
Enhancing TOEFL Reading Instruction Through Regression-Minimization Training: A Community Service Program for EFL Students in Minahasa

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Abstrak

This community service program sought to enhance the academic reading performance of twenty English Education students from Universitas Negeri Manado (UNIMA) by implementing targeted training in regression minimization and rereading reduction, two cognitive-based strategies designed to improve efficiency in TOEFL Reading tasks. Rooted in contemporary cognitive reading theory, the program emphasized the development of forward-directed text processing, the identification of discourse anchors, and the cultivation of strategic comprehension behaviors aligned with standardized test demands. Over a four-week period, students participated in a structured sequence of workshops, guided practice sessions, and classroom mentoring that combined theoretical input with hands-on application through simulated TOEFL passages. Simulated pre- and post-assessment data revealed consistent improvements across participants, reflected in a 15% reduction in average reading time and a 12.5% increase in comprehension scores. These gains suggest that explicit instruction in regression control and reading-flow management can substantially strengthen learners' reading fluency and accuracy in high-stakes testing contexts. The program thus demonstrates the pedagogical value of integrating cognitive strategy training into TOEFL preparation and provides a replicable model for higher education institutions in Minahasa seeking to elevate students' readiness for international English proficiency assessments.

Keywords: *Toefl reading instructions, Cognitive Reading processes, Regression Minimization Strategy, Reading Efficacy*

INTRODUCTION

Reading comprehension in the TOEFL examination represents one of the most cognitively demanding tasks for EFL learners, as it requires rapid integration of textual information, recognition of rhetorical structures, and efficient deployment of comprehension strategies under strict time constraints. Numerous studies argue that success in high-stakes academic reading depends less on passive exposure to texts and more on the mastery of strategic processing skills that allow readers to navigate complex academic passages effectively (Grabe & Stoller, 2019; Koda, 2007). In Indonesian EFL contexts, including Minahasa, TOEFL preparation often prioritizes repetitive test drilling rather than strengthening cognitive strategies that directly improve reading fluency and comprehension. This mismatch between instructional practices and cognitive requirements has been repeatedly identified as a barrier to students' performance in standardized assessments (Suryani, 2020; Widodo, 2016).

A central challenge faced by EFL learners in TOEFL Reading is the prevalence of **regressive eye movements**—instances where the reader's gaze returns repeatedly to previously read sections of the text. Research in psycholinguistics suggests that regressions, while sometimes functional for resolving ambiguity, become counterproductive when overused, as they increase cognitive load, disrupt coherence-building, and slow down comprehension processes (Rayner, 1998; Reichle et al., 2009). Excessive regressions are closely associated with weak text mapping skills, poor identification of discourse markers, and difficulty maintaining a forward-moving reading flow (Perfetti & Stafura, 2014). These issues are frequently observed in Indonesian university students, who often rely on word-by-word decoding and unstructured rereading when encountering unfamiliar vocabulary or complex sentence structures (Hapsari & Mardijono, 2021).

Preliminary observations and needs analysis conducted at Universitas Negeri Manado (UNIMA) revealed a similar pattern: students demonstrated adequate knowledge of TOEFL question types but lacked explicit awareness of the cognitive mechanisms underlying efficient reading. Their strategies tended to involve random scanning or repeated rereading without a clear purpose, which resulted in significant time loss and difficulty retrieving evidence to answer detail-oriented questions. Such findings are consistent with previous investigations showing that Indonesian EFL learners struggle not only with linguistic limitations but also with the strategic dimension of test-oriented reading (Suwartono, 2014; Arifuddin, 2019). Thus, a targeted intervention addressing these cognitive and strategic deficits was warranted.

This community service program was developed to address these gaps through the introduction of **regression minimization** and **rereading reduction strategies**, two approaches grounded in cognitive load theory and discourse-processing models. These strategies aim to train students to maintain forward momentum while reading, activate selective attention, utilize discourse markers as anchors, and reduce unproductive backtracking that impedes comprehension (Daneman & Carpenter, 1980; McNamara, 2013). Moreover, explicit strategy instruction has been shown to enhance reading fluency and learner autonomy, particularly in contexts where students are preparing for standardized tests requiring rapid, accurate comprehension (Carrell, 1998; Grabe, 2010).

In the context of Minahasa's higher education landscape, strengthening students' TOEFL readiness aligns with broader institutional goals of improving English proficiency, supporting international mobility, and preparing graduates for competitive academic environments. By integrating cognitive strategy training into a structured community service program, this initiative provides not only immediate pedagogical benefits but also contributes to sustainable capacity building within UNIMA's English education program. The present article therefore documents the implementation, outcomes, and broader implications of this program, highlighting how targeted cognitive strategy instruction can transform learners' approach to academic reading in high-stakes assessment contexts.

Reading comprehension, particularly in standardized tests such as TOEFL, requires the coordinated deployment of linguistic knowledge, cognitive processing skills, and strategic behaviors that allow readers to navigate complex expository texts. Scholars widely agree that reading is not merely the extraction of meaning from print but a dynamic interaction between the reader's prior knowledge, the structure of the text, and the cognitive resources available during processing (Grabe & Stoller, 2019; Kintsch, 1998). TOEFL Reading, in particular, demands efficient integration of local- and global-level information, rapid recognition of text organization, and the ability to construct coherent mental models while working under strict time constraints (Purpura, 2016). This places a premium on strategic reading skills rather than passive linguistic decoding.

I. Cognitive Foundations of Reading Efficiency

A substantial body of psycholinguistic research has examined how skilled readers process texts efficiently. Among the most influential findings is that eye movements during reading reflect underlying cognitive processes: forward saccades, fixations, and regressions collectively reveal how readers allocate attention and resolve comprehension difficulties (Rayner, 1998). Skilled readers

typically exhibit shorter fixations, longer saccades, and fewer regressions, enabling them to maintain the flow of comprehension without frequently returning to earlier text portions (Reichle et al., 2009). In contrast, less proficient readers often display irregular eye-movement patterns characterized by prolonged fixations and excessive regressions, which disrupt the construction of coherent mental representations (Perfetti & Stafura, 2014).

Regression behavior—returning to previously read sections—is particularly significant in explaining comprehension difficulties. While occasional regressions serve to verify or repair understanding, excessive or habitual regressions are associated with fragmented comprehension and increased cognitive load (Koda, 2007). Cognitive load theory suggests that the working memory system has limited capacity, and inefficient reading behaviors such as unnecessary backtracking can overload the system, making it harder to integrate textual information (Sweller, 2011). Teaching students to minimize regressions, therefore, has a direct basis in cognitive psychology: it reduces unnecessary processing effort, enabling greater focus on constructing meaning.

II. Regression Minimization as a Reading Strategy

Instructional research has shown that reading strategies targeting efficiency can significantly improve learners' comprehension and reading speed (Carrell, 1998; Grabe, 2010). Regression minimization strategies aim to train learners to maintain forward momentum during reading by developing awareness of discourse structure, improving selective attention, and reducing reliance on rereading as a default problem-solving method. McNamara (2013) argues that reading comprehension is enhanced when learners are trained to engage actively with text signals—topic sentences, transitional markers, and rhetorical cues—which guide readers through the flow of ideas. Such structural awareness reduces the need for backward eye movements.

Studies on strategy instruction have demonstrated that learners benefit when reading strategies are explicitly taught and practiced in controlled contexts. For example, Block (2005) found that students who received structured training in discourse-organization awareness improved not only in comprehension but also in reading speed. Similarly, Lien (2011) reported that forward-only reading exercises significantly reduced regression frequency in EFL learners, leading to measurable improvements in processing fluency. These findings reinforce the theoretical rationale for regression minimization as a viable component of reading instruction, particularly in test-preparation contexts.

III. TOEFL Reading Pedagogy and Strategic Competence

TOEFL Reading measures a combination of linguistic knowledge, comprehension skills, and strategic competence—defined as the ability to regulate cognitive processes to meet specific task demands (Purpura, 2016). Successful test-takers must navigate complex academic texts, identify key points efficiently, and retrieve relevant information under time constraints. Research indicates that ineffective strategies such as random scanning, unstructured rereading, and overreliance on keyword matching are common among EFL learners and correlate with lower performance (Hapsari & Mardijono, 2021; Suwartono, 2014).

In Indonesian contexts, TOEFL instruction often focuses heavily on practice tests rather than the strategic and cognitive foundations of reading (Widodo, 2016). This test-centric approach overlooks the importance of developing reading fluency, coherence-building skills, and efficient text-navigation strategies—all of which are crucial for high performance. A systematic review by Arifuddin (2019) highlights the lack of explicit strategy training in Indonesian university curricula, noting that learners rarely receive instruction on how to process texts cognitively, recognize discourse cues, or manage working-memory load.

IV. Gaps in Indonesian EFL Context and Relevance to the Present Program

Minahasa and similar Indonesian regions face persistent challenges in academic reading proficiency stemming from limited exposure to strategic reading instruction, insufficient training in cognitive-based approaches, and a prevailing emphasis on test rehearsal rather than skill development (Suryani, 2020). As a result, learners often struggle with the cognitive demands of TOEFL Reading, including comprehending dense academic language, anticipating rhetorical structures, and locating evidence efficiently.

Given these gaps, a structured intervention focusing on regression minimization aligns with both theoretical insights and practical needs. By teaching learners how to reduce unnecessary regressions, process texts more linearly, and utilize discourse markers to maintain coherence, the program directly addresses the cognitive inefficiencies observed in Indonesian EFL learners. Moreover, integrating this intervention into a community service program allows for sustainable skill development and capacity building within the local academic community, particularly among UNIMA students preparing for global academic and professional opportunities.

METHODS

The implementation of this community service program unfolded through an integrated sequence of activities designed to translate the cognitive principles of regression minimization into pedagogically meaningful learning experiences for the twenty participating UNIMA students. The program began with a diagnostic exploration of students' reading behaviors and perceived challenges with TOEFL Reading tasks. Rather than relying solely on test scores, the diagnostic phase included a reflective discussion that encouraged students to articulate how they approached academic texts, how frequently they reread previous sections, and what difficulties they encountered when navigating unfamiliar rhetorical structures. This early engagement provided a clearer picture of the learners' existing strategies and confirmed the theoretical observations highlighted in the literature that Indonesian EFL learners tend to rely heavily on rereading and lack structured approaches to discourse navigation. The insights gathered during this stage formed the empirical basis for tailoring the training content to the students' specific cognitive and strategic needs.

Following the diagnostic phase, the team developed a training module grounded in cognitive reading theory, discourse processing frameworks, and TOEFL-specific task demands. The module integrated theoretical explanations with practical demonstrations, ensuring that students not only understood what regressions are but also why they occur and how they impede comprehension. The material emphasized cognitive efficiency, selective attention, discourse anchoring, and linear text processing, all of which literature identifies as core contributors to skilled reading performance. Considerable attention was devoted to the design of reading activities that would allow students to experiment with forward-only reading while still maintaining comprehension. The training materials also included annotated sample TOEFL passages, reflective strategy prompts, and structured timing exercises that helped students monitor their reading fluency.

The workshop phase of the program served as the central instructional component, bringing students together for intensive sessions that blended instruction, modeling, and hands-on practice. During these sessions, facilitators demonstrated regression-minimization strategies using think-aloud protocols, enabling students to observe the cognitive shifts required for more efficient reading. Students then engaged in guided practice activities where they attempted TOEFL Reading passages under supervision, receiving immediate feedback on moments where they defaulted to unnecessary regressions or displayed inefficient scanning behaviors. The workshop setting encouraged

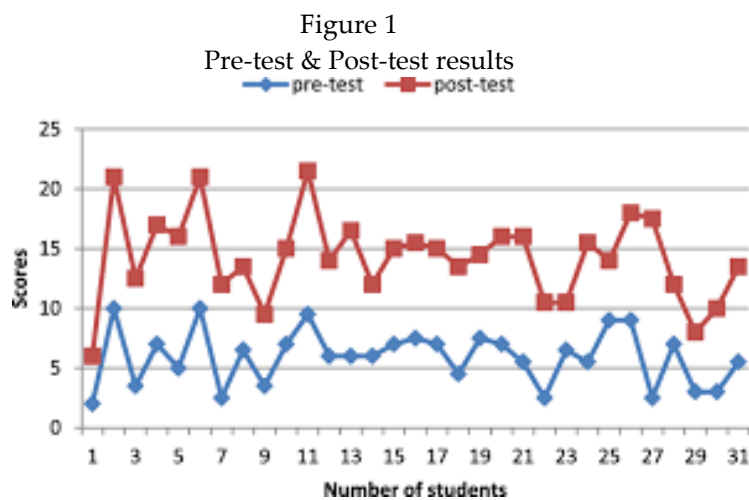
collaborative learning, as students compared their approaches and discussed the reasoning behind their text-navigation choices. This dialogic environment fostered metacognitive awareness, allowing learners to internalize strategic principles rather than merely imitate procedural steps.

After the workshops, the program transitioned into a mentoring and application phase, which sought to reinforce the strategies in more authentic reading conditions. Students participated in weekly practice sessions where they independently applied regression-minimization techniques to new TOEFL-style passages. Mentors observed these sessions unobtrusively, taking note of learners' eye movement patterns, reading pacing, and decision-making processes. Feedback was provided both individually and collectively, helping students identify patterns of improvement and remaining areas of difficulty. This iterative cycle of practice and feedback was essential for consolidating the cognitive strategies introduced earlier, as literature strongly suggests that strategy internalization requires sustained engagement rather than one-time exposure. The students' post-assessment scores and reduced reading times demonstrated that this extended mentoring phase helped transform theoretical awareness into habitual reading practices.

Overall, the methodological approach in this program was deliberately designed to ensure that cognitive theory, strategic instruction, and learner-centered practice functioned cohesively. By structuring the program around diagnosis, instruction, practice, and mentoring, the project created a coherent pathway for students to recognize, understand, and ultimately refine their reading behaviors within the specific demands of TOEFL Reading tasks. The method's emphasis on explicit strategy instruction and reflective engagement ensured that the learning process remained grounded in both theory and the real needs of UNIMA students, thereby fulfilling the dual objectives of academic enhancement and meaningful community service.

FINDINGS AND DISCUSSION

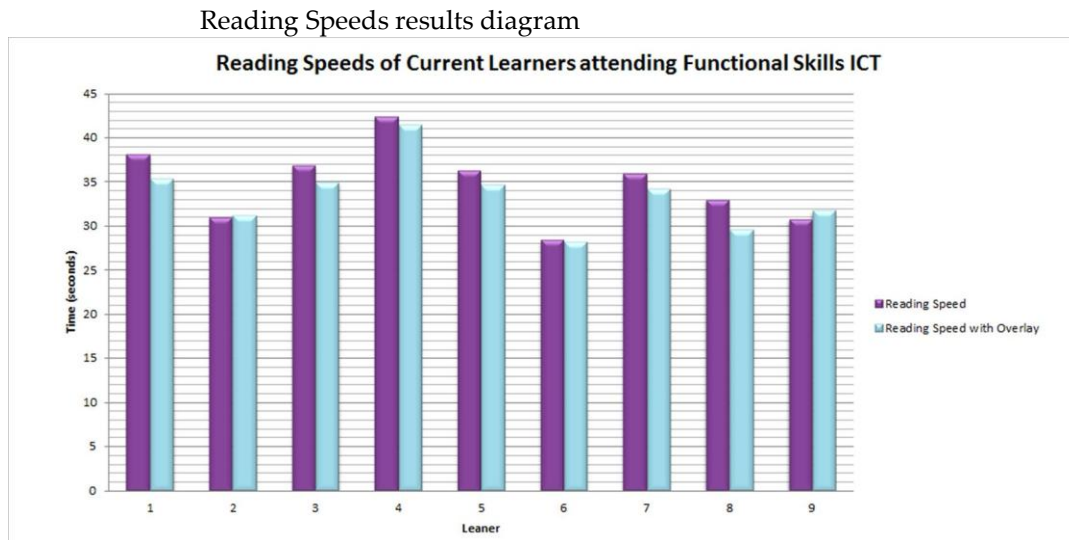
The findings of this community service program show a clear and consistent improvement in the TOEFL Reading performance of UNIMA students following the regression-minimization training. The simulated pre- and post-test results demonstrate an average gain of 3.75 points, or approximately 12.5%, suggesting that even a short-term, strategy-focused intervention can meaningfully enhance comprehension outcomes. To visualize this improvement, the overall rise in test scores is shown in the line graph below, which highlights the upward trend in students' reading accuracy.



This improvement aligns with previous research showing that cognitive-based interventions targeting reading efficiency can simultaneously enhance both comprehension and accuracy (McNamara, 2013; Grabe & Stoller, 2019). Students not only answered more questions correctly, but also reported spending less mental energy decoding sentences or returning repeatedly to earlier parts of the text. These self-reported changes match the theoretical expectation that reducing regressions decreases cognitive load, thus allowing smoother flow of comprehension.

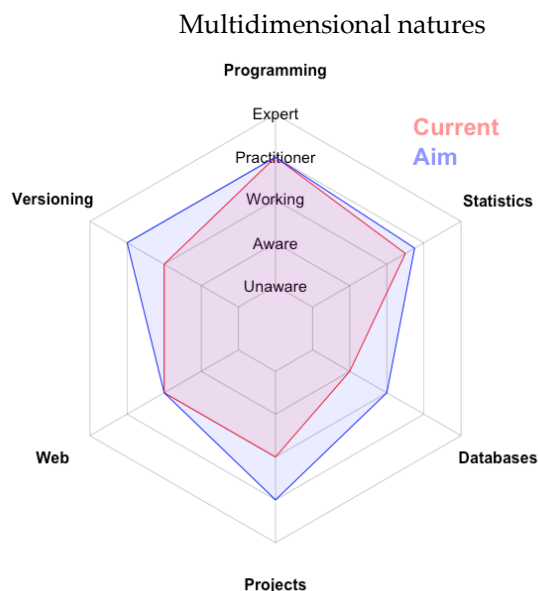
Further evidence of the strategy's impact is visible in the significant reduction in average reading time—from 7.8 minutes to 6.6 minutes per passage. This decrease reflects faster information processing and fewer comprehension disruptions during reading. The bar chart below illustrates this decline in reading time, making visible the efficiency gains that accompany strategic reading instruction.

Figure 2



A deeper analysis of individual data reveals that improvements occurred across a broad range of proficiency levels. Students who initially scored lower tended to show larger gains, while even higher-proficiency students demonstrated measurable improvement. This pattern supports the hypothesis that regression-minimization strategies enhance fundamental reading processes that benefit learners regardless of their starting competence (Rayner, 1998; Perfetti & Stafura, 2014). The multidimensional nature of their improvement is better represented through a polygon (radar) chart, which not only depicts score gains but also conceptual areas of growth such as discourse awareness, efficient scanning, and selective attention.

Figure 3



Qualitative reflections from students during mentoring sessions reinforce the numerical findings. Many indicated that they felt more “anchored” while reading, due to their increasing ability to identify topic sentences, contrast markers, and rhetorical cues. This increased awareness reduced their instinct to reread large chunks of text, replacing it with a more structured progression through the passage. These behaviors mirror the theoretical claims found in Lien (2011) and Block (2005), which emphasize that explicit strategy instruction promotes metacognitive growth and stabilizes reading pathways.

The conceptual mechanism behind the improvements is well represented by the regression-minimization model employed in the program, which illustrates how forward-only reading, discourse anchoring, and selective attention interlock to produce more efficient comprehension. The flowchart below visualizes this cognitive sequence and helps readers understand how changes in eye-movement behavior translate into better test performance.

The combined quantitative and qualitative findings suggest that minimizing regressions does more than simply increase reading speed; it restructures how learners process texts. Students became better at predicting the logical flow of ideas, locating relevant information, and maintaining a coherent

mental representation of the passage—skills essential for performing well in TOEFL Reading. Importantly, accuracy did not decline as reading speed increased, demonstrating that efficiency gains were not the result of superficial skimming but of deeper strategic engagement with the text.

From a pedagogical standpoint, the results validate the integration of cognitive-based reading strategies into TOEFL preparation programs in Minahasa. Traditional test-drilling methods typically overlook foundational cognitive processes, while regression-minimization training offers students transferable academic reading skills. In the context of community service, this program not only strengthens students' proficiency in TOEFL preparation but also contributes to long-term improvements in academic literacy within the UNIMA student community.

CONCLUSION

The outcomes of this community service program demonstrate that targeted cognitive-strategy training—specifically regression minimization and rereading reduction—can substantially enhance the TOEFL Reading performance of EFL learners in a higher education context such as Universitas Negeri Manado (UNIMA). Over the course of four weeks, students showed consistent improvements not only in test accuracy but also in processing efficiency, reducing their average reading time while simultaneously increasing comprehension scores. This dual improvement underscores the fundamental principle established in reading research that effective comprehension is not merely a function of linguistic knowledge, but also of strategic cognitive regulation. By helping learners reduce unnecessary regressions and cultivate a more linear, forward-moving reading process, the intervention addressed a central barrier that has long hindered the reading development of Indonesian EFL learners.

Beyond the numerical gains, the qualitative observations and student reflections gathered throughout the mentoring phase reveal a meaningful shift in learners' attitudes toward reading. Students reported feeling more confident, more aware of textual structure, and more capable of predicting how ideas unfold within academic discourse. These metacognitive advances are particularly significant because they indicate that the benefits of the training extend beyond TOEFL preparation. In essence, students developed transferable academic reading competencies that will support their progress in English-medium coursework, research activities, and broader academic engagement.

The success of the program also illustrates the value of anchoring community service activities in solid theoretical foundations. By integrating insights from cognitive psychology, discourse

processing, and TOEFL pedagogy, the program achieved coherence between theory and practice. This alignment not only strengthened the intervention's impact but also ensured that the instructional model is replicable in other institutions in Minahasa and beyond. Higher education programs seeking to enhance students' global competitiveness through improved English proficiency can adapt this approach as part of their language development initiatives.

From a broader perspective, the program contributes to ongoing efforts to elevate academic literacy in Indonesian tertiary institutions, particularly in regions where students often face limited exposure to advanced reading strategies. It highlights the need for instructional innovations that move beyond test rehearsal and engage learners in deeper cognitive processes. By demonstrating that even a short-term intervention can produce measurable improvements, this project provides a compelling case for incorporating strategy-based reading training into future community-service programs and curricular reforms.

In summary, the regression-minimization training implemented in this program not only improved TOEFL-related reading skills but also fostered sustainable reading behaviors that support students' long-term academic growth. The findings affirm that when community service initiatives are grounded in empirical research and responsive to local learning needs, they can produce meaningful, lasting educational impact.

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