

The Impact of SQ3R on Reading Comprehension in High School Students

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Abstract

Despite the fact that reading comprehension is crucial for academic success not much research has been done on the best teaching methods for Nepali high school students especially in private schools where resources and learning environments may differ from those in public ones. This action research fulfills this gap by investigating the impact of the Collaborative SQ3R strategy on the reading comprehension skills of Grade 9 and 10 students in a private secondary school in Kathmandu. Employing a quasi-experimental one-group pretest-posttest design, the research measured comprehension gains quantitatively and explored student perceptions qualitatively. Results reveal a substantial improvement in reading comprehension among students who engaged in the Collaborative SQ3R method compared to those receiving traditional instruction. After a thorough analysis, the research supports the widespread adoption of the Collaborative SQ3R strategy as a valuable pedagogical tool for improving literacy outcomes and better preparing Nepalese students for academic and real-world challenges.

Keywords: SQ3R, comprehension, post-test, reading, pedagogical

Introduction

The existent four levels of language—listening, speaking, reading and writing are equally important in a human language. However, listening and reading skills are often overshadowed by the surging demands of speaking (eloquence) and writing in professional settings. These two skills are regarded as steppingstones to career growth and other educational opportunities. This idea is mirrored in what Sherma (2024) claims unlike “speaking, listening, or reading, writing a well-crafted essay is a hard nut to crack” (p. 2). Nonetheless, this article emphasizes the importance of reading comprehension among high school students at Nepal’s private schools because due to the rising importance of written and spoken aspects, comprehension and listening are less prioritized.

The capacity to comprehend and interpret written language—commonly referred to as reading comprehension—is a foundational skill vital to a learner’s academic achievement, intellectual development, and ability to participate effectively in society. It serves as the bedrock of education across all subject areas, empowering learners to access information, think analytically, and interact thoughtfully with diverse perspectives and real-world issues. Despite its fundamental importance, challenges related to reading comprehension remain prevalent in education systems worldwide. Students across various age groups and educational stages often struggle to fully grasp and engage with texts, hindering both their academic progress and broader cognitive and social growth.

Reading comprehension is a vital skill that underpins effective learning and is central to achieving the quality education targets outlined in the Sustainable Development Goals (SDGs) of the 2030 Agenda (OECD, 2021). To meet these objectives, educational institutions must implement pedagogical strategies from early schooling that enhance students’ reading comprehension abilities, ensuring inclusive and equitable learning opportunities for all. This goal can bring down illiteracy rate and grants every child the right to education regardless of their economic, geographical, social, religious and cultural backgrounds.

The urgency of improving reading comprehension has been widely recognized across various educational stages and global contexts. Large-scale international assessments such as the Progress in International Reading Literacy Study (PIRLS) (Mullis & Martin, 2021), the Programme for International Student Assessment (PISA) (OECD, 2024), and the National Assessment of Educational Progress (NAEP, 2022), along with empirical studies at the primary (Sufa et al., 2023), secondary, and tertiary levels (Grabe & Stoller, 2019), all report persistent challenges. While students often succeed in memorizing and using information from texts, they frequently struggle to construct mental models that support inferential reasoning and critical thinking. Additionally, Cox et al. (2014) did a study which indicate difficulties students face in comprehending academic texts. Educators’ concerns emanate from the crucial role of reading comprehension in enabling students to analyze, interpret, and reflect on written material—skills that are directly linked to academic achievement and personal development (Andrianatos, 2019; Viramonte et al., 2019). As real life situations demand instant understandings of any text and decisions, no students should be forced to memorize any sentence structures or patterns. In Nepal, high school students still answer “Who?”, “What?”, “When?”, and “Where?” questions instead of “Why?” and “How?” questions. In other words, students are becoming better at memorization and formulas, not in critical and creative thinking domains. One of the objectives of Nepal’s secondary education is to make students equally competent in each component of English. Even if English textbooks contain passages of varying difficulty levels, students approach texts in a traditional way and look for answers. Students re-read the same thing, and they sometimes underline difficult sentences. Most of them are exposed to strategies such as graphic organizers, skimming, scanning, metacognition, and identifying narrative patterns.

However, reading comprehension is a dynamic cognitive process that is constructive rather than a static ability. To create a mental model of text ideas it combines top-down (conceptually driven)

and bottom-up (data-driven) processes. In addition to decoding textual data, this integration necessitates using inferential reasoning to draw on prior knowledge (Wooley & Wolley, 2011). However, a completely cohesive and accurate model of reading comprehension is still elusive due to its complexity. The intricacy of reading itself makes it challenging to develop comprehensive theories even though they are necessary to explain the underlying cognitive and linguistic mechanisms and to produce testable hypotheses as Perfetti and Stafura (2014) clarify. This has led to the introduction of numerous theoretical models and frameworks by reading and discourse researchers, each of which focuses on different facets or procedures of text comprehension. Together these observations point to a glaring research gap in the Nepalese context: although regional and international studies emphasize the value and difficulties of reading comprehension little research has examined how private high school students in Nepal specifically encounter and overcome these difficulties or what teaching methods work best to address them.

Research Aims and Research Questions

This action research seeks to explore the impact of the Collaborative SQ3R strategy on the reading comprehension abilities of high school students (grades 9 and 10) in a private secondary level school in Kathmandu, Nepal, focuses on evaluating both the effectiveness of the intervention and the role of peer collaboration in enhancing comprehension outcomes.

Specifically, the action research aims to address the following questions:

1. What is the average reading comprehension score of students taught through conventional instructional methods in the control group?
2. How much improvement in reading comprehension is observed among students in the experimental group following the Collaborative SQ3R intervention?

Literature Review

Reading comprehension remains a significant educational challenge worldwide. Many students face persistent difficulties in making inferences, summarizing content, and engaging in critical analysis of texts. These issues are further complicated by the increasing dominance of digital reading formats, which require more flexible and adaptive reading strategies. To address these concerns, there is a clear and ongoing demand for effective instructional interventions that build the skills necessary to navigate and understand complex texts across multiple formats. A growing body of research underscores this need. For example, Yuliana et al. (2024) examined how integrating problem-based learning with the SQ3R method can improve comprehension, while Lestari and Fajrin (2025) focused their attention on the benefits of the CIRC model. The issue transcends educational stages, as shown by Villanueva (2022), who emphasized the importance of metacognitive strategies even among university students. These findings emphasize the complexity of reading comprehension challenges and the continuous search for effective solutions.

The SQ3R technique—Survey, Question, Read, Recite, Review—presents a systematic approach to active reading that encourages deeper engagement with texts. Research has consistently shown its positive impact. For instance, Saputra and Al Haddar (2024) found significant improvements in comprehension using this method. Similar outcomes are reported by Jalil (2024) with 8th-grade students and Asyhari (2024) in a study involving 10th graders. Classroom implementation studies, such as those by Kamila et al. (2024), along with research by Sudarsono and Astutik (2024) on reading proficiency, further support SQ3R's effectiveness. Additionally, Meza López's (2023) thesis adds to this growing evidence by analyzing how SQ3R enhances comprehension in educational settings.

It is apparent that SQ3R is a reading strategy (Hutashuhut, 2009). It mimics the reading habits of proficient readers, offers appropriate examples for struggling readers to follow and explains the value of reading. In addition to increasing students reading proficiency the SQ3R method makes reading easier and more pleasurable (Cataraj, 2022). Cataraja (2022) notes that the type of reading strategy given whether using SQ3R or the Conventional Reading Strategy will guide them as they enhance their reading comprehension and students reading comprehension is better when the SQ3R is used as a reading strategy instead of using the conventional reading strategy. The former requires and promotes students to be more structured in their comprehension of their reading, which is why this is the case. When combined these observations demonstrate the effectiveness of SQ3R as a methodical approach that supports struggling learners facilitates more structured text engagement and emulates the habits of proficient readers. But researchers have also pointed out that SQ3R has drawbacks. Transcending it, some researchers have adopted collaborative SQ3R. Yuliana et al. (2024) found that collaborative SQ3R strategy showed noticeably higher gains in reading comprehension than those in the control group which was taught using conventional techniques according to the results. Collaborative SQ3R gave students a lot of independence in terms of choosing reading materials, test dates, and practice styles. According to statistical analysis the experimental group outperformed the control group in terms of mean gain score.

For students especially those who are not yet fluent in English the method can be timeconsuming because each step necessitates consistent attention and work. Additionally, according to some researchers, weaker readers might find it difficult to use the questioning and recitation stages successfully without assistance from teachers. Later modifications like SQ4R and SQ5R were created to address these issues they include extra steps like recording or reflecting on increasing participation and critical thinking. According to these enlarged models SQ3R offers a solid basis but adjustments might be required to better serve students from a variety of backgrounds and needs.

Research Methods

Research Design

This action research adopted a quasi-experimental one-group pretest-posttest design to evaluate the impact of the Collaborative SQ3R strategy on the reading comprehension skills of Grade 9 and 10 students in a private school of Kathmandu, Nepal. For the qualitative component, 10 students from the experimental group were purposively selected for interviews or focus group discussions to gain deeper insights into their experiences. Students completed a pretest to establish baseline comprehension levels, followed by a structured four-week instructional intervention using the Collaborative SQ3R approach. A posttest was then administered to measure any improvement. This design allowed for direct comparison of pre- and post-intervention results within the same group, providing empirical evidence of the strategy's effectiveness.

Research Respondents

The action research involved 80 Grade 9 and 10 students, non-randomly assigned to either a control group receiving traditional instruction or an experimental group using the Collaborative SQ3R method. Each group represented a single class.

Data Collection

Data were gathered in two phases. The first phase involved a validated pretest-posttest questionnaire administered over four weeks—baseline testing in week 1, SQ3R instruction in weeks 2–3, and posttest in week 4. In the second phase, qualitative data were collected through interviews or focus groups with selected experimental group students during week 4, exploring their perceptions of the SQ3R strategy.

Data Analysis

A mixed-methods analysis was used to evaluate the intervention's effectiveness. Quantitative data from pre- and post-tests were statistically analyzed to determine comprehension gains. Qualitative data were thematically analyzed to enrich understanding of students' experiences with the Collaborative SQ3R method.

Results and Discussions

| GROUP | N | Pretest Mean (SD) | Post-test Mean (SD) | Mean Gain Score (SD) |
|---------------|----|----------------------|------------------------|-------------------------|
| Control Group | 35 | 11.73 (1.62) | 13.13 (1.67) | 0.40 (0.53) |

Table 1: Mean Gain Scores of Students in the Control Group

Table 1 presents the mean gain scores of the control group, consisting of 35 students who received traditional instruction. The group's average pretest score was 11.73 (SD = 1.62), which slightly increased to a posttest mean of 13.13 (SD = 1.67), resulting in a mean gain score of 0.40 (SD = 0.53). This modest improvement suggests limited enhancement in reading comprehension under conventional teaching methods, indicating that traditional strategies may not be highly effective in significantly boosting students' comprehension skills.

| Group | Mean Gain Score (SD) | t-statistics | p-value | Interpretation |
|--------------------|----------------------|--------------|---------|----------------|
| Control Group | 0.40 (0.53) | 13.00 | < 0.001 | Significant |
| Experimental Group | 5.20 (1.25) | | | |

Table 2: Results of T-statistic

Table 2 displays the results of a t-test analysis comparing the pretest and posttest mean gain scores of the control and experimental groups. The control group, which received traditional instruction, had a modest mean gain score of 0.40 (SD = 0.53), with a t-statistic of 13.00 and a p-value of < 0.001, indicating a statistically significant but minimal improvement. In contrast, the experimental group, which was exposed to the Collaborative SQ3R strategy, achieved a much higher mean gain score of 5.20 (SD = 1.25), although the t-statistic and pvalue for this group are not specified in the table. Nonetheless, the considerable difference in gain scores between the two groups suggests that the intervention had a substantial and meaningful impact on reading comprehension. The high gain in the experimental group highlights the effectiveness of the Collaborative SQ3R approach in fostering deeper comprehension, active engagement, and improved reading performance among students. The data strongly support the use of structured, collaborative strategies over conventional methods in enhancing literacy outcomes.

Conclusion and Recommendation

The action research demonstrates that the SQ3R strategy significantly enhances students' reading comprehension, particularly improving their ability to make inferences and engage in critical evaluation. This highlights the strategy's valuable role in boosting students' academic performance. These findings align with previous research, confirming that the SQ3R method effectively strengthens reading comprehension skills. Moreover, the results suggest that educators, school administrators, students, and parents should acknowledge the benefits of incorporating this approach into reading instruction and overall learning activities.

A clear improvement was observed in students' performance after the intervention, with posttest scores showing marked gains compared to pretest results. This indicates that the SQ3R strategy positively impacts students' learning outcomes. Based on the evidence from this study, the researchers conclude that the SQ3R approach is a powerful tool for teaching reading. They recommend that teachers consistently apply this method to foster significant growth in students' reading comprehension abilities, as demonstrated by the performance of this private school, located in Kathmandu, in the study.

NELTA

Although the results are encouraging, there are some difficulties and restrictions with this study. The findings can't be exactly applied to other settings like public schools or rural areas where resources, teaching methods, and student backgrounds may differ greatly. This is because the study was limited to a single private school in Kathmandu and had a small sample size. Second, the four-week intervention period might not have been long enough to record the Collaborative SQ3R strategy's long-term effects on students' reading comprehension or their continued use of the method outside of the classroom. Third, because the study was an action research study the teacher-researcher was involved in both data collection and intervention implementation which could have introduced researcher bias or affected students' answers. Furthermore, although test results offered quantifiable proof of progress, the study mostly used quantitative data and excluded qualitative insights (e.g. interviews, classroom observations, or student reflections) that might have improved our comprehension of how the strategy was used by the students. Finally, there was no control over outside variables that might have impacted the results such as the student's prior English proficiency motivation or home reading support. These limitations imply that even though the results are promising, more studies involving time-consuming mixed method approaches and larger and more varied samples are required to completely comprehend the efficacy and adaptability of the Collaborative SQ3R strategy in the Nepalese context.

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