

The Use of the SQ4R Technique in Enhancing Grade 11 Student Critical Reading

Jiraporn Churat¹, Ratipong Prommatha¹, Wanitcha Pengsawat¹, Wirakan Upanit¹, Sasiprapa Chaemchun¹,
Autthapon Intasena¹ & Nattapon Yotha²

¹ Department of Curriculum and Instruction, Faculty of Education, Mahasarakham University, Thailand

² Department of Educational Measurement, Evaluation and Research, Faculty of Education Phetchabun Rajabhat University, Thailand

Correspondence: Autthapon Intasena, Department of Curriculum and Instruction, Faculty of Education, Mahasarakham University, Thailand. Tel: 66-091-209-9947. E-mail: autthapon.i@msu.ac.th

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Abstract

The objectives of the study were to study the effectiveness of the SQ4R technique in enhancing grade 11 students' critical reading and to investigate the students' satisfaction with the SQ4R technique as a model of learning management in a reading class. A quasi-experimental approach was selected, and one group of participants was employed. The participants were 31 Thai grade 11 students in a secondary school in Thailand. The instruments were an SQ4R learning management plan, a critical reading test, and a satisfaction questionnaire were research instruments. The data were collected in a public school in Thailand. It took a semester to complete a pre-test, an implementation of the SQ4R learning management, a post-test, and a satisfaction survey. The data were analyzed using percentage, mean score, standard deviation, a paired samples t-test, and effectiveness index with the determining criteria of 80/80. The result shows positive effects of the SQ4R model on participants' critical reading. It also indicates students' satisfaction with the instructional model.

Keywords: SQ4R, critical reading, reading development

1. Introduction

Reading is a receptive skill to which learners have mostly been exposed throughout the processes of language learning. With a good command of reading skills, students gain access to information throughout the world, especially with the advance in technology in the 21st century. Beck (2007) simply defined reading as an ability to understand written input. However, the definition of the skills could be discussed further. According to Richard (2015), reading is defined as the construction of meaning from written text. It involves the accurate and spontaneous recognition of vocabulary that occurs in different contexts. Likely, reading is recognized in Nunan (2003) as the readers' attempts to construct meaning using a combination of text information and background knowledge. The skill involves both conscious and unconscious mental processes in which the reader utilizes a range of tactics to reconstruct the author's meaning based on text facts and past knowledge (Mikulecky, 2008). These definitions of reading signify the complexity of reading instruction from both learner and teacher aspects.

In addition, Purcell-Gates et al. (2016), argued that "socioculturally constructed literacy practices" (p. 1218) should be involved in the discussion of the reading definition. This includes the connection between language, gender, race, religion, economics, geopolitical attitudes, beliefs, and power. This broadened meaning demands a move from reading to literacy. Therefore, learners also need the ability to analyze the elements of the text and criticize how they are connected to construct writers' determining meaning. From this perspective, critical reading has emerged with the idea to encourage readers to find meaning between the lines and make a critique on a written input. Hudson (2007) indicated that learners must thoroughly understand a text before they can analyze, synthesize, and evaluate it. Only then can they think critically about it — choose or reject ideas, agree or disagree with issues, and know why. Therefore, critical reading also leads to the development process of thinking as it helps learners to progress as critical thinkers.

In addition, it is noteworthy that critical reading needs complicated processes in learning as it is considered one of the most difficult skills in language learning (Rohmah, 2018). To read critically, readers do not just memorize

words. They read, question, interpret, and digest the input as well as challenge what is stated, implied, and indicated by authors (Pual, 1992). Tasnimi (2017) introduced 6 processes in reading that could help learners reasonably critique the texts. In detail, readers should, at the beginning of the reading process, consider the source. The type of publication, authors' background, and the expected audience affect the possibilities of text interpretation. In the further step, readers might need to ask themselves how well they understand the text and whether they interpret the writing' purposes correctly. Moreover, critical reading requires readers to recognize authors' attitudes, tones, and biases. They should be able to identify authors' motives, purposes, emotional implementations (e.g., humor, satire, irony, or sarcasm), and seriousness of expression. Moreover, critical readers should be able to analyze the major arguments presented in the texts. This is also important in making counterarguments in case they have to. Lastly, the most important process of learning critical reading is to train oneself not to believe everything in the texts. They have to learn to ask appropriate questions about what does not make sense in the text as well as make sure to find enough supporting evidence for something they believe in. These processes demand learners to develop language skills, thinking skills, and world knowledge.

Moreover, reading strategies can also contribute to critical reading. Nasrollahi et al. (2015) exemplified supportive strategies in critical reading. Readers are encouraged to use such strategies as annotating, previewing, scanning and skimming, fact-opinion analysis, concluding, monitoring, questioning, etc. Likewise, Linkon (2008) suggested that annotating strategy is beneficial in finding key discussions of the text while contextualizing allows learners to understand the text in its original or cultural context. Tavoni (2000) urged that it is important to set a reading purpose and preview the text. This strategy encourages readers to pay attention to the print features and text structures, mark key information, make connections between the text and reader experience and knowledge, monitor the comprehension of the text, and summarize the key points. Suacillo et al. (2016) prioritize questioning and reflecting strategies in reading critically. The former refers to how readers raise questions about important information in reading which should help them to comprehend the texts and retain the information longer. Similarly, reflecting refers to how readers mark parts of the text that challenge their attitudes, beliefs, and statures. Although these strategies are theoretically supportive for readers, they also need time, patience, and practice.

As a result, the complexity of critical reading and its supportive strategies leads to difficulties in teaching the skills in educational contexts around the globe (Rohmah, 2018; Velayati et al., 2017). In detail, both teaching and learning aspects seem to be obstructed by the complexity of the skill. As critical reading involves learners' experiences to analyze the text and interpret writers' intentions, it might be too difficult for them to gain and develop such knowledge in a short time. From the teacher's perspective, it is also demanding to find a teaching method that could both develop learners' language and thinking skills. In the Thai context, the situation also shows the problems of students' critical reading. This can be evidenced by the result of the Ordinary National Educational Test (O-NET) showing the average score of grade 12 students across the country at only 29.99% of the maximum score (National Institution of Education Testing Service, 2019). Moreover, the average score of Thai students on the PISA test 2018 on reading was only 79 positioning the country in the lowest group (The OECD Programme for International Student Assessment, 2018). Therefore, there should be an alternative method applied in the context to solve the problem.

It could be noted that critical reading is a demanding skill for language learners. In the development of the skill, learners should be allowed to develop their linguistic knowledge such as lexical richness, grammatical knowledge, ability to connect text elements, etc. They also need to gain experience and develop their knowledge of the world to make a critique of the text. Moreover, learners should be trained to use reading strategies effectively. Therefore, a potential instructional method should encourage learners to think, read, and search for new knowledge effectively.

The SQ4R technique is introduced to solve problems in reading class. The model consists of 6 stages namely Survey, Question, Read, Respond, Record, and Review. According to Ryandani (2017), SQ4R helps with text comprehension and study as students can comprehend and study the text systematically. First, students preview text to develop predictions and set a purpose for reading by generating questions about the topic. Next, they read actively, searching for answers to the questions they have generated. Finally, learners summarize information to monitor their comprehension. Therefore, their independence, effort, and achievement in reading English material should improve.



Figure 1. SQ4R model

Survey (S)

In the first stage, students are encouraged to survey the text. They might be asked to read the text title, introduction, headers, and summary or conclusion. Captions for all images, tables, maps, and graphs are also noted. Reading strategies like scanning and skimming are used.

Question (Q)

At this point in the process, students are expected to create connections between the text component by asking the questions "what," "when," "where," "why," and "how." As they read, students should constantly be asking themselves questions about what they're seeing. Questions help in keeping concentration throughout the process of reading.

Read (R1)

Now students are asked to read each heading's information to answer their questions. During this process, they may elect to change or split a question. However, teachers should make sure that their students stay focused and adaptable and answer as many questions as possible.

Recite (R2)

Students recite by pausing and rethinking what they have just read. They may take note of important information such as headings, main ideas, graphs, charts, etc. They are encouraged to summarize the information in their words and make a link to connect it.

Record (R3)

After understanding the topic, learners use note-taking strategies such as highlighting, adding margin notes, and making outlines to record key information. This would provide a summary of the most important facts and act as a study guide. It should be noted that topics can be mastered more effectively when the notes are well-organized and contain sufficient detail.

Review (R4)

A review summarizes what students have learned. Reviewing includes rereading which could measure their process gains. During the review, students are asked to read over notes to explain issues they missed or did not comprehend.

It can be seen that learners are encouraged to read and think in the SQ4R model. They are also stimulated to use reading strategies throughout each process of learning. Therefore, the model would be a promising option for solving the situation involving critical reading in the Thai context. Moreover, there have also been empirical studies (e.g., Alzu'bi, 2020; Başar & Gürbüz, 2017; Mohamed, 2020; Ryandani, 2017; Simbolon & Marbun, 2017) to support its effectiveness in reading classrooms and critical reading skills (e.g., Karawa & Insombat,

2021; Iksan, 2018; Moon & Kwan, 2022). In detail, Iksan (2018) applied the technique to enhance the critical reading skills of 28 undergraduate students in Indonesia. The results of an experimental study indicate that the students in the experimental group outperformed those in the control group in terms of critical reading comprehension. Considering the potential benefits of the SQ4R reading model on students' critical reading skills, the current study employed the instructional method to solve problems in the Thai context. The two objectives of the study included 1) to study the effectiveness of the SQ4R technique in enhancing grade 11 students' critical reading and 2) to investigate the students' satisfaction with the SQ4R technique as a model of learning management in a reading class.

2. Methodology

2.1 Research Design

A quasi-experimental approach was selected, and one group of participants was employed. Considering the complexity of critical reading and limited evidence that supports the benefits of the SQ4R technique in developing the skill, the study employed a null hypothesis. Participants' satisfaction with the technique was also studied to highlight the psychological impact on learning critical reading.

2.2 Participants

Selected by cluster random sampling, the participants were 31 Thai grade 11 students in a secondary school in Thailand. The participants passed through a basic curriculum for public schools in the country. They passed through 20 English courses throughout the process of their basic education. None of the participants had experience in the English native speaker country. All processes of the data collection were operated considering the ethical issues of human subjects.

2.3 Instruments

An SQ4R learning management plan, a critical reading test, and a satisfaction questionnaire were research instruments. In detail, the SQ4R learning management plan consists of 5 topics of critical reading. Each topic was instructed using the processes of the SQ4R technique. The evaluation of 3 experts including a scholar and 2 professional teachers indicates the quality of the plan ($\bar{x} = 4.66$, S. D= 0.47). The test was designed in a multiple-choice question item. The evaluation of the 30 question items shows the IOC of 0.67-1.0, the difficulty of 0.44-0.76, discrimination of 0.20-0.75, and the reliability of 0.828. The questionnaire developed on a 5 Likert scale consisted of 20 positive statements regarding learning to read critically in the SQ4R model. The Index of item objective congruence (IOC) of the statements was 0.67-1.0 and the reliability of the questionnaire was 0.838.

2.4 Data Collection and Data Analysis

The data were collected in a public school in Thailand. It took a semester to complete a pre-test, an implementation of the SQ4R learning management, a post-test, and a satisfaction survey. The results of the study were indicated by students' performances during the semester and the comparison between their pre and post-tests. The statistics used in data collection were percentage, mean score, standard deviation, paired samples t-test, and effectiveness index with the determining criteria of 80/80.

3. Results

Table 1. The effectiveness of the SQ4R learning management on students' critical reading

	Full mark	\bar{x}	S.D	Percentage
Process Effectiveness (E_1)	265	218.19	3.04	82.34
Outcome Effectiveness (E_2)	30	24.32	3.31	81.08
Effectiveness Index (E_1/E_2)	82.34/81.08			

The results of the study signify the effectiveness of the SQ4R technique on the participant's critical reading. In detail, the process effectiveness (E_1) was 82.34 as the participant's average score was 218.19 out of the 265 maximum points of learning activities in the SQ4R model. Meanwhile, the student's average score in the post-test was 24.32 which accounts for 81.08% of the maximum point. Therefore, the effective index of the learning management plan was 82.34/81.08 ($E_1/E_2 = 82.34/81.08$) reaching the determining criteria of 80/80. It could be interpreted that the SQ4R as a principle in designing a learning management plan was beneficial in developing students' critical reading.

Table 2. The comparison of students' performances between pre and posttests

Tests	N	\bar{x}	S.D.	t	df	Sig.
Pre-test	31	20.48	3.66	6.85*	30	0.00*
Post-test	31	24.32	3.31			

$p > .05$

Moreover, the comparison between students' performances in the pre and post-tests also indicates the improvement in their critical reading. The results of the study reject a null hypothesis as there was a significant difference between the participants' pre-test ($\bar{x} = 20.48$, S.D = 3.66) and post-test ($\bar{x} = 24.32$, S.D = 3.31), $t = 6.85$, $p = 0.00$. Considering the higher score in the post-test, the results of the study could be interpreted that the learning management plan designed using the SQ4R model positively affected students' critical reading.

Table 3. Students' satisfaction with the SQ4R model in learning critical reading

No.	Statements	\bar{x}	S.D.
1	I enjoyed learning collaborative learning activities.	4.65	0.61
2	I preferred activities that allow me to subsequently practice reading.	4.61	0.56
3	I enjoyed the activities employed in the class.	4.45	0.62
4	I enjoyed the teaching processes in the class.	4.39	0.72
5	I preferred self-learning activities in reading classes.	4.26	0.68
6	I enjoyed the class contents.	4.42	0.67
7	I thought the class activities encouraged me to read more daily.	4.74	0.44
8	I was proud to learn in the class with the SQ4R activities.	4.58	0.62
9	I enjoyed reflective writing activities.	4.52	0.57
10	I preferred learning to ask questions.	4.52	0.68
11	I enjoyed learning a language using the SQ4R technique.	4.45	0.72
12	I enjoyed helping my group in collaborative learning activities.	4.39	0.72
13	I joyfully participated in activities in the SQ4R model.	4.61	0.67
14	I preferred learning material in class.	4.61	0.56
15	I thought the SQ4R technique helped me improve my critical reading.	4.81	0.48
16	I developed reading habits after learning the SQ4R model.	4.52	0.63
17	I could use knowledge in class in my daily life.	4.61	0.56
18	I preferred the learning processes that develop my thinking skills.	4.55	0.62
19	The learning material was appropriate to my knowledge.	4.61	0.62
20	I thought the evaluation and assessment in the class were appropriate.	4.58	0.56
Overall		4.55	0.61

According to table 3, the average student's satisfaction with the SQ4R model as a principle in designing activities in a learning management plan was at a very high level ($\bar{x} = 4.55$, S.D = 0.61). In detail, students enjoyed all the processes of the learning model as they agreed with the positive statements regarding the SQ4R model. The results imply that the participants were satisfied with their experiences with the SQ4R model as the activities in learning critical reading.

4. Discussions

The results of the study indicate the benefits of the SQ4R model in reading learning in the Thai context. The results are consistent with the previous studies that also suggested the usefulness of the model in other contexts (e.g., Alzu'bi, 2020; Başar & Gürbüz, 2017; Mohamed, 2020; Ryandani, 2017; Simbolon & Marbun, 2017). This could be explained by the nature of reading as a receptive skill. Learners need to develop resources such as vocabulary knowledge, grammar, and world knowledge to understand a written input. The SQ4R provides learners opportunities to develop their reading skills as they need to apply several strategies such as scanning, skimming, context clues, summarizing, and reviewing. Therefore, it could contribute to the development of students reading comprehension in the current study.

Furthermore, it was proved that the SQ4R was also beneficial in developing a more complex skill in critical reading. The results add more evidence to a limited number of previous studies (e.g., Karawa & Insombat, 2021; Iksan, 2018; Moon & Kwan, 2022) that supported the use of the model in developing learners' critical reading. In this case, the participants were encouraged to ask questions. In this study, the students were not only asked to

use the set of what, who, when, where, and why but also stimulated to analyze these questions tortuously before taking notes in the recipe stage. Moreover, they were encouraged to review their understanding of the text. The process allows them to compare their results with peers and discuss the possibility of how text can be interpreted. This helps them develop their thinking skills and become critical readers as shown in the result of the study.

Moreover, the results of the study also indicate participants' positive attitudes toward the SQ4R model. The participants were satisfied with the learning activities, learning processes, learning material, and learning environment that could help them develop their critical reading skills. The results of the study are similar to Jelita (2018) who also found positive attitudes toward the model in the reading classroom.

Therefore, the direction of further studies should be on providing more evidence to support the use of the SQ4R model on critical reading skills. It should be noted that critical reading needs the development of language knowledge, reading strategies, and world knowledge. Therefore, scholars should make sure that these stages would occur in their study. Moreover, the employment of the comparative models would also provide a clearer picture of how the SQ4R affects learners' critical reading.

5. Conclusion

The current study employs the SQ4R as the main principle in designing learning activities in a learning management plan employed to develop grade 11 students' critical reading in the Thai context. After the process of data collection of a quasi-experimental study, the result shows the positive effects of the SQ4R model on participants' critical reading. It also indicates students' satisfaction with the instructional model.

The result of the study could be implicated in language classrooms as instructors and stakeholders could employ the model to develop learners' reading comprehension and critical reading. As the participants in the current study found it satisfying to learn with the model, it could also be employed in class with similar learners' characteristics. However, teachers should make sure that their students pass through each process of the SQ4R with the opportunities to read, search further to understand the world, and use effective reading strategies.

However, there might be limitations that could be improved with adjustments in the data collection. First, there should be a comparative group or a control group to illustrate different processes of critical reading practice. Moreover, qualitative instruments and triangulation of data collection could also provide a deeper understanding of how the model affects learners' skills. The most important thing is to let learners develop themselves with teachers' felicitations.

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