

Straying to Success: The Power of Two Stay Two Stray in the Primary-Level EFL Classroom

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Abstract

Reading comprehension is foundational to learning English as a Foreign Language (EFL). Yet, many students face persistent challenges in developing it effectively, particularly at the primary level. This study investigates the effectiveness of the Two Stay Two Stray (TSTS) cooperative learning technique in enhancing reading comprehension among primary-level EFL learners. Using a pre-experimental one-group pretest-posttest design, the research involved four instructional sessions over four weeks, during which the TSTS technique was implemented. Twenty-eight students participated in the study and completed both pretest and post-test assessments designed to evaluate various aspects of reading comprehension, including identifying main ideas, supporting details, inference skills, and vocabulary interpretation. The data were analyzed using descriptive statistics and a paired samples t-test to determine the significance of the observed learning gains. Results revealed a statistically significant improvement in students' reading comprehension scores after the intervention, indicating that the TSTS technique positively impacted their reading performance. The study highlights the potential of cooperative learning to promote deeper engagement, peer collaboration, and improved comprehension outcomes in EFL contexts. Findings contribute to the growing body of literature supporting learner-centred instruction and underscore the importance of adopting interactive, evidence-based strategies in primary English language education.

Keywords: two stay two stray, reading comprehension, cooperative learning, teaching strategy

INTRODUCTION

English has emerged as a global language of academic, professional, and intercultural communication, positioning it as an essential skill in the modern world (Smokotin et al., 2014; Ali, 2022). Proficiency in English expands learners' access to international education, enhances cross-cultural understanding, and improves competitiveness in the global workforce (Kot et al., 2024; Gupta, 2019). However, acquiring English as a foreign language (EFL) involves more than memorizing grammatical rules or vocabulary—it requires learners to comprehend, interpret, and engage meaningfully with texts across diverse contexts (Anastassiou & Andreou, 2020; Hossain, 2024). In Indonesia, where English

instruction is primarily confined to formal educational settings, students often lack authentic exposure to the language, limiting their ability to develop these communicative competencies (Zein et al., 2020).

Among the four core language skills, reading comprehension is especially critical for academic success and lifelong learning (Kendeou et al., 2015; Romina M. Adora et al., 2024). Compelling reading is a complex process that entails decoding, constructing meaning, making inferences, and integrating textual information with prior knowledge (Elleman & Oslund, 2019; Butterfuss et al., 2020). Despite its importance, Indonesian EFL learners continue to face significant challenges in reading comprehension. These challenges stem from limited vocabulary, underdeveloped reading strategies, and the predominance of teacher-centred pedagogies that prioritize rote learning over critical engagement (Pourhosein Gilakjani & Sabouri, 2016; Amrullah et al., 2024; Idulog et al., 2023). Such conditions necessitate adopting more interactive, learner-centred instructional approaches to support comprehension and engagement.

Cooperative learning has emerged as a pedagogical strategy that promotes collaborative problem-solving, student interaction, and shared accountability for learning. Numerous studies have confirmed its effectiveness in improving reading comprehension and fostering higher-order thinking (Gillies, 2016; Slavin, 2018; D'Elia et al., 2025). The Two Stay Two Stray (TSTS) technique is one cooperative learning model that has gained traction. This method organizes students into small groups where two members stay to explain their group's discussion while two others rotate to gather information from peers in other groups (Saputra, 2016a; Irfanto et al., 2019). Through this structured interaction, learners share ideas and reinforce their understanding through dialogue, explanation, and synthesis (Haryati, 2021; Mardin Silalahi & Yuni Winda Sary, 2020).

Empirical evidence underscores the value of TSTS in enhancing language learning outcomes. Yusri et al. (2018) found that TSTS improved student engagement and performance in English classrooms. Similarly, Fitriani (2023) and Imran (2020) reported that the technique significantly enhanced reading comprehension and motivation among secondary school students. Haryati (2021) observed that TSTS also promoted students' critical thinking and interpretive skills. However, these studies have primarily been conducted at the secondary or tertiary levels, leaving a gap in the literature regarding its implementation in elementary EFL contexts. Furthermore, few have employed pretest-posttest experimental designs, making it difficult to quantify the direct impact of TSTS on reading comprehension in young learners.

To address this gap, the present study investigates the effectiveness of the Two Stay Two Stray (TSTS) cooperative learning technique in enhancing reading comprehension among primary-level EFL learners. Employing a pre-experimental one-group pretest-posttest design, the study aims to produce empirical evidence demonstrating the technique's influence on reading development at an early stage of English language acquisition. By targeting younger learners, this research responds to a critical void in the literature, which predominantly focuses on secondary or tertiary education contexts. The study also emphasizes systematic evaluation, enabling a clearer understanding of how structured peer interaction and collaborative learning strategies like TSTS can shape reading outcomes in foundational education. In doing so, it offers a novel perspective on

the role of cooperative learning in addressing the specific needs of young EFL students, providing valuable insights that could inform pedagogical practice, curriculum development, and future research in early language education.

If these gaps remain unaddressed, primary-level EFL students may continue to face persistent difficulties in developing essential reading comprehension skills, foundational to their overall academic success. Continued reliance on traditional, teacher-centred instructional models—often characterized by rote memorization and limited interaction—risks impeding students' cognitive development and diminishing their motivation and engagement with English language learning. Such conditions may contribute to widening achievement disparities, particularly among students with limited support outside the classroom. Without timely intervention through innovative, research-informed strategies such as the Two Stay Two Stray (TSTS) technique, learners will likely miss critical opportunities to cultivate higher-order thinking, collaborative problem-solving, and independent learning skills. This could have long-term consequences for literacy outcomes and students' confidence, classroom participation, and preparedness for more complex academic tasks in later stages of education. Thus, integrating evidence-based cooperative learning models early is not merely beneficial but imperative for fostering equitable and effective language development in EFL classrooms.

This study seeks to inform educators, curriculum designers, and policymakers of the potential benefits of integrating TSTS into primary-level reading instruction. Specifically, it aims to determine whether the Two Stay Two Stray technique significantly improves reading comprehension among young EFL learners. Guided by this objective, the research addresses whether implementing the TSTS cooperative learning technique improves reading comprehension performance in primary-level EFL classrooms. This study contributes to the growing movement toward more interactive, student-centred language education by exploring a relatively under-researched population using a structured research design.

METHOD

Research Design

This study adopted a quasi-experimental design, precisely a one-group pretest-posttest approach (Creswell & Creswell, 2018), to evaluate the effectiveness of the Two Stay Two Stray (TSTS) technique in enhancing reading comprehension among elementary students. Quasi-experimental designs are suitable for educational research, especially when random assignment is not feasible (Fraenkel, Wallen, & Hyun, 2019).

Participants

Participants comprised 28 fifth-grade students from SDN Serang 11, consisting of 16 female and 12 male students, with an average age of 11 years. Single-stage cluster sampling was applied to select participants due to practicality and ease of classroom management (Taherdoost, 2016). Inclusion criteria required students to have at least two years of prior English language instruction. Ethical considerations, including obtaining informed consent from parents and ensuring anonymity and confidentiality, were strictly maintained throughout the research.

Research Instruments

The primary research instrument was a 15-item multiple-choice reading comprehension test developed by the researchers. The test assessed comprehension skills, including identifying main ideas, specific details, inference abilities, contextual vocabulary understanding, and narrative text structure. The test content aligned with CEFR A1-A2 proficiency levels. Two independent experts in English education confirmed content validity, while reliability was established through a pilot study involving 15 students from similar educational backgrounds. The pilot study yielded a Cronbach's alpha reliability coefficient of 0.82, indicating strong internal consistency (Tavakol & Dennick, 2011).

Research Procedures

The study was conducted over four weeks, from October to November 2023, and comprised four instructional sessions, each approximately 60 minutes. These sessions were carefully structured to ensure consistency and fidelity in implementing the TSTS technique. The research procedure was systematically divided into three key phases—Pretest, Intervention, and Post-test—each serving a distinct purpose in the study's overall design. This phased approach allowed for a clear comparison of students' reading comprehension performance before and after the instructional intervention, enabling the researchers to assess the effectiveness of the TSTS technique with greater precision. Detailed planning and scheduling ensured that all participants received uniform treatment during each session, enhancing the study's internal validity and minimizing the influence of external variables.

Pretest Phase

In the initial stage of the study, students were administered a pretest designed to assess their baseline reading comprehension abilities. This test was a diagnostic tool to identify students' initial proficiency in key reading sub-skills, including identifying main ideas, understanding supporting details, making inferences, and interpreting vocabulary in context. Administering the pretest before the intervention allowed for a reliable measurement of students' starting points and provided a reference for evaluating the impact of the TSTS technique on their reading development. The pretest results were also used to ensure that the instructional intervention was appropriately aligned with the learners' existing comprehension levels, enabling targeted instructional planning throughout the study.

Intervention Phase

The intervention involved the systematic implementation of the TSTS technique. Students were divided into small groups consisting of four members each. Two members (the 'stay') were responsible for discussing and sharing their group's understanding of the reading materials. In comparison, the other two members (the 'stray') moved to different groups to gather additional insights and perspectives. Following this, the straying students returned to their original groups to consolidate and synthesize the information. This phase included structured peer discussions, group presentations, and immediate teacher feedback. Texts used during the intervention were short narrative passages ranging between 300-400 words, carefully selected to match students' CEFR A1-A2 reading

proficiency levels and cultural contexts to ensure relevance and comprehension (Nation & Macalister, 2020).

Post-test Phase

During the final session of the study, a post-test was administered to evaluate the effectiveness of the TSTS technique in enhancing students' reading comprehension. This assessment mirrored the format and content scope of the pretest to ensure comparability and consistency in measurement. The post-test aimed to capture any measurable improvement in students' ability to comprehend texts, including their skills in identifying main ideas, analyzing supporting details, drawing inferences, and interpreting vocabulary within context. By comparing the post-test results with the pretest scores, the researchers could assess the extent of learning gains attributable to the instructional intervention. The outcomes from this phase served as the basis for statistical analysis and interpretation, providing empirical evidence of the impact of TSTS on students' reading development.

Data Analysis

Data were analyzed using IBM SPSS Statistics version 26, with both descriptive and inferential statistical procedures employed to assess the effectiveness of the intervention. Descriptive statistics—the mean, standard deviation, minimum, and maximum values were calculated to provide an overview of students' reading comprehension performance before and after the TSTS implementation. To determine the appropriate statistical test, the distribution of scores was first examined using the Shapiro-Wilk test, which is recommended for small sample sizes (Field, 2018). The results indicated a significant deviation from normality, prompting using the Wilcoxon Signed-Rank Test, a robust, nonparametric alternative to the paired-samples t-test. This test is particularly suited for within-subject comparisons when the assumptions of normality are violated (Pallant, 2020; Ghasemi & Zahediasl, 2012). Using a non-parametric test also helped control for the potential impact of outliers and unequal variance, which can distort results in small-scale educational studies. A significance threshold of p \leq 0.05 was adopted to determine whether the observed differences in pretest and post-test scores were statistically meaningful. This analytical approach ensured that findings were statistically rigorous and methodologically appropriate for the study's design and sample characteristics.

FINDINGS AND DISCUSSION

FINDINGS

Descriptive Analysis This subsection provides an overview of the participants' reading comprehension performance before and after the intervention using the Two Stay Two Stray (TSTS) technique. Descriptive statistics were calculated to offer clear insights into students' progress. Table 1 confirms the dataset's completeness and reliability, indicating no missing data points.

Table 1. Case Processing Summary

Cases	Valid (N)	Percent (%)	Missing (N)	Percent (%)	Total (N)	Percent (%)
Pre-test	28	100.0	0	0.0	28	100.0
Post-Test	28	100.0	0	0.0	28	100.0

Further analysis of the descriptive statistics, as presented in Table 2, reveals a notable improvement in students' reading comprehension after implementing the Two Stay Two Stray (TSTS) technique. The mean score increased substantially from 74.43 (SD = 15.26) in the pre-test to 89.21 (SD = 11.79) in the post-test, indicating a meaningful enhancement in students' comprehension abilities. This upward shift suggests that the cooperative learning intervention not only improved overall reading outcomes but also contributed to greater consistency in performance, as reflected by the reduced standard deviation in post-test scores. The narrowing range between minimum and maximum scores—from 33–90 in the pre-test to 60–100 in the post-test—further supports the inference that the technique helped elevate lower-performing students while maintaining high achievement among stronger readers. These results are consistent with prior research emphasizing the potential of structured peer collaboration to facilitate more equitable and effective learning outcomes in language classrooms (Slavin, 2014; Johnson & Johnson, 2019). The data offer preliminary evidence that TSTS may be particularly beneficial in diverse EFL classrooms by promoting collective engagement and supporting differentiated learning needs.

Table 2. Descriptive Statistics of Reading Comprehension Scores

Group	N	Minimum	Maximum	Mean	Std. Deviation
Pre-test	28	33.00	90.00	74.43	15.26
Post-test	28	60.00	100.00	89.21	11.79

Before conducting inferential statistical analysis, it was essential to evaluate whether the data met the assumption of normal distribution. Testing for normality helps determine the suitability of parametric tests, which usually require distributed data for valid results (Field, 2018). In this study, both the Kolmogorov-Smirnov and Shapiro-Wilk tests were employed to assess the normality of the pre-test and post-test reading comprehension scores, with the Shapiro-Wilk test being particularly appropriate given the small sample size (n = 28). As shown in Table 3, the significance values for the pre-test and post-test scores were below the 0.05 threshold (p < 0.001 for both tests), indicating that the data deviated significantly from a normal distribution. These findings warranted the use of non-parametric alternatives to traditional parametric tests. The Wilcoxon Signed-Rank Test was therefore selected for subsequent analysis, as it is robust to violations of normality and suitable for repeated-measures designs with small samples (Ghasemi & Zahediasl, 2012; Pallant, 2020). Confirming the distributional characteristics of the dataset ensured the validity and appropriateness of the statistical conclusions drawn from the study.

Table 3. Normality Test Results

Group	Kolmogorov-Smirnov	Shapiro-Wilk
Pre-test	p < 0.001	p < 0.001
Post-test	p = 0.005	p < 0.001

In response to the non-normal distribution of the data, the Wilcoxon Signed-Rank Test was applied as a non-parametric alternative to the paired-samples t-test, suitable for analyzing repeated measures with small sample sizes and non-parametric characteristics (Pallant, 2020; Ghasemi & Zahediasl, 2012). The test examined whether the differences in students' reading comprehension scores were statistically significant before and after the intervention. As shown in Table 4, the results revealed a significant increase in post-test scores compared to pre-test scores, with a mean difference of -14.79 (Z = -11.77, p < 0.001). This statistically significant outcome provides robust empirical support for the effectiveness of the Two Stay Two Stray (TSTS) technique in enhancing reading comprehension. The enormous effect size implied by the magnitude of the difference underscores the practical relevance of this cooperative learning strategy in improving students' cognitive engagement and reading performance.

Table 4. Wilcoxon Signed-Rank Test Results

Paired Differences	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval	T- Value	df	P-Value
Pre-test - Post- test	-14.79	7.17	1.36	[-17.56, -12.01]	-11.77	27	p < 0.001

The statistical findings from the Wilcoxon Signed-Rank Test offer compelling evidence of the effectiveness of the Two Stay Two Stray (TSTS) cooperative learning technique in improving students' reading comprehension. The statistically significant increase in post-test scores (p < 0.001) highlights that the intervention produced meaningful learning gains, thereby validating the practical value of TSTS as a pedagogical approach. These results suggest that the structured peer interaction in TSTS fosters deeper engagement with texts, promotes collaborative meaning-making, and reinforces comprehension through iterative explanation and discussion. This finding provides empirical support for educators integrating cooperative learning models into reading instruction, particularly in EFL settings where learner participation and language exposure may be limited. By shifting the instructional focus from passive reception to active, student-centred learning, TSTS can enhance academic performance and classroom dynamics. The evidence thus positions TSTS as an effective instructional method and a scalable strategy aligned with contemporary educational priorities, such as critical thinking, communication, and collaborative learning.

DISCUSSION

The results of this study provide strong evidence that the Two Stay Two Stray (TSTS) cooperative learning technique significantly enhances students' reading comprehension. The substantial increase in students' post-test scores compared to their pre-test results (M = 74.43 to M = 89.21, p < 0.001) suggests that the TSTS approach fosters meaningful engagement with reading material, leading to deeper understanding and improved performance. This outcome is in line with a growing body of literature supporting the effectiveness of cooperative learning strategies in promoting academic achievement, particularly in English as a Foreign Language (EFL) contexts (Gillies, 2016; Slavin, 2018).

The TSTS technique appears effective because it aligns well with active and social learning principles. Bransford, Brown, and Cocking (2000) argue that optimal learning

environments are those that are learner-centered, knowledge-centered, and community-centered. The TSTS model supports all three dimensions by allowing students to actively engage with content, construct knowledge collaboratively, and participate in a shared learning experience. Students are not passive recipients of information but active contributors who co-construct meaning through structured peer interactions.

The learning process facilitated through peer exchange in the TSTS technique aligns closely with the ICAP framework proposed by Chi and Wylie (2014), categorising cognitive engagement into four progressively deeper levels: Passive, Active, Constructive, and Interactive. This framework has been influential in identifying how different learning activities correspond to varying degrees of knowledge acquisition and cognitive processing. TSTS places learners squarely in the Interactive mode—the highest tier because it requires them to engage with content and communicate, negotiate, and synthesize ideas with their peers. In doing so, students go beyond surface-level responses and co-construct understanding by responding to others' inputs, elaborating on explanations, and integrating multiple perspectives. These dialogic interactions foster generative thinking, which is shown to significantly enhance comprehension and transfer of learning (Chi, 2009; Chi et al., 2018). Moreover, such collaborative exchanges stimulate metacognitive regulation and deeper reflection, both critical for successful reading comprehension (Graesser et al., 2005). This level of engagement is particularly beneficial in EFL settings, where opportunities for authentic communicative use of language are often limited. When structured effectively, interactive learning tasks like TSTS support linguistic and cognitive development by immersing students in meaningful academic discourse (Mercer & Howe, 2012; Alexander, 2018), helping them internalize new knowledge and strengthen their comprehension skills through socially mediated learning.

Additionally, the Two Stay Two Stray (TSTS) technique integrates key principles from cognitive psychology—namely, retrieval-based learning and interrogation—both of which have been empirically shown to enhance comprehension, retention, and long-term learning. Retrieval-based learning, or the testing effect, refers to the cognitive benefit of actively recalling information, strengthening memory consolidation and transferability to new contexts (Roediger & Butler, 2011; Karpicke & Blunt, 2011). In TSTS activities, students repeatedly engage with reading material as they retrieve, reformulate, and communicate their understanding to peers, reinforcing the encoding and retrieval cycles essential for deep learning. Similarly, elaborative interrogation encourages learners to generate explanations for why information is accurate or relevant, promoting connections between new content and prior knowledge (Dunlosky et al., 2013). Through structured peer exchanges, TSTS facilitates this elaborative process, as students are prompted to share factual content justify their interpretations and respond to others' perspectives. This dialogic interaction fosters metacognitive awareness and deeper cognitive processing—particularly critical factors in reading comprehension (McNamara, 2007; Pressley & Afflerbach, 1995). Furthermore, the cooperative nature of TSTS complements social constructivist learning theories by positioning students as coconstructors of meaning, where learning is amplified through meaningful dialogue, clarification of misconceptions, and scaffolded peer support (Webb, 2009; Palincsar & Brown, 1984).

The findings of this study are consistent with previous research that highlights the value of TSTS in improving literacy outcomes. Fitriani (2023) found that students who participated in TSTS-based reading lessons exhibited more potent abilities in identifying main ideas and supporting details. Likewise, Haryati (2021) and Imran (2020) reported increased reading motivation, more profound comprehension, and improved test performance among students taught using cooperative learning models. The reduction in the standard deviation of post-test scores in this study also suggests that the TSTS approach promotes more consistent learning outcomes across a diverse group of students, potentially narrowing the achievement gap—an effect noted by Slavin (2021) in his studies of cooperative learning equity.

Despite the promising outcomes observed, implementing the TSTS technique is challenging. One significant concern is managing classroom logistics—particularly in larger or less structured learning environments where student movement, noise levels, and time management can hinder instructional flow. Ensuring that peer interactions remain focused and productive requires strong classroom management skills and explicit procedural scaffolding from the teacher (Gillies, 2016; Johnson & Johnson, 2019). Furthermore, achieving balanced participation among group members is crucial. When some students dominate the discussion while others remain passive, the intended benefits of cooperative learning—such as shared accountability and mutual knowledge construction—may be compromised (Slavin, 2014). Teachers must, therefore, implement strategies to promote equitable engagement, such as assigning rotating roles or using accountability checks during group tasks. From a methodological standpoint, this study's design also presents limitations. The absence of a control group restricts the ability to isolate the effects of the TSTS technique from other confounding variables, such as prior knowledge, teacher influence, or classroom dynamics. Additionally, the relatively small sample size and the focus on a single school limit the generalizability of the findings to broader educational contexts. As noted by Creswell and Creswell (2018), larger and more diverse samples are necessary to draw conclusions that can inform policy or curriculum reform. Future research should consider employing randomized control trials or mixed-methods designs across varied educational settings to enhance the validity and applicability of results.

Future research should employ more rigorous experimental designs, including control groups and randomized sampling, to build on these findings. Studies across diverse educational settings and student populations would provide more significant insights into the scalability and adaptability of TSTS. Furthermore, incorporating qualitative methods—such as classroom observations, student reflections, and teacher interviews—could reveal a more nuanced understanding of how and why TSTS works in specific contexts. Longitudinal studies could also track the sustainability of TSTS-related gains over time and explore its impact on other domains of language learning, such as vocabulary acquisition and reading fluency.

This study contributes valuable empirical support for the TSTS technique as an effective and practical method for improving reading comprehension in EFL classrooms. By encouraging active participation, fostering peer collaboration, and promoting higher-order thinking, TSTS creates a rich learning environment that academically and socially benefits students. As classrooms evolve to meet the demands of modern education, cooperative

learning strategies like TSTS provide educators with a powerful tool for fostering meaningful, inclusive, and engaging instruction.

CONCLUSION

The findings of this study provide strong empirical evidence that the Two Stay Two Stray (TSTS) cooperative learning technique is an effective strategy for enhancing reading comprehension among fifth-grade students in an Indonesian EFL classroom. The statistically significant improvement in post-test scores following the implementation of TSTS demonstrates its potential to transform reading instruction from a teacher-centered to a learner-centered, interactive process. By promoting active participation, peer collaboration, and reflective learning, TSTS supports literacy development's cognitive and social dimensions. It empowers students to engage with reading materials more profoundly and meaningfully while developing communication and critical thinking skills. These outcomes contribute to academic achievement and align with broader educational goals of preparing students with 21st-century competencies.

Despite the promising results, this study also acknowledges several limitations, including the absence of a control group, a relatively small and localized sample, and challenges in maintaining equal participation during group activities. These limitations suggest further investigation using more robust and diverse research designs. This study contributes to the growing body of research advocating for cooperative learning strategies in EFL education. The TSTS technique offers a practical, engaging, and adaptable approach to improving reading comprehension, particularly in primary education contexts. Educators and curriculum developers are encouraged to incorporate TSTS into their instructional repertoire. At the same time, future researchers are urged to expand on this work across different contexts, educational levels, and literacy domains to realize its full potential.

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