

Effectiveness of the SQ5R Reading Strategy in Enhancing English Reading Comprehension of First-Year Students at Mahachulalongkornrajavidyalaya University, Chiang Mai Campus

Hninn Oo Wai^{1*} , Wisuttichai Chaiyasit² , Samran Khansamrong³ 

^{1 2 3}Mahachulalongkornrajavidyalaya University, Chiang Mai Campus, Thailand

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Abstract

This study aimed to identify the reading comprehension problems encountered by first-year students before the implementation of the SQ5R reading strategy, compare students' reading comprehension scores before and after the implementation, and assess students' perceptions of the strategy at Mahachulalongkornrajavidyalaya University, Chiang Mai Campus. The study employed a quasi-experimental one-group pre-test post-test design. The participants were 58 first-year English major students enrolled in the Structure in Reading Comprehension course during the 2025 academic year. The research instruments included a diagnostic test, pre-test, post-test, six-week SQ5R-based lesson plans, and a perception questionnaire. Data were analyzed using mean, standard deviation, and one paired-samples t-test. The findings indicated that students experienced difficulties in identifying main ideas, understanding vocabulary in context, making inferences, and critically analyzing texts during the diagnostic assessment. After the implementation of the SQ5R reading strategy, the mean post-test score ($M = 28.07$, $SD = 2.99$) was significantly higher than the mean pre-test score ($M = 26.72$, $SD = 3.68$), $t(57) = -2.66$, $p = .01$, indicating an overall improvement in students' reading comprehension performance. Students also expressed positive perceptions toward the SQ5R reading strategy, reporting high levels of agreement regarding comprehension improvement, ease of applying the strategy, motivation and engagement, and overall satisfaction.

Keywords: EFL learners, English language teaching, higher education, reading comprehension, SQ5R reading strategy

* Corresponding author.

E-mail address: hninnoowai24@gmail.com

Introduction

English has become the dominant international language for communication, education, business, science, and technology, making English proficiency an essential skill for academic and professional success (Schneider, 2020). In Thailand, English is taught as a compulsory subject from primary education through higher education (Wongsothorn et al., 2002; Kaur et al., 2016). Despite years of English instruction, many learners studying English as a Foreign Language (EFL) continue to experience difficulties in reading comprehension. These difficulties may be explained by the text-processing challenges commonly encountered by EFL learners, such as limitations in vocabulary knowledge, syntactic processing, and inferencing (Grabe & Stoller, 2019). Consequently, there is a need for structured instructional interventions in university reading classrooms.

Reading comprehension is regarded as one of the most important academic skills because it enables learners to understand, interpret, and analyze written information effectively (Grabe & Stoller, 2020). In the context of English as a Foreign Language (EFL), reading comprehension involves more than recognizing vocabulary and grammatical structures. It also requires learners to integrate cognitive strategies, background knowledge, and critical thinking skills to construct meaning from texts (Grabe & Stoller, 2020). However, many Thai EFL learners continue to experience difficulties in using effective reading strategies, including inferring meaning from context and selecting appropriate strategies for different reading tasks, which may hinder successful comprehension of academic texts (Chumworatayee, 2017; Rungswang & Kosashunhanan, 2021).

To address these challenges, researchers and educators have emphasized the importance of strategic reading instruction in language classrooms. One widely recognized approach is the SQ5R reading strategy. Robinson (1946) originally developed the SQ3R model, which consists of five stages: Survey, Question, Read, Recite, and Review. Subsequent adaptations of the original SQ3R model introduced additional stages to encourage learners to record key information and reflect on their understanding, resulting in the seven-step SQ5R framework adopted in the present study. The additional stages are intended to promote active reading, deeper comprehension, critical thinking, and long-term retention of learning. The SQ5R strategy is supported by Schema Theory (Carrell & Eisterhold, 1983), Metacognitive Theory (Flavell, 1979), and Constructivist Learning Theory (Vygotsky, 1978), which collectively provide the theoretical foundation for understanding how learners activate prior knowledge, monitor comprehension, and construct meaning during the reading process.

Previous studies have demonstrated that the SQ5R strategy is effective in improving students' reading comprehension across various educational contexts (Herwanis et al., 2021). However, empirical research on the application of SQ5R in Thai higher education remains limited. In particular, few studies have examined its effectiveness among first-year students in Buddhist universities such as Mahachulalongkornrajavidyalaya University. A review of the existing literature indicates that most studies conducted in Thailand have focused on secondary school students or general reading contexts rather than first-year university students. Furthermore,

limited research has investigated students' perceptions toward the SQ5R reading strategy within Buddhist higher education institutions. Consequently, further empirical evidence is needed regarding the effectiveness of the SQ5R reading strategy in enhancing English reading comprehension among first-year university students in this educational context.

Accordingly, this study investigated the effectiveness of the SQ5R reading strategy in enhancing English reading comprehension among first-year students at Mahachulalongkornrajavidyalaya University, Chiang Mai Campus. Specifically, the study first identified students' reading comprehension difficulties through a diagnostic assessment. It then compared students' reading comprehension performance before and after the implementation of the SQ5R reading strategy and explored their perceptions of using the strategy in English reading classes.

The study was guided by the following research questions:

1. What reading comprehension problems do first-year students encounter before the implementation of the SQ5R reading strategy?
2. What differences exist between students' reading comprehension scores before and after the implementation of the SQ5R reading strategy?
3. What are the students' perceptions toward the use of the SQ5R reading strategy in improving their reading comprehension?

Literature Review

1. Reading Comprehension

Reading comprehension is the process of constructing meaning from written texts through the interaction between the reader, the text, and the reading context. It involves understanding vocabulary, interpreting ideas, making inferences, and integrating background knowledge to comprehend textual information effectively (Grabe & Stoller, 2020). In English as a Foreign Language (EFL) context, reading comprehension is considered an essential academic skill because learners frequently rely on reading to access educational materials and acquire knowledge.

Reading comprehension is widely recognized as an active cognitive process rather than the passive reception of information. Effective readers actively construct meaning by predicting, questioning, monitoring comprehension, and connecting new information with existing knowledge (Duke & Pearson, 2002). Accordingly, strategic reading instruction has become an important approach in EFL classrooms because it encourages learners to engage actively with texts while improving comprehension, critical thinking, and learner autonomy (Grabe, 2009).

However, even EFL learners with relatively strong reading proficiency may encounter comprehension challenges when reading academically demanding texts. Difficulties may arise from unfamiliar vocabulary, complex grammatical structures, limited topic-specific background knowledge, and the increased cognitive demands associated with higher-order

comprehension tasks. These factors can affect learners' ability to make accurate inferences, critically evaluate information, and retain important ideas during the reading process (Chumworatayee, 2017).

Reading comprehension also involves multiple levels of understanding. Literal comprehension focuses on identifying explicitly stated information, whereas inferential comprehension requires readers to interpret implicit meanings by integrating textual information with prior knowledge (Barrett, 1968). Critical comprehension extends beyond understanding by requiring readers to analyze, evaluate, and form judgments about ideas presented in a text (Grabe & Stoller, 2020). Given the complexity of these comprehension processes, researchers have increasingly emphasized structured reading strategies that support learners before, during, and after reading activities (Grabe & Stoller, 2020).

2. Theoretical Foundations of the SQ5R Reading Strategy

The theoretical foundations of the SQ5R reading strategy are informed by Schema Theory, Metacognitive Theory, and Constructivist Learning Theory. Collectively, these theories explain how learners activate prior knowledge, regulate comprehension, and actively construct meaning throughout the reading process. Together, they provide a conceptual basis for understanding how structured reading strategies can enhance reading comprehension among English as a Foreign Language (EFL) learners.

Schema Theory explains that reading comprehension is facilitated when learners activate relevant prior knowledge, or schemas, to interpret and integrate new information. These mental frameworks enable readers to make predictions, generate inferences, and construct meaning from texts. Within the SQ5R strategy, schema activation is primarily reflected in the Survey and Question stages, where learners preview texts and establish connections between new information and existing knowledge before reading begins (Carrell & Eisterhold, 2017; Grabe & Stoller, 2020).

Metacognitive Theory emphasizes learners' awareness and regulation of their own thinking processes through planning, monitoring, and evaluating comprehension. Effective readers consciously select appropriate reading strategies, monitor their understanding, and adjust their approaches when comprehension difficulties arise (Flavell, 1979; Grabe & Stoller, 2020). These metacognitive processes are embedded throughout the SQ5R strategy, particularly during the Question, Read, Recite, Review, and Reflect stages, promoting self-regulated learning and independent reading.

Constructivist Learning Theory views reading as an active process in which learners construct meaning by integrating new information with prior experiences through interaction and reflection. Rather than passively receiving information, learners actively interpret ideas, question assumptions, and develop deeper understanding through meaningful engagement with texts (Vygotsky, 1978; Le & Nguyen, 2024). These principles are reflected throughout the SQ5R strategy, particularly in the Question, Record, Review, and Reflect stages, where

learners organize information, evaluate understanding, and connect new knowledge with existing experiences.

Collectively, these theoretical perspectives explain how the SQ5R reading strategy integrates schema activation, metacognitive regulation, and active knowledge construction to facilitate reading comprehension. Consequently, they provide a strong theoretical foundation for investigating the effectiveness of the SQ5R reading strategy among first-year EFL learners.

3. The SQ5R Reading Strategy

The SQ5R reading strategy evolved from the SQ3R model originally developed by Robinson (1946) to improve students' study skills and reading efficiency. The original SQ3R model consisted of five stages: Survey, Question, Read, Recite, and Review. Over time, the strategy was adapted in educational practice to strengthen learners' active engagement with texts and promote deeper comprehension. The present study adopted a seven-step SQ5R framework consisting of Survey, Question, Read, Record, Recite, Review, and Reflect, which extends the original model by incorporating note-taking and reflective learning throughout the reading process.

The SQ5R strategy guides learners through structured pre-reading, while-reading, and post-reading activities. During the Survey and Question stages, learners activate prior knowledge and establish reading purposes before engaging with the text. The Read, Record, and Recite stages encourage learners to identify key information, organize ideas, and reinforce understanding through note-taking and recall. Finally, the Review and Reflect stages promote comprehension monitoring, consolidation of learning, and meaningful connections between new information and prior knowledge.

Because the strategy integrates cognitive, metacognitive, and reflective learning processes, SQ5R has been widely applied in EFL reading instruction to promote active reading, learner autonomy, and deeper comprehension. Previous studies have reported that structured reading strategies based on the SQ5R framework can enhance reading comprehension, learner engagement, and metacognitive awareness among EFL learners (Herwanis et al., 2021; Anderson, 2019).

4. Previous Studies

Recent studies have consistently demonstrated the effectiveness of the SQ5R reading strategy in enhancing English as a Foreign Language (EFL) learners' reading comprehension across different educational contexts. The structured sequence of surveying, questioning, reading, recording, reciting, reviewing, and reflecting encourages learners to engage actively with texts while promoting comprehension, information retention, and metacognitive awareness. For example, Herwanis et al. (2021) reported that secondary-level EFL learners who were taught using the SQ5R strategy achieved significantly higher reading comprehension scores than those who received instruction through the Fix-Up strategy. Similarly, Hilmi et al. (2024) found that SQ5R-based instruction significantly improved students' reading skills regardless of their level

of learning motivation, indicating that the strategy supports both reading achievement and learner engagement. Collectively, these findings suggest that the systematic stages of SQ5R provide an effective framework for developing reading comprehension and fostering active learning among EFL learners.

Evidence from Thailand has likewise demonstrated the educational value of the SQ5R strategy in reading instruction. Deelert and Wiyaporn (2024) reported that SQ5R enhanced university students' critical reading skills and reflective learning behaviors by encouraging active interaction with reading materials and systematic organization of information. Similarly, Jaiyangyuen et al. (2025) found that the integration of SQ5R with authentic reading materials significantly improved Grade 12 students' reading comprehension and resulted in high levels of learner satisfaction. Beyond reading achievement, several studies have highlighted the importance of learners' perceptions in evaluating instructional effectiveness. Chooklinhorn and Ruamsuk (2019) found that students expressed highly positive opinions toward SQ5R-based instruction, while Charoentampanya et al. (2026) reported that learners demonstrated very positive perceptions of SQ5R learning activities after the intervention. These findings suggest that learners' perceptions provide valuable evidence regarding the practicality, acceptability, and instructional value of the SQ5R strategy in EFL classrooms.

Although previous studies consistently support the effectiveness of the SQ5R strategy, several research gaps remain. Most existing studies have focused on primary or secondary school students, whereas relatively few have examined first-year university students in EFL contexts. Within Thailand, empirical research has largely been conducted in general educational settings, with limited evidence from higher education institutions and very few studies involving Buddhist universities. Furthermore, many previous studies have primarily emphasized reading achievement, while comparatively fewer have investigated learners' perceptions alongside objective measures of reading comprehension. These gaps highlight the need for further research examining both the effectiveness of the SQ5R reading strategy and students' perceptions of its implementation among first-year university students in Thai higher education.

Research Objectives

1. To identify the reading comprehension problems encountered by first-year students before the implementation of the SQ5R reading strategy
2. To compare students' reading comprehension scores before and after the implementation of the SQ5R reading strategy
3. To assess students' perceptions toward the use of the SQ5R reading strategy in improving their reading comprehension

Hypotheses of the Study

H₀: There is no significant difference in the English reading comprehension scores of first-year students at MCU, Chiang Mai Campus, before and after the implementation of the SQ5R reading strategy.

H₁: There is a significant difference in the English reading comprehension scores of first-year students at MCU, Chiang Mai Campus, before and after the implementation of the SQ5R reading strategy.

Methodology

1. Research Design

This study employed a quantitative approach using a one-group pre-test-post-test quasi-experimental design to investigate the effectiveness of the SQ5R reading strategy in enhancing English reading comprehension among first-year students at Mahachulalongkornrajavidyalaya University, Chiang Mai Campus. A diagnostic reading test was first administered to identify students' reading comprehension profiles and areas requiring instructional support prior to the intervention. Participants then completed a pre-test before participating in a six-week instructional intervention based on the SQ5R reading strategy. Following the intervention, a post-test and a perception questionnaire were administered to evaluate changes in reading comprehension performance and students' perceptions of the strategy. Demographic data were summarized using frequency and percentage. Reading comprehension scores and perception questionnaire responses were analyzed using mean and standard deviation. A paired-samples *t*-test was conducted to determine whether the differences between the pre-test and post-test scores were statistically significant.

2. Target Group

The target group consisted of 58 first-year English major students enrolled in the Structure and Reading in English course at Mahachulalongkornrajavidyalaya University, Chiang Mai Campus, during the 2025 academic year. The participants were selected through purposive sampling because they were enrolled in the target course and participated in all stages of the study, including the diagnostic reading test, pre-test, instructional intervention, post-test, and perception questionnaire. This group provided an appropriate context for examining the effectiveness of the SQ5R reading strategy in enhancing English reading comprehension among first-year university students.

3. Research Instruments

The study employed four research instruments: a diagnostic reading comprehension test, pre-test and post-test, SQ5R-based lesson plans, and a perception questionnaire.

3.1 Diagnostic Test

A 30-item diagnostic reading comprehension test consisting of multiple-choice and short-answer questions was administered before the instructional intervention to identify students' reading comprehension profiles and areas requiring instructional support. The test assessed three dimensions of reading comprehension: literal, inferential, and critical comprehension.

3.2 Pre-test and Post-test

Two equivalent 30-item multiple-choice reading comprehension tests were administered before and after the intervention to measure students' reading comprehension performance. Both tests assessed students' abilities in literal, inferential, and critical comprehension.

3.3 SQ5R-Based Lesson Plans

Six lesson plans based on the SQ5R reading strategy were developed and implemented over a six-week period. Each lesson guided students through the seven stages of the strategy: Survey, Question, Read, Record, Recite, Review, and Reflect, to promote active reading and improve reading comprehension.

3.4 Perception Questionnaire

A 20-item questionnaire using a five-point Likert scale was administered after the intervention to examine students' perceptions of the SQ5R reading strategy. The questionnaire comprised four dimensions: comprehension improvement, motivation and engagement, ease of applying the SQ5R strategy, and overall satisfaction and perceived usefulness.

4. Data Collection

The data collection was conducted over a six-week period during the 2025 academic year. Prior to the instructional intervention, participants completed a diagnostic reading comprehension test to identify their reading comprehension profiles and areas requiring instructional support. An orientation session was then conducted to introduce the objectives of the study and familiarize students with the seven stages of the SQ5R reading strategy: Survey, Question, Read, Record, Recite, Review, and Reflect.

Following the orientation, participants completed the pre-test to measure their baseline reading comprehension performance. The SQ5R instructional intervention was subsequently implemented over six weeks, with one 90-minute session per week, totaling nine instructional hours. During the intervention, students engaged in SQ5R-based reading activities, including guided reading, pair and group discussions, completion of SQ5R worksheets, comprehension exercises, and reflective learning tasks.

At the end of the intervention, participants completed the post-test, which was equivalent in format and difficulty to the pre-test, to assess changes in reading comprehension performance. Finally, a 20-item perception questionnaire was administered to examine students' perceptions of the SQ5R reading strategy. All collected data were coded and analyzed using the statistical procedures described in the data analysis section.

5. Data Analysis

Demographic data were analyzed using frequency and percentage. Reading comprehension scores and perception questionnaire responses were analyzed using descriptive statistics, including mean and standard deviation. A paired-samples *t*-test was performed to determine

whether there was a statistically significant difference between the pre-test and post-test scores following the implementation of the SQ5R reading strategy. Statistical significance was determined at the .05 level. All statistical analyses were conducted using IBM SPSS Statistics.

Results

1. Demographic Characteristics of the Participants

Table 1

Gender Information of Target Group

Gender	N	Percentage
Male	29	50%
Female	29	50%

Table 2

Age Information of Target Group

Age	N	Percentage
Lower than 18	2	3.4%
18-20	18	31.0%
21-23	15	25.9%
Above 23	23	39.7%
Total	58	100%

Table 3

Education Background of Target Group

Education Background	N=58	Percentage
GED	6	10.3%
High School	33	56.9%
Others	19	32.8%
Total	58	100%

2. Diagnostic Reading Comprehension Performance Before the SQ5R Intervention

A diagnostic reading comprehension test was administered to 58 participants before the instructional intervention to assess participants' baseline reading comprehension performance in three dimensions of reading comprehension: literal, inferential, and critical comprehension.

Descriptive statistics, including the mean, standard deviation, minimum score, and maximum score, were calculated for each dimension.

Table 4

Descriptive Statistics of the Diagnostic Reading Comprehension Test

Reading Comprehension Skill	N	Minimum	Maximum	M	SD
Literal Comprehension	58	3	15	13.14	2.481
Inferential Comprehension	58	1	8	6.48	1.740
Critical Comprehension	58	0	7	6.02	1.762
Total	58	6	30	25.64	5.479
Valid N (listwise)	58			100%	

Table 5

Percentage Scores Across Reading Comprehension Skill

Reading Comprehension Skill	N	M	SD	Maximum	Percentage Correct %
Literal Comprehension	58	13.14	2.481	15	87.60
Inferential Comprehension	58	6.48	1.740	8	81.00
Critical Comprehension	58	6.02	1.762	7	86.00
Overall	58			30	85.47

Table 4 presents the descriptive statistics of the diagnostic reading comprehension test. Overall, the participants achieved a mean score of 25.64 out of 30 ($SD = 5.48$), equivalent to 85.47% of the total score, indicating relatively strong overall performance on the diagnostic assessment. However, the scores varied considerably across participants, ranging from 6 to 30, suggesting individual differences in reading comprehension performance.

Across the three skills, participants obtained a mean score of 13.14 ($SD = 2.48$) in literal comprehension, 6.48 ($SD = 1.74$) in inferential comprehension, and 6.02 ($SD = 1.76$) in critical comprehension. Because the three dimensions contained different numbers of items, percentage scores were calculated to facilitate comparison across reading comprehension skills. Participants achieved 87.60% in literal comprehension, 81.00% in inferential comprehension, and 86.00% in critical comprehension. Although overall performance was relatively consistent, inferential comprehension produced the lowest percentage score.

The minimum scores further illustrate variation in participants' performance. While some participants achieved the maximum possible score in each reading dimension, minimum scores

ranged from 0 in critical comprehension to 3 in literal comprehension. These findings suggest that, although the participants demonstrated relatively strong overall reading comprehension performance, some participants demonstrated lower performance in higher-order reading comprehension skills particularly those involving inference and interpretation.

Table 6

Lowest Scoring Items in the Diagnostic Reading Comprehension Test

Item	M	Interpretation
22	0.52	Most difficult
7	0.67	Difficult
14	0.71	Difficult
12	0.74	Difficult
30	0.74	Difficult

To identify specific areas of difficulty, an item analysis was conducted. Table 6 presents the diagnostic test items with the lowest mean scores. Among all items, Question 22 obtained the lowest mean score ($M = 0.52$), indicating that it was the most challenging item for the participants. Questions 7, 12, 14, and 30 also produced comparatively low mean scores. Most of these items assessed inferential and critical comprehension, suggesting that participants found tasks involving implied meanings, inference, and critical evaluation more challenging than tasks requiring the identification of explicitly stated information.

All in all, the diagnostic findings indicate that although participants demonstrated relatively strong overall reading comprehension performance, inferential comprehension represented the most challenging dimension, suggesting opportunities for further development in higher-order reading skills.

3. Comparison of Pre-test and Post-test Reading Comprehension Performance

To examine changes in students' reading comprehension performance following the implementation of the SQ5R reading strategy, pre-test and post-test scores from 58 participants were compared using descriptive statistics and a paired-samples *t*-test.

Table 7

Comparison of Students' Pre-test and Post-test Scores

Variables	<i>n</i>	<i>M</i>	<i>SD</i>	<i>t</i>	<i>df</i>	<i>p-value</i>
Pre-test	58	26.72	3.68	-2.66	57	.010
Post-test	58	28.07	2.99			

Note. M = Mean; SD = Standard Deviation, * $p < .05$

Table 7 presents the comparison of the pre-test and post-test reading comprehension scores. The participants obtained a mean score of 26.72 (SD = 3.68) on the pre-test and 28.07 (SD = 2.99) on the post-test. The paired-samples *t*-test revealed a statistically significant difference between the two tests ($t(57) = -2.657, p = .010$), indicating that participants achieved significantly higher reading comprehension scores following the implementation of the SQ5R reading strategy. The effect size analysis yielded a Cohen's *d* value of 0.35, indicating a small to moderate effect.

Table 8

Comparison of Reading Comprehension Performance Before and After the SQ5R Intervention

Reading Comprehension Skill	Pre Test M	Post Test M	t	p
Literal Comprehension	9.50 (0.66)	9.59 (0.90)	-0.671	.505
Inferential Comprehension	8.34 (1.84)	9.07 (1.64)	-2.823	.007*
Critical Comprehension	8.88 (1.72)	9.41 (1.06)	-2.314	.024*
Overall	26.72 (3.68)	28.07 (2.99)		.010*

Note. M = Mean; SD = Standard Deviation, * $p < .05$

Table 8 presents the comparison of participants' reading comprehension performance across the three reading comprehension dimensions. No statistically significant improvement was observed in literal comprehension ($t = -0.671, p = .505$). In contrast, statistically significant improvements were found in inferential comprehension ($t = -2.823, p = .007$) and critical comprehension ($t = -2.314, p = .024$). These findings suggest that the SQ5R reading strategy was particularly effective in supporting higher-order reading comprehension skills involving inference, interpretation, and critical evaluation.

4. Students' Perceptions Toward the SQ5R Reading Strategy

The questionnaire results revealed that participants generally held positive perceptions toward the implementation of the SQ5R reading strategy in English reading classes.

Table 9

Students' Perceptions toward the SQ5R Reading Strategy

Aspects	M	SD	Interpretation
Comprehension Improvement	3.78	0.59	High level
Motivation and Engagement	3.70	0.59	High level
Ease of Applying the SQ5R Steps	3.75	0.65	High level
Overall Satisfaction and Perceived Usefulness	3.81	0.64	High level
Total	3.76	0.57	High level

Note. M = Mean; SD = Standard Deviation

The questionnaire responses from 58 participants indicated generally positive perceptions toward the SQ5R reading strategy, with an overall mean score of 3.76 (SD = 0.57), representing a high level of agreement.

As presented in Table 9, the highest-rated aspect was Overall Satisfaction and Perceived Usefulness ($M = 3.81$, $SD = 0.64$), indicating that participants perceived the SQ5R reading strategy as a useful and effective approach to improving their reading comprehension. Comprehension Improvement also received a high rating ($M = 3.78$, $SD = 0.59$), suggesting that participants believed the strategy enhanced their understanding of English reading texts.

The Ease of Applying the SQ5R Steps aspect obtained a mean score of 3.75 ($SD = 0.65$), indicating that participants generally found the seven stages of the SQ5R strategy understandable and manageable during reading activities. Motivation and Engagement aspect received the lowest mean score ($M = 3.70$, $SD = 0.59$); however, it remained within the high interpretation level, suggesting that the strategy encouraged greater participation and interest in classroom reading activities.

Overall, the findings indicate that participants held positive perceptions toward the SQ5R reading strategy. They regarded the strategy as useful for improving reading comprehension, facilitating the application of structured reading procedures, and promoting active engagement in reading activities.

Hypothesis Testing

The paired-samples t -test revealed a statistically significant difference between the pre-test and post-test scores, $t(57) = -2.66$, $p = .010$. Therefore, the null hypothesis was rejected, indicating that the SQ5R reading strategy significantly improved students' English reading comprehension.

Discussion

The present study demonstrated that participants achieved significantly higher reading comprehension scores following the implementation of the SQ5R reading strategy. Although the overall improvement was modest (Cohen's $d = 0.35$), the findings indicate that the structured stages of SQ5R may have supported participants in approaching reading tasks more systematically. The strategy encourages learners to survey texts, generate questions, organize information, monitor comprehension, and reflect on what they have read, thereby promoting active engagement throughout the reading process.

A more detailed analysis revealed that the significant improvements occurred primarily in inferential and critical comprehension, whereas literal comprehension did not improve significantly. This finding may be explained by the relatively high baseline performance in literal comprehension observed before the intervention, which left less opportunity for measurable improvement. In contrast, inferential and critical comprehension require learners

to interpret implied meanings, evaluate textual information, and make reasoned judgments, all of which are emphasized throughout the SQ5R reading process.

The findings of the present study are consistent with previous research demonstrating the effectiveness of the SQ5R reading strategy in EFL reading instruction. Herwanis et al. (2021) reported that learners who received SQ5R instruction achieved significantly higher reading comprehension performance than those receiving conventional reading instruction. Similarly, Deelert and Wiyaporn (2024) found that SQ5R enhanced students' critical reading ability and reflective learning, while Jaiyangyuen et al. (2025) reported significant improvements in students' reading comprehension and high levels of learner satisfaction following SQ5R-based instruction. Collectively, these studies support the present findings that structured reading strategies can facilitate reading comprehension and encourage more active engagement with academic texts.

The questionnaire findings further revealed that participants held positive perceptions toward the SQ5R reading strategy, with an overall mean score of 3.76 ($SD = 0.57$), indicating a high level of agreement. Participants perceived the strategy as useful for improving reading comprehension, facilitating the application of systematic reading procedures, increasing classroom engagement, and enhancing overall satisfaction with reading activities. These findings are consistent with Deelert and Wiyaporn (2024) and Jaiyangyuen et al. (2025), both of whom reported positive learner perceptions and high levels of satisfaction following the implementation of SQ5R.

The findings may also be interpreted through the theoretical frameworks underpinning this study. Schema Theory suggests that activating prior knowledge before reading facilitates comprehension, which corresponds to the Survey and Question stages of SQ5R. Metacognitive Theory emphasizes learners' ability to plan, monitor, and evaluate their own comprehension, principles that are reflected throughout the Question, Read, Review, and Reflect stages. Constructivist Learning Theory further explains that learners construct meaning actively through interaction with texts and reflection upon new information. Together, these theoretical perspectives provide a conceptual explanation for the positive learning outcomes observed following the implementation of the SQ5R reading strategy.

Conclusion

This study demonstrated the effectiveness of the SQ5R reading strategy in enhancing English reading comprehension among first-year students at Mahachulalongkornrajavidyalaya University, Chiang Mai Campus. The diagnostic assessment indicated that students experienced comparatively greater difficulty in inferential and critical comprehension than in literal comprehension.

Following the implementation of the SQ5R reading strategy, students' reading comprehension performance improved significantly, as reflected in the higher post-test scores compared with the pre-test scores. In addition, students expressed generally positive perceptions toward the

SQ5R reading strategy, with all questionnaire aspects receiving high-level ratings. The highest mean score was found for Overall Satisfaction and Perceived Usefulness ($M = 3.81$), while Motivation and Engagement received the lowest mean score ($M = 3.70$), although it remained at a high level.

The findings support the view that structured and metacognitive reading strategies can facilitate deeper comprehension and encourage active engagement with texts. Furthermore, the results are consistent with constructivist and metacognitive perspectives, which emphasize learners' active involvement in the learning process and their ability to monitor and regulate comprehension during reading activities.

Recommendations

1. Implications

The findings suggest that the SQ5R reading strategy can serve as an effective instructional approach for improving English reading comprehension in EFL contexts. English instructors are encouraged to integrate SQ5R activities systematically into reading lessons and provide sufficient guidance throughout each stage of the reading process. The use of structured reading strategies may help students develop stronger comprehension skills, increase classroom participation, and become more active and independent readers. Educational institutions may consider incorporating structured reading strategies such as SQ5R into English reading curricula to support students' reading comprehension and independent learning.

2. Further Studies

Future research may investigate the effectiveness of the SQ5R reading strategy among learners from different educational levels, institutions, or proficiency backgrounds. Researchers may also compare SQ5R with other reading strategies to determine their relative effectiveness in improving reading comprehension. In addition, future studies may examine the impact of SQ5R on other language skills, such as writing, speaking, and vocabulary acquisition.

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