lead to meaningful learning. This highlights the importance of teacher expertise in designing and facilitating RMS-based instruction. As emphasized in recent educational research,

effective pedagogy requires not only appropriate materials but also skilled teachers who can adapt instruction to learners' needs (Gavish, 2017; Shulman, 1987).

Furthermore, the study highlights the importance of aligning linguistic input with learners' cognitive and developmental characteristics. Primary school learners require input that is both accessible and meaningful, and RMS provide a way to meet these requirements by offering structured yet flexible language patterns. This aligns with sociocultural perspectives on learning, which emphasize the role of interaction and scaffolding in cognitive development (Vygotsky, 1978; Lantolf & Thorne, 2006). In this sense, RMS can be understood not only as linguistic tools but also as mediational means that support learners' participation in communicative activities.

Despite these contributions, several limitations must be acknowledged. First, the use of a one-group pretest–posttest design limits the ability to make causal comparisons with alternative instructional approaches. Without a control group, it is difficult to determine the extent to which the observed improvements are uniquely attributable to RMS-based instruction. Second, the study was conducted in only two schools, which may limit the generalizability of the findings to other contexts with different socio-cultural and educational characteristics. Third, the relatively short duration of the intervention does not allow for the examination of long-term retention or the sustainability of the observed improvements. Fourth, the reliance on stimulated recall as a method for exploring cognitive processes introduces potential limitations related to self-reporting, as learners may not fully articulate their internal processes. Finally, while the study provides strong evidence of the effectiveness of RMS, it does not explore how individual differences, such as learner proficiency or motivation, may influence the outcomes. These limitations suggest that further research is needed to build a more comprehensive understanding of RMS-based instruction in diverse educational contexts.

D. Conclusion

This study demonstrates that recurrent multi-word sequences (RMS) constitute a powerful pedagogical and cognitive mechanism for enhancing English as a Foreign Language (EFL) development among primary school learners. The findings consistently show that RMS-based instruction enables learners to produce language more fluently, construct phrases more accurately, and participate more actively in classroom interactions. These improvements indicate that RMS function not only as

linguistic input but also as scaffolding structures that reshape how learners process and produce language. By providing stable and reusable patterns, RMS allow learners to move beyond fragmented vocabulary use toward more meaningful and continuous communication.

A key contribution of this study lies in its integration of psycholinguistic principles with classroom-based pedagogy within the Indonesian Deep Learning framework. The results affirm that RMS-based instruction aligns closely with the principles of mindful, meaningful, and joyful learning, as evidenced by increased engagement, confidence, and learner participation. This suggests that the effectiveness of RMS is not limited to cognitive efficiency but extends to affective and behavioral dimensions of learning. In this sense, RMS-based scaffolding offers a practical and theoretically grounded approach to bridging the gap between curriculum expectations and classroom realities in primary EFL education.

More broadly, the study contributes to ongoing discussions in applied linguistics by providing empirical evidence that supports a shift from isolated vocabulary instruction toward pattern-based language learning. The findings reinforce the argument that language acquisition is fundamentally driven by exposure to meaningful and repeated patterns rather than discrete lexical items. By demonstrating how RMS facilitate both fluency and structural accuracy in authentic classroom contexts, the study highlights the importance of rethinking early language instruction in ways that are more aligned with natural language processing and use.

The implications of this study extend beyond the Indonesian context, offering insights for EFL classrooms in similar educational settings where learners face challenges in developing communicative competence. RMS-based instruction provides a scalable and adaptable model that can be implemented in diverse contexts to support early language development. At the same time, the study emphasizes that the effectiveness of this approach depends on its integration into meaningful and interactive learning activities, rather than mere repetition or rote practice.

Building on the findings and the limitations discussed earlier, future research is encouraged to explore RMS-based instruction using more robust experimental designs, particularly by incorporating control groups and comparative interventions to strengthen causal claims. Longitudinal studies are also needed to examine the sustainability of RMS-related gains over time and their impact on broader language competencies beyond fluency and phrase-level accuracy. In addition, further research

should investigate how individual learner differences, such as proficiency level, motivation, and cognitive style, influence the effectiveness of RMS-based learning. The integration of digital tools and technology-enhanced learning environments also presents a promising direction for expanding the application of RMS in contemporary classrooms. Moreover, future studies could explore how RMS interact with other pedagogical strategies within the Deep Learning framework to create more comprehensive and adaptive models of language instruction.

Finally, this study underscores the transformative potential of recurrent multi-word sequences in shaping early EFL development. By positioning RMS as both cognitive and pedagogical scaffolds, the study offers a clear direction for advancing language teaching practices that are more efficient, engaging, and aligned with learners' natural processing capacities. The central message emerging from this research is that meaningful language development begins not with isolated words, but with patterns that enable learners to think, speak, and interact more effectively in the target language.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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