

THE EFFICACY OF DRTA STRATEGY IN IMPROVING READING COMPREHENSION AMONG SECONDARY EFL STUDENTS

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Abstract

This investigation evaluates the impact of integrating Padlet into the Directed Reading Thinking Activity (DRTA) framework on the reading comprehension abilities of English as a Foreign Language (EFL) learners. Additionally, it compares the learning outcomes of students instructed through this digitalized approach against those receiving traditional learning methods. Conducted during the 2025/2026 academic calendar at MAN Kota Tegal, this quantitative quasi-experimental study adopted a non-equivalent control group design involving 79 eleventh-graders selected via purposive sampling (Class XI G as the experimental unit, n=39; Class XI H as the control group, n=40). While the control Group underwent conventional teaching, the experimental group utilized Padlet during the DRTA prediction stage. Pre- and post-tests consisting of 40 validated multiple-choice questions on procedural texts served as data collection tools. Post-test results revealed a notable score elevation in the experimental class (from 66.44 to 77.38) compared to the control group (from 65.80 to 73.95). Statistical verification via a paired-samples t-test confirmed significant within-group growth ($p=0.000$), while an independent-samples t-test indicated a statistically significant difference between both pedagogical approaches ($p=0.044$). Consequently, the findings substantiate that the technology-infused DRTA model effectively strengthens text comprehension, mitigates learner anxiety, and fosters critical thinking in secondary EFL contexts.

Keywords: Innovation, Directed Reading Thinking Activity (DRTA), Reading Comprehension, Padlet, Procedure Text.

1 INTRODUCTION

The reader's schemata and prior knowledge are integrated with the textual information during reading making it a dynamic process [13]. According to Alhaisoni [3], this task requires critical thinking and the capacity to relate parts of text to one's own experiences. According to Eripuddin et al. [9], reading comprehension goes beyond simple lexical recognition and include higher-order cognitive processes including interpretation, contextual synthesis, and critical assessment. The Simple View of Reading framework emphasises the importance of combining fluent decoding with wider language processing to enable effective reading comprehension [15], [22].

When it comes to studying English in Indonesian junior and senior high schools, reading comprehension is paramount. Reading comprehension is a central focus in the design of many parts, including courses, national tests, and textbooks [18], [13]. Students of English as a foreign language (EFL) may benefit greatly by reading aloud in order to broaden their vocabulary, get more familiar with the laws of the language, and gain exposure to other academic subjects. On the other hand, reading well in English as a second language is incredibly challenging. There are sometimes limited possibilities for students whose native language is not English to exercise their English outside of class. Deciphering complex foreign texts can put additional strain on the brain [6, 16, 8].

Students in eleventh grade at MAN Kota Tegal have considerable challenges in reading English books, especially those pertaining to procedures and information. Their difficulties stem from a lack of linguistic proficiency. Students' reading motivation drops when they encounter difficult technical terms or complicated sentence structures, they feel frustrated and overwhelmed as a result. W. Grabe [12] argues that one of the most important factors in reading comprehension is having a good grasp of the terminology. Without it, students are more likely to fall into the trap of reading word-by-word which significantly reduces their reading speed. This makes it hard for them to understand the text as a whole, deduce meaning from context, or understand the central ideas presented within it [14], [24].

In 1969, Stauffer developed the Directed Reading Thinking Activity (DRTA) as a means of facilitating active reading instruction. The approach encourages students to actively participate in their own learning by shifting their focus from receiving knowledge to producing original ideas [23], [4]. Predicting text content from titles and visual aspects, checking or modifying predictions as reading progresses, and reflecting to summarise and draw conclusions are the three primary steps of DRTA, which does away with the need for thorough vocabulary knowledge from the start [11], [17]. For students who are having trouble reading, this structured, metacognitive-based Strategy is a better option than the more conventional, teacher-centered approaches.

However prediction stage in DRTA is time consuming based on Agnescia et al [1]. Integrating technology can greatly enhance structured strategies like DRTA. Padlet an interactive web application is particularly useful during the prediction stage. By allowing learners to post and compare their ideas instantly, Padlet reduces learning anxiety, promotes teamwork, and increases engagement [20]. Numerous studies have confirmed that DRTA significantly boosts reading performance (Nurmadina & Yuliah, [19]. Situmorang et al [21], Al-Janaydeh & Al-Jamal [2]. Azahro et al [5]. However, the majority of previous research relied on simple pre-experimental preparations or physical paper. only few studies have quantitatively examined the combined effect of DRTA and interactive technologies such as Padlet on procedural text reading among Madrasah Aliyah EFL students using a true-or quasi-experimental methodology.

Evaluating whether the Padlet-integrated DRTA strategy enhances the reading comprehension abilities of eleventh-grade students at MAN Kota Tegal serves as the main objective of this investigation. The study centers on resolving two core inquiries:

1. How effective is the implementation of DRTA in assisting EFL learners to comprehend texts more thoroughly?
2. Is there a statistically significant difference in reading comprehension performance between students taught via DRTA and those receiving standard instruction?

The findings are expected to provide significant theoretical and practical contributions to EFL reading technique, curriculum design, and digital technology integration in secondary language instruction.

2 METHODOLOGY

A quantitative quasi-experimental approach utilizing a non-equivalent control group design ([7]) was adopted in this investigation. This specific design was selected to preserve natural classroom environments without interfering with ongoing academic schedules. Conducted at MAN Kota Tegal throughout the 2025/2026 academic year, the research targeted a population of 445 eleventh-grade pupils distributed across 12 classrooms. Through purposive cluster sampling evaluating prior English academic performance two distinct classes were designated: Class XI G (n = 39) serving as the experimental group and Class XI H (n = 40) acting as the control group, yielding an aggregate sample size of N = 79

Data collection was executed using a 40-item multiple-choice test centered on procedure text aligned with the Merdeka Curriculum. The assessment targeted five essential reading sub-skills: identifying main ideas, locating supporting details, determining contextual vocabulary, making inferences, and recognizing word references. Prior to field administration, the instrument underwent content and construct validation by experts, followed by statistical verification in SPSS. Reliability analysis yielded a Cronbach's alpha coefficient of 0.750, indicating high internal consistency as it well surpassed the minimum threshold of 0.60 [10]

The study was conducted over four weeks and consisted of eight sessions. First, both groups completed a 40-item pre-test to determine their starting reading levels. During the treatment, the experimental group was taught using DRTA integrated with Padlet in three stages:

1. Prediction Stage (Before Reading): Students looked at titles, headings, and images, then posted their predictions and reasons on a Padlet wall.
2. Verification Stage (During Reading): Students read the text in parts, checking and updating their Padlet predictions based on what they read.
3. Reflection Stage (After Reading): Students discussed the text as a class, confirmed their predictions, summarized procedural steps, and answered comprehension questions.

In comparison, the control group received typical teacher-led education that concentrated on grammar explanations, word translation, and silent reading. Finally, both groups participated in a randomized 40-item post-test to assess their reading progress.

Prior to hypothesis testing, preliminary analyses specifically the Shapiro-Wilk test for normality and Levene's test for homogeneity of variance were executed. Statistical calculations were subsequently performed utilizing SPSS 26. To evaluate intra-group improvement corresponding to the first research objective, a paired-samples t-test was applied to the pre-test and post-test scores of the experimental group. Furthermore, to address the second objective regarding comparative effectiveness between groups, an independent-samples t-test assuming equal variances was conducted on the post-test results, adhering to a significance threshold of $\alpha = 0.05$.

3 RESULTS

The results section covers all descriptive and inferential statistical findings. This includes summary statistics, prerequisite tests (normality and homogeneity), as well as both paired-samples and independent-samples t-tests.

3.1 Descriptive statistic

The pre-test and post-test reading comprehension scores for both the experimental and control Groups are presented in Table 1.

Table 1. Descriptive Data Summary for Pre- and Post-Test Performance

Group	N	Minimum	Maximum	Mean	Std. Deviation
Pre-test Control	40	53	78	65.60	6.480
Post-test Control	40	60	85	73.95	6.698
Pre-test Experimental	39	50	80	66.44	8.472
Post Test Experimental	39	63	93	77.36	8.044

According to the empirical data presented in Table 1, the experimental Group demonstrated an initial pre-test mean score of 66.44 (SD = 8.472; range: 50–80). Following six intervention sessions integrating the DRTA method with Padlet, their post-test mean climbed to 77.36 (SD = 8.044; range: 63–93), reflecting a mean gain of 10.92 points. In contrast, the control group recorded a baseline mean of 65.60 (SD = 6.480; range: 53–78) and a post-test mean of 73.95 (SD = 6.698; range: 60–85), yielding an 8.35-point increase through standard instructional practices. Comparatively, the experimental group achieved a superior post-treatment average as well as a higher maximum score (93) relative to the control group (85).

3.2 Pre - analysis testing

3.2.1 Normality Test

Given that the sample size for each group was under 50 participants, the Shapiro-Wilk test was chosen to evaluate data normality. Normality is established when the resulting p-value exceeds the 0.05 threshold. The normality test outcomes generated via SPSS 26 are presented in Table 2

Table 2. Normality Test Results for Pre- and Post-Test Scores

Dataset	Kolmogorov-Smirnova			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Pre-test control	0.113	40	0.200	0.964	40	0.220
Post-test control	0.127	40	0.101	0.963	40	0.210
Pre-test experimental	0.140	39	0.053	0.950	39	0.085
Post-test experimental	0.128	39	0.106	0.964	39	0.234

As presented in Table 2, the Shapiro-Wilk test derived p-values of 0.220 for the control pre-test, 0.210 for the control post-test, 0.085 for the experimental pre-test, and 0.234 for the experimental post-test. Inasmuch as every observed p-value surpassed the 0.05 threshold ($p > 0.05$), the assumption of normal distribution was fully met across all data sets.

3.2.2 Homogeneity Test

To verify the assumption of equal variances between the experimental and control groups, Levene's Test for Homogeneity of Variances was performed. The corresponding statistical outcomes are summarized in Table 3

Table 3. Assessment of Variance Homogeneity Across Groups

Basis of Evaluation	Levene Statistic	df1	df2	Sig.
Based on mean	2.041	3	154	0.111
Based on median	1.764	3	154	0.156
Based on Median and with adjusted df	1.764	3	144.518	0.157
Based on Trimmed Mean	2.028	3	154	0.112

Based on mean values, Levene's test yielded a test statistic of 2.041 with $p = 0.111$. Given that the p-value remains strictly above 0.05 ($p > 0.05$), the variance across groups is considered equivalent, confirming that the data meets the assumptions required for parametric t-testing.

3.3 Hypothesis Testing

3.3.1 Paired Sample T-test

A paired-samples t-test procedure was applied to assess whether the DRTA technique generated significant learning gains within the experimental Group by evaluating pre-test and post-test performance. Table 4 details the statistical results derived from this analysis.

Table 4. Paired-Samples T-Test Output for the DRTA-Treated Group

Pair	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. deviation	Std. Error Mean	95% CI Lower	95% CI Upper			
Pre-test – Post-test	-10.923	4.533	0.726	-12.392	-9.454	-15.049	38	.000

As presented in Table 4, the paired comparison for the experimental group revealed a mean score difference of -10.923 between the initial and final assessments ($SD = 4.533$; $SE = 0.726$). Statistical analysis yielded $t(38) = -15.049$ with a significance level of $p < 0.000$. Inasmuch as the p-value remained well below the 0.05 threshold ($p < 0.05$), the null hypothesis (H_0) was rejected, confirming that integrating Padlet into the DRTA method significantly enhanced students' reading comprehension performance.

3.3.2 Independent T-Test

To evaluate the comparative instructional efficacy between the experimental Group (Class XI G) and the control Group (Class XI H), an independent-samples t-test was executed on the post-test scores. The corresponding statistical outcomes are summarized in Table 5.

Table 5. Inferential Statistical Output Comparing Post-Test Scores Across Groups

Variance Condition		Levene's Test		t-test for Equality of Means				
		F	Sig	t	df	Sig. (2-tailed)	Mean Diff.	Std. Error Diff.
Post-test Scores	Equal variances assumed	1.739	0.191	-2.049	77	0.044	-3.409	1.664
	Equal variances not assumed	--	--	-2.044	73.857	0.044	-3.409	1.668

Based on the "Equal variances assumed" row (Levene's $p = 0.191 > 0.05$), the test yielded $t(77) = -2.049$ ($p = 0.044$), reflecting a -3.409 post-test mean difference in favor of the experimental class. Because $p = 0.044$ is below the 0.05 alpha level, the alternative hypothesis (H_a) was accepted. This confirms that Padlet-integrated DRTA instruction produced significantly higher reading comprehension gains compared to conventional teaching approaches.

4 CONCLUSIONS

The empirical findings of this investigation demonstrate that integrating Padlet into the Directed Reading Thinking Activity (DRTA) method substantially enhances EFL students' comprehension of procedure texts. Within the experimental group, participants exhibited statistically significant performance gains, advancing from a pre-test mean of 66.44 to a post-test mean of 77.36 ($p = 0.000$), thereby markedly outperforming the control group receiving conventional instruction ($p = 0.044$). Incorporating Padlet during the predictive stage proved effective in stimulating prior knowledge, elevating metacognitive awareness, and alleviating reading anxiety. Consequently, English educators are advised to incorporate Padlet-enhanced DRTA strategies into reading instruction. Subsequent studies should explore the applicability of this approach across varied genres such as narrative or analytical exposition texts and across diverse educational levels to evaluate the broader generalizability of these outcomes.

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