

The Effects of the PRPS Strategy on the Reading Comprehension of Iranian EFL Freshmen in Higher Education Institutions

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ABSTRACT

Reading comprehension has long been a central focus in English as a Foreign Language (EFL) contexts, especially in countries like Iran, where reading serves as a primary source of language exposure in academic environments. As Iranian university students continue to face ongoing challenges in understanding reading materials, providing effective support strategies becomes more urgent. This study examined the effects of the PRPS strategy (a combination of REAP and Reciprocal Teaching strategies), which includes Predicting, Reading, Paraphrasing, and Summarizing (PRPS), on the reading comprehension performance of Iranian EFL freshmen at a higher education institution. A quantitative, quasi-experimental design was used to evaluate the strategy's effectiveness. Data were analyzed using independent-samples t-tests and ANCOVA to account for baseline differences. Additionally, two validated questionnaires measured students' engagement with each PRPS step and their overall perceptions of the strategy. While the independent samples t-test did not reveal a statistically significant difference, ANCOVA - controlling for pretest differences -demonstrated a significant positive effect of the PRPS strategy. These findings support the pedagogical value of the PRPS strategy as an effective, student-centered approach to enhancing reading comprehension in Iranian EFL university settings. The results have implications for EFL teaching methods, curriculum development, and teacher training.

KEYWORDS

English as a Foreign Language (EFL); metacognitive strategies; paraphrasing; predicting; reading comprehension; summarizing (PRPS) strategy

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1. Introduction

Language acquisition involves four essential skills: reading, writing, listening, and speaking. Among these, reading plays a central role in English as a Foreign Language (EFL) learning, as it helps students

understand written texts while expanding their linguistic knowledge (Sutopo & Said, 2020; Desta, 2020; Ghahderijani et al., 2021; Pangestika, 2018). Reading comprehension is widely recognized as a vital cognitive skill that improves both academic success and daily life (Hulme & Snowling, 2011; Rezai et al., 2022). Therefore, educational research has extensively focused on finding strategies to boost comprehension and address learner difficulties (Pardede, 2022). Recent studies emphasize that reading strategies are key to enhancing comprehension (Guthrie et al., 2004; Sun et al., 2021; Yapp et al., 2021). Several important approaches have been proposed, including strategic reading (Baker & Brown, 1984), reciprocal teaching (Palincsar & Brown, 1984), and the REAP strategy (Tasdemir, 2010). Though these approaches were developed independently, they share many underlying theories. In this context, the present study explores the factors influencing reading proficiency among Iranian EFL freshmen and identifies teaching strategies to improve their performance. This research is important because it addresses ongoing comprehension challenges among Iranian learners, aiming to enhance their academic results, broaden their knowledge, and boost their confidence in using English.

Although reading comprehension is a well-established area in EFL research, blended strategy models in higher education have received limited empirical focus. Most existing studies examine reciprocal teaching and the REAP strategy separately; however, there is little evidence regarding the effectiveness of an integrated model such as PRPS for Iranian university students. This is especially important given the specific challenges this group faces, such as overreliance on translation, poor understanding of academic texts, and limited strategic reading skills. To fill this gap, this study introduces and investigates PRPS—a combined strategy based on reciprocal teaching and the REAP model. By incorporating sociocultural and metacognitive perspectives into a streamlined framework, this research provides both theoretical insights and practical benefits for enhancing the academic reading skills of Iranian EFL freshmen.

This study is guided by these objectives:

1. To investigate the effects of the PRPS strategy on the reading comprehension performance of Iranian EFL freshmen.
2. To determine the extent to which the PRPS strategy yields statistically significant improvements in the reading comprehension abilities of Iranian EFL freshmen.
3. To identify which specific steps of the PRPS strategy are perceived as most and least appealing or engaging by the participating students.
4. To explore the perceptions and attitudes of Iranian EFL freshmen toward the overall usefulness and applicability of the PRPS strategy in enhancing their reading comprehension.

2. Review of literature

Reading is viewed as a source of enjoyment and relaxation, providing readers with a chance to escape

the stresses of daily life (Nozima, 2024). It also plays a crucial role in acquiring information from written texts in EFL/ESL settings, whether in digital or printed formats (Oranpattanachai, 2023). The most effective readers are recognized for their knowledge of various reading strategies and their skillful application. Additionally, by examining readers' metacognitive awareness and strategies, reading habits can be cultivated (Juliana & Anggraini, 2024). Although numerous reading comprehension strategies have been introduced, reciprocal teaching and the REAP strategy are among the most well-known. Palincsar and Brown (1984) developed a “multi-component, metacognitive training package,” called reciprocal teaching. This method involves students taking on the teacher's role and using key reading strategies such as prediction, clarification, question generation, and summarization (Maspul, 2024). Furthermore, Eanet and Manzo (1976) introduced, for the first time, a reading strategy named REAP, which stands for Read, Encode, Annotate, and Ponder. Hutapea et al. (2024) found that the REAP strategy enhanced student engagement and comprehension.

Research has confirmed that both reciprocal teaching and REAP enhance EFL reading comprehension, but through different yet complementary mechanisms. Reciprocal teaching emphasizes scaffolded dialogue, cooperative meaning-making, and explicit comprehension monitoring. Conversely, REAP encourages individual reflection, paraphrasing, and deeper engagement with texts. From a comparative perspective, both strategies fall within metacognitive strategy instruction because they support planning, monitoring, evaluating, and regulating comprehension. They also align with self-regulated learning theory by motivating learners to take greater responsibility for their reading processes and outcomes. Within this framework, PRPS builds on existing research by combining the socially supported strengths of reciprocal teaching with the reflective and self-regulatory aspects of REAP into a more concise, theoretically grounded model for higher education EFL reading instruction.

3. Materials and Methods

The primary aim of the study was to examine the effects of the PRPS strategy on the reading comprehension of EFL learners who must process large volumes of English text. Additionally, the study sought to introduce a new strategic model for EFL reading comprehension. Research has demonstrated that both reciprocal teaching and the REAP strategy enhance reading comprehension. Based on this, the combined PRPS strategy was anticipated to yield similar benefits. It is important to note that this was a quantitative, quasi-experimental study involving pretests, posttests, statistical analyses, reading texts, and both experimental and control groups. The study examined the impact of the independent variable PRPS on the dependent variable of reading comprehension.

3.1. Participants and Sampling

The study investigated whether the PRPS strategy affects Iranian EFL freshmen's reading comprehension. Using convenience sampling, 106 freshmen at a private university were initially recruited. From this group, 59 students were selected to take part in the placement stage. After administering the Oxford Placement Test to ensure homogeneity, only 48 students whose scores were within one standard deviation of the mean were retained. These participants were then randomly divided into two groups of 24: the experimental group received the PRPS strategy as treatment, while the control group was taught using traditional reading methods, forming the basis for testing the research hypothesis.

3.2. Research Questions:

The study was guided by the following research questions

1. Does the PRPS strategy have any significant effects on the reading comprehension of Iranian EFL freshmen?
2. To what extent does the PRPS strategy have any significant effect on the reading comprehension of Iranian EFL freshmen?
3. Which steps will be most and least appealing to the Iranian EFL freshmen?
4. What are the perceptions of the Iranian EFL freshmen about the PRPS strategy as a whole?

3.3. Data Collection

This section presents the main findings of the study based on statistical analyses of pre- and post-tests and questionnaire data. All analyses were performed using SPSS, and the results are discussed in relation to existing literature. Data collection began with the Oxford Placement Test (OPT) to ensure group homogeneity, and participants were randomly assigned to control and experimental groups. Reliable pretest and post-tests (Cambridge Advanced Exams, Cronbach's Alpha = 0.86 and 0.81, respectively) were used to assess performance. Over ten 45-minute sessions, the experimental group received training in the PRPS strategy (predicting, reading, paraphrasing, summarizing), while the control group received traditional reading instruction. After the intervention, both groups completed the post-test. A t-test and ANCOVA were conducted to evaluate the effects of the PRPS strategy on reading comprehension, with ANCOVA controlling for pretest scores, demonstrating a significant positive impact of the intervention. These results suggest that the PRPS strategy had a positive effect on students' reading outcomes after controlling for pretest differences. Additionally, two validated, closed-ended questionnaires were administered to explore students' perceptions of the PRPS strategy, focusing on its most and least appealing steps.

4. Data Analysis

4.1. Pretest Scores in Experimental and Control Groups

The experimental group had a mean score of 50.86 (SD = 8.99), indicating moderate variability, minimal impact from outliers, and an approximately normal distribution. The control group had a higher mean score of 58.83 (SD = 13.59) and showed greater variability, suggesting a more diverse performance pattern. In both groups, the similarity between the mean, trimmed mean, and median indicated relatively symmetrical distributions with no major outliers. Overall, these results establish a reliable baseline for future comparisons of treatment effects.

Table 1 Pretest Scores of both Groups

Group	Mean	SD
Experimental	50.86	8.99
Control	58.83	13.59

4.2 Post-test Scores in Experimental and Control Groups

The post-test results revealed distinct performance patterns between the two groups. The experimental group achieved a mean score of 60.45 (SD = 8.55), indicating a clear improvement from the pretest and a positive effect of the intervention. Conversely, the control group had a mean score of 55.91 (SD = 9.96), which was slightly lower than its pretest average, implying minimal or no progress with traditional instruction. Both groups displayed moderate variability and approximately normal distributions. Overall, the data suggest that the treatment was associated with greater academic gains in the experimental group compared to the control group.

Table 2 Post-test Scores of both Groups

Group	Mean	SD
Experimental	60.45	8.55
Control	55.91	9.96

4.3 Levene's Test for Equality of Variances and an Independent Samples T-Test of Pretest Scores

To assess whether there were significant baseline differences between the experimental and control groups before the intervention, both Levene's Test for Equality of Variances and an Independent Samples t-Test were performed on the pretest scores. Levene's Test indicated unequal variances between the groups ($F(1,45) = 12.49, p < .001$), leading to the use of Welch's t-test. Both Welch's and the standard t-test showed a significant baseline difference, with the control group scoring higher

($M = 58.83$) than the experimental group ($M = 50.86$), $p \approx .022$, suggesting greater initial academic preparedness in the control group.

4.4 Levene's Test for Equality of Variances and an Independent Samples T-Test of Post-test Scores

To determine whether the instructional intervention had a statistically significant effect on student performance, Levene's Test and Independent Samples t-Tests were conducted to compare the post-test scores between the experimental and control groups. Levene's Test for Equality of Variances was first used to assess whether the two groups had similar variances in their post-test scores. The test yielded a non-significant result, $F(1, 45) = 0.153$, $p = .698$, indicating that the assumption of equal variances was met. Levene's Test confirmed equal variances ($F(1, 45) = 0.153$, $p = .698$), which allowed for a standard t-test. The experimental group scored higher on the post-test ($M = 60.45$) than the control group ($M = 55.91$), but this difference was not statistically significant ($t(45) = 1.681$, $p = .10$; Welch's $t = 1.675$, $p = .101$). Although the results favored the experimental group, the effect was not strong enough to reach significance, suggesting that further analysis (e.g., ANCOVA) might be needed.

4.5 Analysis of Covariance

Before ANCOVA was selected because the groups differed on the pretest, making a direct comparison of post-test means less suitable. By controlling pretest scores, ANCOVA adjusted for initial differences and provided a more precise estimate of the treatment effect. The analysis revealed a significant group effect, $F(1, 44) = 22.17$, $p < .001$, indicating that the experimental group performed significantly better than the control group on the post-test after accounting for baseline differences. Pretest scores also significantly predicted posttest performance, $F(1, 44) = 71.07$, $p < .001$. Since baseline differences can threaten internal validity due to selection bias, ANCOVA enhanced the analysis by minimizing their impact. Additionally, both groups were tested under the same conditions and with the same measures, further supporting methodological consistency.

Table 3 ANCOVA

Source	df	F	p	Partial η^2
Group	1, 44	22.17	< .001	0.34
Pretest (Covariate)	1, 44	71.07	< .001	0.62

4.6 Descriptive Statistics for the Questionnaire about the Most and Least Appealing Steps

The following table presents the descriptive statistics from the questionnaire on the most and least appealing steps in the PRPS. The first questionnaire, designed to identify these appealing and unappealing steps in the PRPS strategy, demonstrated high reliability (Cronbach's Alpha = 0.91), confirming strong internal consistency. Descriptive results showed overwhelmingly positive responses, with most students either agreeing or strongly agreeing with the statements. For example, 75% strongly agreed with reading to understand the writer's message (statement 5), and 62.5% strongly agreed with summarizing main points (statement 9). Other steps, such as paraphrasing and reporting ideas (statements 6 and 7), received balanced but still positive responses. Minimal disagreement was observed across all items, indicating that the PRPS steps were well accepted and aligned with learners' preferences. Overall, the questionnaire results confirmed that students found the PRPS strategy both appealing and effective.

Table 4 Descriptive Statistics in Questionnaire about the Most and Least Appealing Steps

Statements	SD		D		U		A		SA	
	N	%	N	%	N	%	N	%	N	%
S1	-	-	-	-	12	50.0%	3	12.5%	9	37.5%
S2	-	-	3	12.5%	12	50.0%	3	12.5%	6	25.0%
S3	-	-	-	-	6	25.0%	12	50.0%	6	25.0%
S4	-	-	-	-	3	12.5%	9	37.5%	12	50.0%
S5	-	-	-	-	-	-	6	25.0%	18	75.0%
S6	-	-	-	-	9	37.5%	6	25.0%	9	37.5%
S7	-	-	-	-	9	37.5%	6	25.0%	9	37.5%
S8	-	-	6	25.0%	3	12.5%	6	25.0%	9	37.5%
S9	-	-	-	-	-	-	15	62.5%	9	37.5%
S10	-	-	-	-	6	25.0%	6	25.0%	12	50.0%

4.7 Descriptive Statistics for the Questionnaire about the Students' Perceptions of the PRPS

The following table shows the descriptive statistics for the questionnaire about students' perceptions of the PRPS strategy. The second questionnaire on students' perceptions of the PRPS strategy mostly received positive feedback. Most respondents agreed or strongly agreed that the strategy improved their reading skills, comprehension, and purposefulness, with especially strong agreement for its clarity and organization (100%) and for aiding recall of main points (75%). Some variation was observed in items related to motivation and active reading, with a few students undecided, but overall, the results confirmed that PRPS was well regarded and viewed as effective, with strong support for its main

benefits.

Table 5 Descriptive Statistics in a Questionnaire about Students' Perceptions

Statements	SD		D		U		A		SA	
	N	%	N	%	N	%	N	%	N	%
S1	-	-	-	-	-	-	12	50.0%	12	50.0%
S2	-	-	-	-	-	-	12	50.0%	12	50.0%
S3	-	-	-	-	-	-	-	-	24	100.0%
S4	-	-	-	-	3	12.5%	12	50.0%	9	37.5%
S5	-	-	-	-	-	-	18	75.0%	6	25.0%
S6	-	-	-	-	3	12.5%	9	37.5%	12	50.0%
S7	-	-	-	-	-	-	15	62.5%	9	37.5%
S8	-	-	-	-	3	12.5%	15	62.5%	6	25.0%
S9	-	-	-	-	-	-	9	37.5%	15	62.5%
S10	-	-	-	-	-	-	15	62.5%	9	37.5%

5. Discussion

The findings of this study show that the PRPS strategy significantly enhanced the reading comprehension of Iranian EFL freshmen. This result can be understood through three complementary perspectives: metacognitive strategy research, reading comprehension theory, and EFL instructional design. From a metacognitive perspective, PRPS seems to involve learners in key regulatory processes such as planning, monitoring, and evaluating understanding. Predicting uses prior knowledge and sets a purpose for reading; reading itself helps monitor meaning during text processing; paraphrasing requires learners to confirm understanding by restating meaning; and summarizing facilitates the evaluation, integration, and consolidation of important textual information. This interpretation aligns with Pahrizal et al. (2025), who highlighted the importance of metacognitive strategy awareness in improving comprehension, and with Chen et al. (2023), who argued that skilled readers regulate understanding through intentional strategy use. It is also supported by recent research showing that structured, process-focused metacognitive scaffolds can greatly improve EFL reading comprehension and foster deeper analytical engagement with texts (Mekheimer, 2025), while self-regulated learning approaches have also been found to boost reading comprehension, motivation, and strategic evaluation among EFL undergraduates (Maimaiti & Hew, 2025).

The findings also align with reading comprehension theory, which views comprehension as an active meaning-making process that results from the interaction among textual input, background knowledge, and strategic processing. Within this framework, PRPS seems to support comprehension by guiding learners to activate prior knowledge, engage deeply with the text, restructure semantics,

and synthesize main ideas. This sequence likely promotes deeper processing of the text's meaning rather than superficial decoding or translation, which could explain the experimental group's stronger post-test performance. From an EFL educational design perspective, the results emphasize the importance of explicit, scaffolded, and learner-centered reading instruction. Unlike traditional methods that often rely on teacher explanation or translation, PRPS provides a structured, teachable sequence that makes strategic reading processes visible to learners and encourages more active engagement with texts. Overall, these findings suggest that PRPS enhances both comprehension as a metacognitive process and meaning construction, offering a practical instructional model that integrates these theoretical principles in higher-education EFL contexts. In this way, the present study broadens existing research by demonstrating that a concise, blended strategy can effectively operationalize metacognitive and comprehension theories in a pedagogically coherent and applicable manner for EFL learners.

5.1. Limitations of the Study

This study had several limitations. First, it focused only on freshmen, which limits the extent to which the results apply to students at different academic levels. Second, the small, localized sample size reduces the ability to generalize the findings. Third, only reading comprehension was examined, excluding other important skills like writing, speaking, and listening. Finally, the Iranian educational setting may restrict the applicability of the findings to other cultural contexts. Future research should address these limitations by using larger, more diverse samples and exploring a broader range of language skills.

Conclusion

This study evaluated the effectiveness of the PRPS (Predicting, Reading, Paraphrasing, Summarizing) strategy in enhancing reading comprehension among Iranian EFL freshmen. Using a quasi-experimental design with tests and questionnaires, the results indicated that the experimental group showed significant improvements compared to the control group, and ANCOVA confirmed the positive impact of the PRPS strategy. The study contributes to both academic and educational fields of EFL reading research. Its unique contribution is to introduce and analyze PRPS as a concise, integrated reading approach that combines key elements of metacognitive and strategic reading instruction within a clear four-step framework. This aligns with the view that teaching English strategies is crucial in educational settings (Apoko & Marcellinda, 2023), that providing reading strategies can help EFL learners improve their reading comprehension (Toomnan, 2022), and that strategic reading approaches effectively enhance EFL students' reading skills (Okasha, 2020). Recent studies also support the view that explicit instruction in metacognitive reading strategies can boost reading comprehension, expand

learners' planning, monitoring, and evaluation skills, and foster more independent engagement with academic texts (Noipa & Phusawisot, 2024). Additionally, recent research on collaborative strategic reading indicates that structured, strategy-based instruction significantly enhances reading comprehension and supports learners' motivation and engagement in EFL contexts (Sarshogh et al., 2024). Instead of treating predicting, reading, paraphrasing, and summarizing as separate activities, this study views them as a connected sequence that promotes purposeful understanding, meaning reformulation, and reflective interaction with texts. Thus, it extends existing research on strategic reading by demonstrating how a streamlined model can operationalize core principles of metacognitive regulation and reading comprehension theory within higher-education EFL contexts. Pedagogically, PRPS offers teachers a structured, teachable, and adaptable model that can shift classroom practices beyond translation-based or teacher-centered methods toward explicit, scaffolded, and learner-centered reading instruction.

6. Future Directions

This study confirmed the PRPS strategy as an effective tool for enhancing reading comprehension among Iranian EFL freshmen, with students praising its clarity and organization while finding predicting more challenging. It is recommended that future research involve larger, more diverse samples, assess long-term retention, and evaluate the strategy across different proficiency levels, cultural contexts, and digital learning environments. Comparative studies with other reading strategies and research into students' evolving perceptions are also suggested. Overall, with the PRPS promoting active, skilled, and motivated reading, if it is refined for broader application, it holds strong potential as a sustainable and adaptable teaching method in EFL education

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Declaration

The author confirms that this manuscript contains no plagiarism, data fabrication, or falsification. All ethical standards and guidelines relevant to educational research were fully observed throughout the study. Any use of AI tools was limited strictly to language editing, grammatical improvement, and formatting support. No AI tool was used to generate the study's original concepts, analyses, interpretations, or findings.

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