

The Effect of 3-2-1 Strategy on Students' Reading Comprehension at Tenth Grade Students of Senior High School

Sismita Paulina¹, Ahmad Hanan², Sudirman³

English Education Department, Mandalika University of Education, Indonesia

Abstract

Reading comprehension remains one of the most persistent challenges in English as a Foreign Language (EFL) instruction, particularly because conventional, teacher-centered techniques often leave students passive and rarely encourage them to reflect on what they read. This study examined whether the 3-2-1 Strategy could significantly improve the reading comprehension of tenth-grade students at SMAN 4 Mataram. A quantitative, quasi-experimental design employing a nonequivalent control group with a pretest-posttest procedure was used, involving 72 students divided into an experimental class (n = 36) taught with the 3-2-1 Strategy and a control class (n = 36) taught through the conventional method commonly used by the teacher. Data were gathered through a 20-item multiple-choice reading comprehension test covering identifying main ideas, finding specific information, making inferences, understanding vocabulary in context, and drawing conclusions, and were analyzed using the Shapiro-Wilk test of normality, Levene's test of homogeneity, and an Independent Samples t-Test. Results showed no significant difference between the two groups at pretest (Sig. = 0.956), confirming comparable initial reading ability, whereas the posttest results revealed a significant difference (t = 4.480, df = 70, Sig. = 0.000), with the experimental class (M = 75.97) outperforming the control class (M = 62.08) by a mean difference of 13.89 points. Overall, the findings indicate that the 3-2-1 Strategy significantly improves students' reading comprehension and offers English teachers a practical, reflection-based technique for teaching reading.

Keywords: 3-2-1 Strategy; Reading Comprehension; Senior High School; Quasi-Experimental Study; EFL.

INTRODUCTION

English occupies a central place among the international languages that shape education, technology, business, and global communication, which means that English proficiency has become an essential competency for students facing an increasingly competitive and knowledge-driven world. Among the four fundamental language skills, reading is widely regarded as one of the most important, since it functions as the primary channel through which students acquire information, broaden their knowledge, and sharpen their critical thinking. Because most learning materials both inside and outside the classroom are presented in written form, adequate reading ability is a decisive factor in students' overall academic success.

Reading comprehension itself refers to the ability to understand, interpret, analyze, and evaluate information contained in a text. The Organisation for Economic Co-operation and Development frames reading literacy as more than simple word decoding; it also involves using, evaluating, reflecting on, and engaging with texts in order to achieve goals, build knowledge, and participate meaningfully in society. Hoover (2024) adds that comprehension itself rests on two interacting components, decoding and language comprehension, so that difficulties in either one can leave a reader unable to construct meaning even when individual words are recognized. In an EFL context this skill becomes especially demanding, since learners must simultaneously process vocabulary, grammatical structure, implied meaning, and the relationships among ideas within a text before they can identify main ideas, locate key information, draw conclusions, and grasp an author's intended message. According to OLADIGBO (2025), reading is an especially valuable skill for foreign language learners because it exposes them to vocabulary, grammatical patterns, and text types that may not be available through everyday spoken communication, making it a key medium through which EFL learners expand their overall language competence.

Despite its importance, reading literacy among Indonesian students remains a persistent concern. Data from the Programme for International Student Assessment show that Indonesia's reading literacy score dropped to 359 points, down from 371 points in 2018 (PISA, 2021). The accompanying report also points to widespread difficulty among Indonesian students in comprehending texts deeply, interpreting information accurately, and evaluating reading materials critically — a pattern that carries serious implications for the broader development of twenty-first-century skills such as critical thinking and problem solving.

This concern is mirrored at the school level. A preliminary observation conducted by the researcher among tenth-grade students at SMAN 4 Mataram found that, of 36 students observed, approximately 24 struggled to draw accurate conclusions from the texts they read, frequently copying sentences verbatim rather than distilling the passage's main idea and often failing to distinguish important information from supporting detail. Several interrelated factors appear to underlie this problem, including limited vocabulary knowledge, a lack of effective reading strategies, low reading interest, and instruction that remains largely teacher-centered. In many lessons, students are simply asked to read a passage and answer comprehension questions without being equipped with any strategy for constructing meaning, which turns reading into a passive rather than an engaging activity. Woolley (2011) argues that learners who struggle in this way need explicit, structured support that guides them through the process of extracting and organizing meaning, rather than being left to comprehend a text unaided.

One instructional strategy considered capable of addressing this gap is the 3-2-1 Strategy, a reflective technique that requires students, after reading a text, to write down three things they learned, two interesting points they discovered, and one question they still have (Dewi et al., 2022). By requiring students to actively identify, organize, and evaluate what they have read, the strategy pushes learners to construct meaning from a text rather than passively receiving it, which in turn is expected to strengthen both comprehension and critical engagement.

Several previous studies lend support to this expectation. Alsamadani (2020) found that the 3-2-1 Reading Strategy produced a significant positive effect on EFL students' reading comprehension while also increasing their engagement during reading activities. Khusniyah and Lustyantje (2017) similarly reported that structured, reflective reading strategies meaningfully improved students' ability to understand information within a text, and Dewi et al. (2022) demonstrated that the 3-2-1 Strategy remained effective even when implemented through online reading instruction. Lestari and Binjai (2018) likewise found a significant effect of the 3-2-1 Strategy on the reading comprehension of senior high school students, further reinforcing confidence in the strategy's effectiveness across different school contexts. Even so, most of this evidence comes from different educational contexts and rarely focuses on tenth-grade senior high school students in Indonesia, let alone in Mataram specifically — a gap the present study seeks to address.

Building on this background, the present study investigates the effect of the 3-2-1 Strategy on the reading comprehension of tenth-grade students at SMAN 4 Mataram, guided by the research question: does the 3-2-1 Strategy significantly affect students' reading comprehension? Two hypotheses frame the investigation: H_a proposes that the 3-2-1 Strategy significantly affects students' reading comprehension, while H_0 proposes that no such significant effect exists.

RESEARCH METHODS

This research employed a quantitative approach, which emphasizes numerical data through the stages of collection, analysis, and presentation of findings, thereby producing measurable and objective information (Sugiyono, 2019). Within this approach, the study followed an experimental framework, adopting a quasi-experimental nonequivalent-control-group pretest-posttest design (Creswell, 2020). It was conducted among tenth-grade students at SMAN 4 Mataram. Because the school does not permit students to be reshuffled across existing classes, the study worked with two already-formed classroom groups rather than randomly assigned participants.

Table 1. Research Design Scheme

Group	Pre-Test	Treatment	Post-Test
Experimental (n = 36)	O_1	X — 3-2-1 Strategy	O_2
Control (n = 36)	O_3	X — Conventional Teaching	O_4

Notes: O_1 and O_3 denote the pretest scores of the experimental and control groups, respectively; O_2 and O_4 denote their posttest scores; X represents the treatment given to the experimental group.

The population targeted in this study included all tenth-grade students enrolled at SMAN 4 Mataram in the 2026/2027 academic year, spread across nine classes. A sample, defined as a small group selected from a population to represent its characteristics (Ary et al., 2021), was drawn using purposive sampling, a technique in which participants are chosen based on specific considerations relevant to the study's objectives (Sugiyono, 2020). Two classes with comparable curricula, materials, and teaching hours were selected in coordination

with the English teacher. Of these, one class (36 students) was designated the experimental group and taught using the 3-2-1 Strategy, while the other class (36 students) served as the control group and was taught through the conventional method commonly applied by the teacher, as detailed in Table 2.

Table 2. Population and Sample Distribution

Class	N (Population)	Group	N (Sample)
Class X-1 – X-7 (7 classes)	—	—	—
Class X-8	36	Experimental	36
Class X-9	36	Control	36

Data collection relied on a 20-item multiple-choice reading comprehension test given at both the pretest and posttest stages, targeting five indicators: identifying main ideas, finding specific information, making inferences, understanding vocabulary in context, and drawing conclusions. A correct response earned 1 point and an incorrect one earned 0; the raw score was then converted to a 0–100 scale using the formula $\text{Score} = (\text{Number of Correct Answers} \div 20) \times 100$. The distribution of items across indicators is presented in Table 3.

Table 3. Table of Instrument Blueprint

No	Reading Comprehension Indicators	Description	Item Numbers	Number of Items
1	Identifying Main Ideas	Students identify the main idea of a paragraph or text	1, 2, 3, 4	4
2	Finding Specific Information	Students locate explicit information from the text	5, 6, 7, 8, 9, 10	6
3	Making Inferences	Students infer information not directly stated in the text	11, 12, 13, 14	4
4	Understanding Vocabulary in Context	Students determine word meanings based on context	15, 16, 17	3
5	Drawing Conclusions	Students draw conclusions from the information presented in the text	18, 19, 20	3
	Total			20 Items

The data-gathering process moved through three phases: a pretest, the instructional treatment, and a posttest. Across several sessions, the experimental class practiced the 3-2-1 Strategy, in which students read an assigned text and then wrote down three things they had learned, two interesting things they had discovered, and one question they still had, followed each time by discussion and feedback. The control class attended the same number of sessions and covered identical reading materials, but through the conventional teaching method rather than the 3-2-1 Strategy. IBM SPSS Statistics was used to process the resulting data. Mean scores and standard deviations were computed to summarize pretest and posttest performance in both groups. Because each group consisted of fewer than 50 participants, the Shapiro-Wilk test was applied to check normality (Pallant, 2020), and Levene's Test was used to assess whether variances between the groups were equal. Finally, an Independent Samples t-Test compared the posttest scores of the two groups; according to Creswell and Creswell (2021), this test is appropriate for comparing the means of two independent groups to determine whether a treatment has produced a statistically significant effect. The two-tailed significance value served as the decision criterion: H_0 would be rejected in favor of H_a whenever Sig. fell below 0.05.

RESULTS AND DISCUSSION

This part presents what the data analysis revealed and connects those findings back to the study's aims. The results are reported first, followed by a discussion situating them within relevant theory and prior research.

Research Results

As Table 4 and Figure 1 illustrate, the experimental group's average score climbed from 49.31 at pretest to 75.97 at posttest a rise of 26.67 points whereas the control group improved only from 49.17 to 62.08, a smaller gain of 12.92 points.

Table 4. Descriptive Statistics of Pretest and Posttest Scores

Group / Test	N	Mean	Std. Deviation	Std. Error Mean
Experimental – Pre-test	36	49.31	10.767	1.795
Experimental – Post-test	36	75.97	12.237	2.039
Control – Pre-test	36	49.17	10.454	1.742
Control – Post-test	36	62.08	14.009	2.335

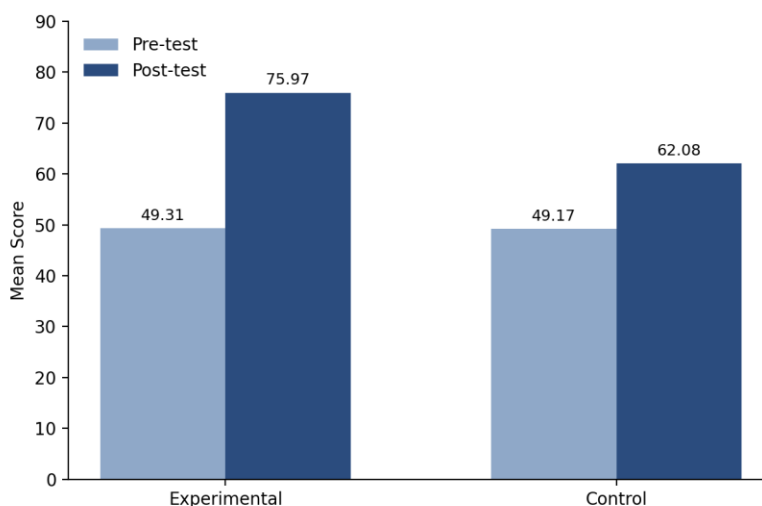


Figure 1. Mean Reading Comprehension Scores of the Experimental and Control Groups

According to the Shapiro-Wilk results in Table 5, the pretest and posttest data of both the experimental group (Sig. = 0.099 and 0.142) and the control group (Sig. = 0.309 and 0.609) followed a normal distribution, since all significance values exceeded 0.05. This confirmed that the assumptions required for a parametric Independent Samples t-Test were satisfied.

Table 5. Shapiro-Wilk Test of Normality

Group / Test	Statistic	df	Sig.
Experimental – Pre-test	0.949	36	0.099
Experimental – Post-test	0.954	36	0.142
Control – Pre-test	0.965	36	0.309
Control – Post-test	0.976	36	0.609

Levene's Test, generated together with the Independent Samples t-Test, indicated equal variances between the groups at both the pretest ($F = 0.018$, Sig. = 0.894) and posttest ($F = 0.591$, Sig. = 0.445) stages, as both significance figures exceeded 0.05. At pretest, the experimental group's mean (49.31) did not differ significantly from the control group's mean (49.17), $t(70) = 0.056$, Sig. (2-tailed) = 0.956, confirming that both groups started with roughly equal reading comprehension ability. By posttest, however, a significant gap emerged between the experimental group (75.97) and the control group (62.08), $t(70) = 4.480$, Sig. (2-tailed) = 0.000, reflecting a 13.89-point advantage for the experimental group. As this p-value is below 0.05, H_0 is rejected while H_a is supported, confirming that the 3-2-1 Strategy produced a statistically significant improvement in students' reading comprehension, as summarized in Table 6.

Table 6. Statistical Summary of the Independent Samples t-Test

Statistic	Pre-test	Post-test	df	Sig. (2-tailed)
Levene's F (homogeneity)	0.018	0.591	—	0.894 / 0.445
Mean Difference (Exp. – Control)	0.14	13.89	—	—
t value	0.056	4.480	70	0.956 / 0.000

The Paired Samples t-Test further showed that both groups improved significantly from pretest to posttest (Sig. < 0.001 for each), but the experimental group's gain of 26.67 points was more than double the control group's gain of 12.92 points, as shown in Table 7. This within-group comparison reinforces the between-group finding that the 3-2-1 Strategy produced a considerably larger improvement than the conventional teaching method.

Table 7. Paired Samples t-Test (Pretest – Posttest) for Each Group

Group (Pretest – Posttest)	Mean Gain	t value / df	Sig. (2-tailed)
Experimental	26.67	20.906 / 35	< 0.001
Control	12.92	8.560 / 35	< 0.001

Discussion

Overall, the results confirm that the 3-2-1 Strategy produced a favorable and statistically meaningful improvement in students' reading comprehension. This aligns with Alsamadani (2020), who found that the 3-2-1 Reading Strategy significantly improved EFL students' reading comprehension while also increasing their engagement during reading activities, and with Khusniyah and Lustyantie (2017), who argued that structured, reflective reading strategies help students understand information within a text more accurately.

The greater improvement seen in the experimental group also echoes findings from Dewi et al. (2022), who reported meaningful gains in reading comprehension after implementing the 3-2-1 Strategy, even in an online learning context. Theoretically, this pattern makes sense because the strategy requires students to actively identify what they learned, note points of interest, and formulate a lingering question, a process that pushes them beyond passive reading toward genuine reflection and self-monitoring of comprehension (Snow, 2002). This reflective structure likely explains why the experimental group not only scored higher at posttest but also achieved a substantially larger gain than the control group, whose improvement under conventional teaching, while still significant, remained comparatively modest. This is consistent with Grabe (2024), who maintains that comprehension improves most reliably when readers are actively guided to identify main ideas, connect information across a text, and evaluate what they

have read, rather than being left to process a passage passively. The finding also resonates with Wahyuningsih (2021), who observed that students' reading interest and active, independent engagement with a text are decisive factors in improving comprehension outcomes — precisely the kind of engagement the 3-2-1 Strategy is designed to promote through its reflective three-two-one structure.

That said, some caution is warranted when interpreting these findings. Because the design used a nonequivalent control group formed through purposive rather than random sampling, factors tied to individual teachers, class dynamics, or unmeasured student characteristics cannot be entirely excluded as contributing influences (Elleman & Oslund, 2021). Even so, the fact that both groups began at a statistically equivalent level, combined with the significant posttest gap and the 13.89-point mean difference, offers fairly convincing support that the 3-2-1 Strategy rather than other outside variables was primarily responsible for the stronger gains seen in the experimental group.

CONCLUSION

Taken together, these findings support the conclusion that the 3-2-1 Strategy effectively improved reading comprehension among tenth-grade students at SMAN 4 Mataram. No significant difference appeared between the two groups' pretest scores, confirming similar starting abilities, whereas the posttest scores showed a significant advantage for the experimental group (Sig. = 0.000). This pattern supports accepting the alternative hypothesis

and rejecting the null hypothesis, confirming a significant effect of the 3-2-1 Strategy on students' reading comprehension. Future studies would benefit from lengthening the treatment period, applying random assignment wherever the institution permits it, and investigating related outcomes such as reading motivation, retention, or classroom engagement, all of which would help strengthen and broaden the evidence supporting the 3-2-1 Strategy as an EFL reading comprehension teaching tool.

ACKNOWLEDGMENTS

The author wishes to sincerely thank the English Education Department of Mandalika University of Education (UNDIKMA). Special appreciation goes to the advisor for invaluable guidance throughout this research, along with the headmaster, English teacher, and tenth-grade students of SMAN 4 Mataram for their participation in this study.

BIBLIOGRAPHY

- Alsamadani, H. A. (2020). The effects of the 3-2-1 reading strategy on EFL reading comprehension. *English Language Teaching*, 4(3), 184–191.
- Ary, D., Jacobs, L. C., & Razavieh, A. (2021). *Introduction to research in education*.
- Creswell, J. W. (2020). *Educational research: Planning, conducting, and evaluating quantitative research*.
- Creswell, J. W., & Creswell, J. D. (2021). *Research design: Qualitative, quantitative, and mixed methods approaches*. Sage Publications.
- Dewi, P. M., Ratminingsih, N. M., & Saputra, I. N. P. H. (2022). The implementation of 3-2-1 strategy in teaching reading through online learning. *New Language Dimensions*, 3(1), 24–37.
- Elleman, A. M., & Oslund, E. L. (2021). Reading comprehension research: Implications for practice and policy. *Policy Insights from the Behavioral and Brain Sciences*, 6(1), 3–11.
- Grabe, W. (2024). *Reading in a second language: Moving from theory to practice*. Cambridge University Press.
- Hoover, W. A. (2024). The simple view of reading and its broad types of reading difficulties. *Reading and Writing*, 37(9), 2277–2298.
- Khusniyah, N. L., & Lustyantie, N. (2017). Improving English reading comprehension ability through survey, questions, read, record, recite, review strategy (SQ4R). *English Language Teaching*, 10(12), 202–211.
- Lestari, A., & Binjai, S. B. (2018). The effect of 3-2-1 strategy on students' reading comprehension of the students at SMA Negeri 1 Bahorok. *Jurnal Serunai Ilmu Pendidikan*, 4(1).
- OLADIGBO, O. J. (2025). Digital literacy in English education: Developing students' skills for the 21st century. *Federal University Gusau Faculty of Education Journal*, 2(2), 76–83.
- Pallant, J. (2020). *SPSS survival manual: A step-by-step guide to data analysis using IBM SPSS* (7th ed.). Routledge.
- PISA. (2021). *21st-century readers: Developing literacy skills in a digital world*. OECD Publishing.
- Snow, C. (2002). *Reading for understanding: Toward an R&D program in reading comprehension*. Rand Corporation.
- Sugiyono. (2019). Metode penelitian kuantitatif kualitatif. *Revista Brasileira de Linguística Aplicada*, 5(1).
- Sugiyono. (2020). *Metode penelitian kuantitatif kualitatif dan R&D*. Alfabeta.
- Wahyuningsih, L. S. (2021). Meningkatkan kemampuan reading comprehension siswa SMA Negeri 1 Kebomas melalui extensive reading. *Jurnal Paedagogy*, 8(1), 112–116.
- Woolley, G. (2011). Reading comprehension. In *Reading comprehension: Assisting children with learning difficulties* (pp. 15–34). Springer.