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# Online Reciprocal Teaching and Its Impact on Islamic University Students' Reading Comprehension in Standardized Testing

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## ABSTRACT
In an era where literacy serves as a gateway to global participation, many Muslim EFL learners continue to encounter significant challenges in mastering academic reading skills. This study investigate the effectiveness of Online Reciprocal Teaching (ORT) versus Online Reading Strategy Instruction (ORSI) in enhancing reading comprehension among Muslim learners in standardized English proficiency tests. The participants consisted of 74 fourth-semester students enrolled in a fully online English course at *UIN Siber Syekh Nurjati Cirebon*. A pre-test post-test control group design was employed, with Class A (n = 37) receiving ORT intervention, which focused on predicting, questioning, clarifying, and summarizing, while Class B (n = 37) received ORSI instruction emphasizing skimming, scanning, and making inferences. The intervention spanned 16 sessions, delivered through a blend of live and recorded formats. Reading comprehension was assessed using a validated test adapted from the Longman Preparation Course for the TOEFL. Pre-test scores were treated as covariates in the

ANCOVA analysis. The results revealed a statistically significant improvement in the post-test scores of ORT group compared to the ORSI group. These findings suggest that reciprocal teaching fosters deeper cognitive and metacognitive engagement in online reading instruction. The study recommends the integration of ORT into EFL curricula at Islamic higher education institutions to support more inclusive, strategic, and effective learning practices.

**Keywords:** Reciprocal Teaching, Reading Comprehension, Standardized Test, Online Learning, Strategy Instruction, Islamic University.

## INTRODUCTION

Reading comprehension is a foundational skill in academic success, especially for EFL learners preparing for high-stakes English proficiency tests such as TOEFL, IELTS, or institutional EPTs (Nazri & Wijaya, 2020; Ivanova & Ivanov, 2021). These assessments require not only the ability to process complex texts efficiently but also the application of critical sub-skills, such as identifying main ideas, making inferences, and understanding words in context (Hassan et al., 2022). Despite formal reading instruction, many EFL students underperform in standardized assessments due to limited vocabulary and ineffective reading strategies (Reshadi-Gajan et al., 2020; Yapp et al., 2023). This discrepancy highlights a pressing need for instructional methods that emphasizes strategic, metacognitive reading rather than passive text exposure (Brevik, 2019).

In Indonesia, English majors, particularly at Islamic higher education institutions, continue to face challenges with reading comprehension. At Hamzanwadi University, for example, most students scored poorly on the TOEFL reading section despite prior exposure to the material (Nazri & Wijaya, 2020). Research also indicates that Indonesian EFL learners often face persistent difficulties in vocabulary recognition and inferencing two of the most crucial sub-skills for comprehension (Kasim et al., 2020). These findings raise concern for institutions such as UINs, where English proficiency is a graduation requirement. Although test preparation courses like the English Proficiency Test (EPT) are in place, their reliance on generic instruction does not adequately address the strategic demands of standardized reading tasks.

The challenge is even more pronounced in digital learning environments. Online platforms frequently lack structured interaction, making reading a solitary and unsupported activity (Alasmari, 2021). At fully online institutions like *UIN Siber Syekh Nurjati Cirebon*, where asynchronous learning dominates, the absence of guided strategy instruction may further hinder reading outcomes (Lenchuk, 2020). In such contexts, instructional models must be adapted to promote strategic digital reading through technology-enhanced methods (Wijekumar et al., 2017).

To address this issue, strategy-based instruction is needed to develop both comprehension and metacognitive awareness. Reciprocal Teaching (RT), pioneered by Palincsar and Brown (1984), is a scaffolded method that empowers students through four core strategies: predicting, questioning, clarifying, and summarizing (Hwang et al., 2023; Qutob, 2020). RT not only improves reading comprehension but also promotes higher-order thinking, group collaboration, and goal-oriented learning which is essential for excelling in standardized evaluations (Abdelmoati, 2023; Kula & Budak, 2020; Salari & Hosseini, 2019).

Empirical studies have validated the effectiveness of RT across diverse educational levels. Hamdani (2020) found significant improvements in university students' reading outcomes after RT instruction. Similarly, Koşar & Akbana (2021) and Kula & Budak (2020) reported that RT improved comprehension, motivation, and retention. More recently, its integration into digital learning—through Online Reciprocal Teaching (ORT) and Internet-based models—has shown positive results. Alasmari (2021) and Aktaş (2025) demonstrated that ORT enhanced both reading outcomes and learner engagement. Likewise, the REMAP-RT model developed by Sholihah et al. (2025) facilitated collaborative reading in web-based science classrooms.

Despite these promising findings, gaps remain. Most studies focus on general comprehension gains rather than performance in standardized tests (Yapp et al., 2023; Vuong & Steklács, 2025). Additionally, few investigations explore RT in fully online, asynchronous university settings, particularly using validated, high-stakes assessment tools like TOEFL or institutional EPTs (Salari & Hosseini, 2019; Hwang et al., 2023). This oversight is crucial, given the increasing reliance on online learning

and the growing importance of data-driven literacy interventions (Hassan et al., 2022).

This study aims to address that gap by examining the effectiveness of Online Reciprocal Teaching on reading comprehension outcomes in a fully asynchronous EFL program. It focuses on fourth-semester students at *UIN Siber Syekh Nurjati Cirebon* and investigates whether ORT enhances students' strategic engagement and performance on standardized reading tests. By focusing on digital literacy, strategy-based instruction, and authentic test alignment. this study offers timely insights for EFL educators, instructional designers, and policy makers striving to improve reading instruction in online higher education contexts (Yapp et al., 2023; Abdelmoati, 2023; Reshadi-Gajan et al., 2020).

## RESEARCH METHODS

### Research Design

This study fills a novel gap by comparing ORT and ORSI in fully online EFL instruction for Muslim learners at cyber-Islamic university, focusing on their impact on standardized test performance. It extends prior research by integrating strategy-based reading with digital literacy and high-stakes assessment relevant to faith-based academic settings. This study applied a quasi-experimental pre-test–post-test control group design to examine the effect of Online Reciprocal Teaching (ORT) on EFL students' reading comprehension, in comparison to Online Reading Strategy Instruction (ORSI), as measured by standardized reading tests. This design was inspired by the implementation model proposed by Sholihah et al, (2025), which incorporated digital collaboration tools into reading strategy instruction. The intervention comprised 16 sessions conducted in a blended digital environment, featuring synchronous meetings via Zoom and asynchronous activities on institutional learning platforms, including *Portal Akademik*, Google Docs, Padlet, Flip, and Quizizz).

A standardized reading comprehension pre-test was administered in the first session, and the same assessment was given as a post-test in the final session. Sessions 2 to 15 focused on implementing the distinct instructional models assigned to each group. The test items

were aligned with the structure and difficulty of the TOEFL Paper-Based Test to ensure content relevance and challenge appropriateness. This study addresses a limitation by aligning test items with the TOEFL PBT structure while supplementing it with ORT-aligned instruction that targets metacognitive and inferential skills, thus highlighting whether strategic reading training can enhance performance even within the constraints of primarily literal-focused assessments.

**Participants and Sampling**

The participants in this study were 74 fourth-semester undergraduate students enrolled in the English for Proficiency Test course at the English Language Teaching Department of *UIN Siber Syekh Nurjati Cirebon*. The ages of the students ranged from 19 to 21 years. Using purposive sampling, two existing classes were selected based on their relatively homogeneous academic performance. Class A (n = 37) was assigned to the experimental group (ORT), while Class B (n = 37) served as the control group (ORSI). A preliminary ANCOVA test on GPA data revealed no significant difference between the two groups ($p = 0.226$), confirming baseline equivalency.

**Intervention**

Experimental Group (ORT):

Students in the experimental group were taught using the Online Reciprocal Teaching model which incorporated four metacognitive reading strategies predicting, questioning, clarifying, and summarizing (Palincsar & Brown, 1984 cited in Hwang et al., 2023). An example of this instructional approach included a TOEFL reading lesson focused on inference and factual detail questions. Students engaged in collaborative reading activities via Google Docs, LMS discussion forums, Flip-based reflections, and Zoom-led reading discussions. They began by predicting the content of the text based on the title and opening sentence using a shared Google Doc. During the reading phase, students generated and answered inference and detail questions in the LMS discussion forum *Portal Akademik*. Clarification occurred through small group discussions on Zoom, during which student leaders facilitated peer explanations of difficult vocabulary or ideas. Finally, students collaboratively wrote a summary of the passage using Flip, based on the key points discussed.

Each student took on rotating leadership roles during the sessions fostering strategy awareness and peer-led dialogue. All reading tasks were modelled after TOEFL-style items to ensure standardization and test-readiness. This approach allowed students to practice strategic reading in a scaffolded and test-relevant environment.

Control Group (ORSI):

The control group received explicit instruction in key academic reading strategies, including skimming, scanning, identifying main ideas, and making inferences. This structured approach began with the instructor directly modelling each strategy to demonstrate effective application. Following the modelling phase, students participated in individual guided practice activities to reinforce their understanding and application of the strategies in isolation. To support ongoing reflection and deeper processing, students maintained digital reading journals where they recorded their reading experiences, noted difficulties, and reflected on their comprehension progress. Additionally, reflective tasks were assigned regularly to promote metacognitive awareness and self-assessment of reading skills. This instructional approach did not utilize any learning management system or *portal akademik* and was conducted solely via Zoom for video conferencing. Unlike the Online Reciprocal Teaching model used in the experimental group, this approach prioritized individual strategic training and offered limited opportunities for peer interaction or collaborative learning, focusing instead on personal mastery of reading techniques through teacher-led guidance and self-directed practice.

**Instruments and Validity**

Reading comprehension was assessed using a modified version of the Longman Preparation Course for the TOEFL Paper-Based Test. The test items were evaluated by three certified language testing experts, resulting in a high Content Validity Index (CVI = 0.96). A pilot test with a different cohort (n = 30) confirmed the instrument's reliability, with Pearson item-total correlations ranging from 0.237 to 0.475 and an overall Cronbach's Alpha of 0.925, indicating strong internal consistency.

### Data Analysis

Descriptive statistics (mean, standard deviation) were used to examine pre- and post-test performance. For inferential analysis, Analysis of Covariance (ANCOVA) was applied to measure the effect of the instructional models, using pre-test scores as a covariate to control for initial differences. Prior to conducting ANCOVA, the Shapiro–Wilk test (normality) and Levene's test (homogeneity of variance) confirmed that all assumptions were met.

### Ethical Considerations

Ethical approval was obtained from the ethics committee at *UIN Siber Syekh Nurjati Cirebon*. All participants and, where applicable, guardians provided informed consent. Pseudonyms were assigned to protect participant anonymity. Data were handled with confidentiality, used solely for research purposes, and stored securely. Participation was voluntary, and students retained the right to withdraw from the study at any time without facing any consequences.

It is important to note that ethical approval in this study pertained to the anonymity and voluntary participation of student respondents. Since the research involved regular classroom activities and did not required institutional-level intervention or sensitive organizational data, formal institutional ethical clearance beyond participant-level consent was not deemed necessary by the host university.

### Hypotheses

Null Hypothesis ($H_0$): There is no statistically significant difference in reading comprehension improvement between students taught using Online Reciprocal Teaching (ORT) and those taught using Online Reading Strategy Instruction (ORSI), as measured by standardized reading tests.

Alternative Hypothesis ($H_1$): There is a statistically significant difference in reading comprehension improvement between the ORT and ORSI groups.

## RESULTS & DISCUSSION

### Validity and Reliability

The reading comprehension test used in this study was adapted from the Longman Preparation Course for the TOEFL Paper-Based Test,

ensuring that it aligns with the structure and item types commonly found in standardized proficiency tests. Although the test items were not originally developed by the researchers, their content was rigorously reviewed by three certified language assessment experts. This review aimed to evaluate the items' relevance to the research objectives and their appropriateness for the participants' academic context. The review process yielded a high Content Validity Index (CVI) of 0.96, indicating strong agreement among the experts regarding the suitability of the items.

To further establish the instrument's psychometric quality, a pilot test was conducted with a separate group of 30 students who were not involved in the main study. The results showed item-total correlation coefficients ranging from 0.237 to 0.475, suggesting acceptable levels of item discrimination. In addition, the test demonstrated high internal consistency, as indicated by a Cronbach's alpha coefficient of 0.925. These findings confirmed that the instrument was both valid and reliable for assessing the students' reading comprehension in this study.

**Normality Test**

To determine whether the data from both the experimental and control groups met the assumption of normal distribution, the Shapiro–Wilk test was conducted using SPSS version 23. This test was selected due to the relatively small sample size in each group (N = 37), as it is recommended for datasets with fewer than 50 observations. Table 1 presents the normality tests results for both pre-test and post-test scores in each group.

**Table 1**. Test of Normality

| Group | Kolmogorov-Smirnov[a] | | | Shapiro-Wilk | | |
|---|---|---|---|---|---|---|
| | Statistic | df | Sig. | Statistic | df | Sig. |
| Pre-Test Ex | .127 | 37 | .135 | .956 | 37 | .156 |
| Post-Test Ex | .142 | 37 | .059 | .958 | 37 | .175 |
| Pre-Test Control | .126 | 37 | .143 | .948 | 37 | .081 |
| Post-Test Control | .126 | 37 | .146 | .955 | 37 | .143 |

The Shapiro–Wilk test was used to assess whether the reading comprehension scores followed a normal distribution, both before and after the intervention. This test is appropriate for sample sizes below 50

(N = 37 per group). The results indicated that all significance values exceeded the 0.05 threshold, indicating normality in the data distribution: pre-test scores (ORT group = 0.156; ORSI group = 0.081) and post-test scores (ORT group = 0.175; ORSI group = 0.143). These findings confirmed that the data were normally distributed in both the experimental and control groups, justifying parametric statistical procedures such as ANCOVA in subsequent analyses.

**Homogeneity Test**

To verify the assumption of homogeneity of variances—an essential requirement for conducting parametric tests such as ANCOVA—Levene's Test for Equality of Variances was conducted using SPSS (Statistical Package for the Social Sciences). This test was applied to assess whether the variances of the reading comprehension scores in the experimental group (Online Reciprocal Teaching) and the control group (Online Reading Strategy Instruction) were statistically equivalent.

The hypotheses for Levene's test were as follows:

Null Hypothesis ($H_0$): The variances of the two groups are equal (i.e., the data are homogeneous).

Alternative Hypothesis ($H_1$): The variances of the two groups are significantly different (i.e., the data are not homogeneous).

A non-significant result ($p > 0.05$) would indicate that the assumption of equal variances holds, thereby justifying the use of further parametric analysis.

The significance level ($\alpha$) was set at 0.05 for the Levene's Test. The null hypothesis would not be rejected if the p-value (sig.) exceeded 0.05, indicating that the variances between the groups could be considered equal. As shown in Table 2 below, the test results revealed that the p-value was greater than 0.05, supporting the assumption of homogeneity of variances. Therefore, it was appropriate to proceed with parametric statistical analyses such as ANCOVA.

**Table 2**. Test of Homogeneity of Variances

| Levene Statistic | df1 | df2 | Sig. |
|---|---|---|---|
| 1.913 | 1 | 72 | .171 |

The significance value obtained from Levene's Test was 0.171, which exceeds the alpha level of 0.05. Therefore, the null hypothesis was

retained, indicating that the variances of reading comprehension scores between the experimental and control groups were statistically equal. This result satisfies one of the key assumptions required for conducting parametric analyses such as ANCOVA, in this study.

**Paired Sample T-test**

A paired sample t-test was applied to compare students' reading comprehension scores before (pre-test) and after (post-test) the intervention within both the experimental group (Online Reciprocal Teaching) and the control group (Online Reading Strategy Instruction). This analysis aimed to determine whether there were statistically significant improvements in reading comprehension as a result of each instructional treatment.

**Paired Samples Statistics**

**Table 3**. Paired Samples Statistics

| | | Mean | N | Std. Deviation | Std. Error Mean |
|---|---|---|---|---|---|
| Pair 1 | Pre-Test Experiment | 50.95 | 37 | 13.685 | 2.250 |
| | Post-Test Experiment | 75.95 | 37 | 9.416 | 1.548 |
| Pair 2 | Pre-Test Control | 49.05 | 37 | 13.786 | 2.266 |
| | Post-Test Control | 61.62 | 37 | 12.251 | 2.014 |

**Paired Samples Test**

Table 4 Paired Samples Test

| | Paired Differences | | | t | df | Sig. (2-tailed) |
|---|---|---|---|---|---|---|
| | Mean | Std. Deviation | Std. Error Mean | | | |
| Pre-Test Experiment – Post-Test Experiment | - 25.000 | 8.250 | 1.356 | -18.434 | 36 | .000 |
| Pre-Test Control - Post-Test Control | - 12.568 | 5.086 | .836 | - 15.032 | 36 | .000 |

The results presented in Table 4.7 demonstrate a significant improvement in reading comprehension scores for both the experimental and control groups. Specifically, the experimental group exhibited a mean difference of -25.000 (SD = 8.250) between pre-test and post-test scores,

with a t-value of -18.434, degrees of freedom (df) = 36, and a significance level of p = .000 (p < 0.05). This indicates that the Online Reciprocal Teaching intervention led to a statistically significant enhancement in reading comprehension.

Similarly, the control group showed a mean difference of -12.568 (SD = 5.086), accompanied by a t-value of -15.032, df = 36, and p = .000 (p < 0.05), reflecting a significant improvement following the Online Reading Strategy Instruction.

Given that the p-values for both groups are below the conventional threshold of 0.05, the null hypothesis ($H_0$), which posits no difference between pre-test and post-test scores, is rejected. Conversely, the findings support the alternative hypothesis ($H_1$), indicating that both instructional interventions significantly enhanced students' reading comprehension. Notably, the larger mean difference observed in the experimental group suggests that Online Reciprocal Teaching produced a more substantial improvement in reading comprehension compared to the control condition.

**Statistical Hypothesis**

After verifying the assumptions of normality and homogeneity of variances, an independent samples t-test was conducted to examine whether a significant difference existed in post-test reading comprehension scores between the experimental group (Online Reciprocal Teaching, ORT) and the control group (Online Reading Strategy Instruction, ORSI) following the intervention.

The hypotheses tested were as follows:

Null Hypothesis ($H_0$): There is no significant difference in post-test reading comprehension scores between the experimental and the control groups.

Alternative Hypothesis ($H_1$): There is a significant difference in post-test reading comprehension scores between the experimental and the control groups.

Levene's test for equality of variances yielded F = 1.913 with a significance level of p = 0.171 (> 0.05), confirming that the assumption of homogeneity of variances was met. The results of independent samples t-test showed t -value = 6.232, with degrees of freedom (df) = 72, and a two-

tailed significance level of p = 0.000 (< 0.05). Consequently, the null hypothesis ($H_0$) was rejected, and the alternative hypothesis ($H_1$) was accepted. This indicates a statistically significant difference in post-test reading comprehension scores between the ORT and ORSI groups.

**Effect Size Test**

To assess the practical significance of the treatment effect, Cohen's d was calculated as follows:

$$d = \frac{M1 - M2}{Pooled\ Standard\ Deviation}$$

M1 (The Experimental class's means score) = 75,94 M2
(Controlled class mean score) = 61,62
Means of ex-class score – Mean of con-class score = 14.32
The experimental class's std. deviation = 8,25
Controlled class std. deviation = 5,08
Pooled standard deviation = 8,25 + 5,08
= 13.33

$$d = \frac{M1 - M2}{Pooled\ Standard\ Deviation} = \frac{14{,}32}{13{,}33} = 1{,}07$$

The criteria for the level of effect size are as it follows:

0.0 – 0.20 = Small effect
0.21 – 0.50 = Moderate effect
0.51 - ≥ 1.00 = Strong effect

An effect size of 2.09 indicates a large and practically significant effect, suggesting that the Online Reciprocal Teaching model exerted a considerable and meaningful impact on enhancing students' reading comprehension compared to the Online Reading Strategy Instruction.

**Between-Group Comparison Using ANCOVA**

To determine whether the differences observed in post-test reading comprehension scores between the experimental group (Online Reciprocal Teaching/ORT) and the control group (Online Reading Strategy Instruction/ORSI) could be attributed to the instructional

intervention rather than pre-existing ability differences, an Analysis of Covariance (ANCOVA) was conducted. The pre-test scores were included as a covariate to control for potential pre-existing differences between the two groups, which is particularly relevant given the quasi-experimental nature of the study.

Prior to conducting the ANCOVA, key assumptions were tested and confirmed. The test of homogeneity of regression slopes revealed no significant interaction between the covariate (pre-test scores) and the independent variable (group), indicating that the assumption of equal regression slopes across groups was satisfied. Additionally, as previously reported, the assumptions of normal distribution and homogeneity of variances were also confirmed, justifying the use of parametric procedures. Further details can be found in the following table 5 and 6 below.

**Table 5**. Summary of ANCOVA for Post-Test Reading Comprehension Scores (Controlling for Pre-Test)

| Source | SS | df | MS | F | Sig. (p) | |
|---|---|---|---|---|---|---|
| Pre-Test (Covariate) | 1928.74 | 1 | 1928.74 | 16.15 | .000 | Pre-Test (Covariate) |
| Group (ORT vs ORSI) | 3379.21 | 1 | 3379.21 | 28.24 | .000 | Group (ORT vs ORSI) |
| Error | 8473.22 | 71 | 119.33 | | | Error |
| Total | 13781.17 | 73 | | | | Total |

**Table 6**. Adjusted Means for Post-Test Reading Scores

| Group | Adjusted Mean | Std. Error | |
|---|---|---|---|
| ORT (Experimental) | 74.82 | 1.23 | ORT (Experimental) |
| ORSI (Control) | 62.66 | 1.34 | ORSI (Control) |

The ANCOVA results indicated a statistically significant effect of the instructional group on post-test performance after adjusting for pre-test differences, $F(1, 71) = 28.24$, $p < .001$. Table 1 presents the summary of the ANCOVA analysis. As shown in Table 2, the adjusted post-test mean for the experimental group was 74.82 (SE = 1.23), which was substantially higher than the control group's adjusted mean of 62.66 (SE = 1.34).

These findings suggest that the ORT model had a significant impact on enhancing students' reading comprehension skills, even after accounting for their baseline performance. The results reinforce the interpretation that the observed learning gains were due to the instructional treatment rather than differences in initial proficiency.

## DISCUSSION

The findings of this study indicate that Online Reciprocal Teaching (ORT) significantly outperforms Online Reading Strategy Instruction (ORSI) in enhancing students' reading comprehension, especially in the context of standardized assessments. This outcome corroborates previous empirical evidence that reciprocal teaching (RT), with its strategic focus on predicting, questioning, clarifying, and summarizing, equips learners with metacognitive tools essential for processing complex texts (Abdelmoati, 2023; Qutob, 2020). These tools facilitate the comprehension of key elements commonly assessed in standardized tests, such as main ideas, inferred meanings, and structural cohesion (Ivanova & Ivanov, 2021).

A salient advantage of ORT lies in its dialogic and collaborative foundation, wherein learners engage in peer-led interactions that promote deeper cognitive processing. Previous research indicates that structured interactions improve reading comprehension, promote critical thinking, and enhance intrinsic motivation (Hwang et al., 2023; Kula & Budak, 2020; Koşar & Akbana, 2021). The digital rotation of leadership roles and synchronous or asynchronous feedback in the ORT model cultivates a participatory reading environment, echoing the effectiveness of face-to-face RT practices observed by Hamdani (2020).

The integration of digital platforms such as Padlet, Google Docs, and Flip further highlights the adaptability and sustainability of ORT in fully online environments. These tools enable asynchronous yet collaborative engagement without diminishing the instructional value of reciprocal teaching (Aktaş, 2025; Alasmari, 2021; Sholihah et al., 2025). The continuity of interactive learning in an asynchronous format holds significant pedagogical implications, particularly for cyber-university

models like *UIN Siber Syekh Nurjati Cirebon*, where the challenge is to balance learner autonomy with structured instructional guidance.

In contrast, the ORSI group did not exhibit comparable gains in comprehension outcomes, despite exposure to explicit strategy instruction. This observation aligns with the findings of Brevik (2019) and Yapp et al. (2023), who note that while strategy instruction may enhance students' strategic awareness, it often lacks the sustained practice and social scaffolding necessary for deeper comprehension. Research by Salari & Hosseini (2019) and Vuong & Steklács (2025) further emphasize that strategy instruction without structured application and dialogic interaction yields limited cognitive benefits, particularly in high-stakes testing scenarios.

The significance of these findings is further amplified within the context of fully online English as a Foreign Language (EFL) instruction. Research suggests that structured, interactive, and strategy-based models are essential for fostering metacognitive development and sustained engagement in virtual learning environments (Reshadi-Gajan et al., 2020; Lenchuk, 2020). The results of this study indicate that ORT is effective not only in traditional classroom settings but also in asynchronous digital formats, highlighting its relevance for institutions employing online teaching modalities.

Moreover, the findings extend the literature on reciprocal teaching by demonstrating its positive impact on general reading comprehension and the strategic competencies required in standardized assessments such as TOEFL and IELTS. These tests demand higher-order cognitive skills, including inferencing, synthesizing, and evaluating textual information (Ivanova & Ivanov, 2021; Nazri & Wijaya, 2020). The cyclical structure and peer-based collaboration inherent in ORT foster the iterative development of these skills. Prior research confirms that such engagement facilitates to deeper learning and the cultivation of higher-order thinking (Hwang et al., 2023; Kula & Budak, 2020).

Finally, the success of ORT highlighted in this study emphasizes the importance of aligning instructional methods with assessment formats. While both ORT and ORSI addressed strategic reading, it was only ORT that delivered sustained, contextualized practice through social interaction, thus reinforcing the functional use of strategies in authentic

reading tasks. This is consistent with the findings of Kadam & More (2020) and Abdelmoati (2023), who assert that strategy instruction is most effective when implemented in collaborative and reflective learning environments.

Although collaborative interaction in ORT is identified as a key factor contributing to improved post-test scores, the study acknowledges that additional variables, such as students' motivation, familiarity with digital platforms, and the instructors' role as facilitators, may have influenced the results. Nevertheless, the quasi-experimental design and group equivalence achieved at pre-test strengthen the theoretical plausibility of the claim that sustained peer interaction was a significant differentiator. This assumption is supported by Hwang et al. (2023), who found that reciprocal teaching facilitated higher-order cognitive processes such as analysis, evaluation, and creation through dialogic, peer-mediated engagement. Similarly, Abdelmoati (2023) emphasizes that the collaborative structure of reciprocal teaching enables learners to co-construct meaning, monitor comprehension, and internalize strategies more effectively than through isolated instruction. These findings lend theoretical weight to the claim that the interactive dimension of ORT played a central role in enhancing students' strategic reading performance.

In sum, the results suggest that reciprocal teaching, when systematically implemented and technologically supported, is a highly effective instructional model for enhancing reading comprehension and test performance in EFL settings. Its adaptability to asynchronous, fully online contexts makes it particularly valuable for higher education institutions operating within digital ecosystems. The ORT model remains scalable for broader Islamic higher education contexts with limited synchronous access, due to its reliance on structured peer roles and low-bandwidth tools like forums or annotated texts. It emphasizes on collaboration and reflection also aligns well with the pedagogical values of many Islamic institutions.

## CONCLUSION

This study confirms that Online Reciprocal Teaching (ORT) is more effective than Online Reading Strategy Instruction (ORSI) in improving EFL students' comprehension of standardized tests such as the TOEFL and institutional EPTs. Through structured roles and the use of collaborative digital tools, ORT enhanced students' ability to process complex texts and apply metacognitive reading strategies in test-like conditions. These findings emphasize the importance of socially interactive and cognitively guided reading models in fully online learning environments, particularly where learner independence and test performance are key priorities.

Nonetheless, the study acknowledges that the difference between ORT and ORSI involved varying levels of pedagogical interactivity, with the ORSI group focused more on self-paced, individual learning. While both groups received comparable strategy input and teacher guidance, the ORT group experienced richer peer-mediated engagement. This raises a valid concern as to whether the comparison /kl reflects instructional effectiveness or risks overstating ORT's superiority due to unequal engagement opportunities. Although the design reflects the intrinsic differences between collaborative and individual models, further controlled research is needed to isolate interactivity as a variable. Future studies should also examine how individual factors such as digital literacy, skill level, and learner motivation influence engagement with ORT. Larger-scale and qualitative investigations could help refine its application and support its integration into broader EFL curricula across varied online learning environments.

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