Reading and Writing Skills Development: Use of SQ5R Technique

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Abstract

This action research investigated the effectiveness of the SQ5R technique. It aimed to find out whether students’ reading and writing ability were improved.

A group of thirty-two M.3 students at Satri Phatthalung School were selected by purposive sampling. They were taught for a semester in the English Fundamental Course. The tool employed to determine the English reading and writing ability was an English reading and writing achievement test constructed by the researcher. The writing test was scored by two raters.

The findings of this study can be summarized as follows: The implementation of the SQ5R technique significantly improved students’ overall reading comprehension and the response to literal, reinterpretation, and inference questions at 0.01 level. Students’ overall writing ability and four aspects of writing—summarization, reaction, organization, and language quality—were significantly improved at the 0.01 level. Students’ reading and writing ability were positively correlated at 0.001 level.

The implications for reading and writing development as follows: Students should be continuously taught by the integrative lessons through the SQ5R. Multilevel classes should be trained with the SQ5R as it calls for collaboration and cooperation. In this “dominance of the Screen” world, English and other subject teachers should train students to be autonomous learners.

Key word: reading, reading treatment, and writing
Introduction

Several organizations involving in educational achievements and the literacy administered standardized tests and conducted research studies. The 2006 and 2007 National Tests (NT) results revealed that the achievements of M.3 students in Thailand (9th graders) in five core subjects including English, were below 50% and the scores were continuously declining (ONEC, 2009). The NT scores in English of M.3 students at the school where the researcher has been working were 30.10% in 2006, and 29.90% in 2007 (Satri Phatthalung School, 2008).

Moreover, in 2007, the Program for International Student Assessment (PISA) found that the reading ability of fifteen-year-old Thai children was relatively low. Only 26% of them can read for main ideas of complicated texts, whereas 74% can grasp only a piece of important information from the texts (ONEC, 2009). The PISA and NT results are very similar, indicating that the reading ability of Thai adolescents is very low.

In addition, by the year 2011, when the 2008 reformed curriculum will have been implemented, the overall achievement of the core subjects of M.3 students under the Office of Basic Education Commission (OBEC) is expected to be 55% (ONEC, 2009). A number of research studies suggested that students be trained to be autonomous learners so that they can take responsibility in their own learning in any academic areas in this “dominance of the screen” world (Walker & Bean, 2005 in Alger, 2009; Moore, 2010).

All these factors drive all teachers, have concerns about the classroom instruction that can improve the students’ educational achievement and the literacy. A strategy widely advocated is the SQ5R. This technique has a crucial role in reading texts in content areas. Pauk (1984) advocate that the seven steps of the SQ5R—Survey, Question, Read, Record, Recite, Review, Reflect—engage students in active comprehension.

The researcher’s modified SQ5R, however, engage students in both reading and writing through the integrative teaching model. The modified version consisted of Survey, Question, Read, Recite, Record, React, Review. The SQ5R study reading technique is a tool for not only acquiring knowledge in the before-reading and during phases, but also reinforcing understanding and memory retention in the after-reading phase.
Concerning before reading activities, the S step arouses the students’ interest in the topic by getting the overview of the text (William, 1994), while the Q engages students to set the purposes of their reading and selecting information, anticipate and predict the meaning of the text by self-generating questions (Crafton, 1982).

The R₁ is a critical step because students have to judge significant from insignificant information (Crafton, 1982); to negotiate for meaning and to respond cognitively, emotionally, and imaginatively to imaginative writing (Greenwood, 1988); to understand the writer’s purpose and the text structure (Williams, 1994).

In after-reading activities, the R² engages students to rehearse or speak out the questions and answer aloud to themselves or to peers in order to learn and remember better (Pauk, 1984). The R³ traps students to answer the questions in complete sentences and make notes of the key points of text information. Making notes helps students to clarify thinking and remembering (Sosothikul, 2007); to increase attention to material, to improve the integration of previously learned information with new information (Howe, 1974; Peper & Mayer, 1978; Weener, 1974 in Peck & Hannafin, 1983); to facilitate learning (Peck & Hannafin, 1983; Rickards, 1980 in Lapp & Flood, 1986). They then transform the notes into a summary. Summarization helps students to understand concepts, process them, and restate them in their own words (Raimes, 1983); to retell, clarify the message (Silveira, 2003); to transmit messages in an era of free-access information (Endres-Niggemeyer, 1998; Rau, Jacobs & Zernick, 1989 in Silveira, 2003). The R⁴ is the step for giving opinions or feeling about the text information. Giving opinions glues facts and ideas into the permanent memory and converts them into true wisdom (Pauk, 1984). And lastly, the R⁵ keeps students to review the reading and editing the written work to ensure whether the important pieces of information are covered and whether the written work is accurate.

In dealing with the written work, the coding system is used for self correction and a checklist of common errors is used for self assessment (Raimes, 1983; White, 1980; Keh, 1989; Lynch, 1996; Hess, 2001).

Objectives

The purpose of this research was to determine the effectiveness of the SQ5R technique on the reading and writing achievement of M.3 students at Satri Phatthalug School. This study, therefore, was conducted:

1. To determine the overall reading comprehension of students receiving instruction in the SQ5R technique.
2. To determine the degree of improvement in the response to literal, reinterpretation, and inference questions of the students receiving instruction of the SQ5R.

3. To determine the improvement of writing ability of the students receiving instruction in the SQ5R.

4. To determine the degree of improvement of writing aspects in summarization, reaction, organization, and language quality of the students receiving instruction in the SQ5R.

5. To investigate the correlation between reading comprehension and writing ability of the students receiving instruction in the SQ5R.

Method

The sample comprised 32 M.3 students (9th graders) at Satri Phatthalung School. They participated in this study in their English Fundamental class. The subjects were selected by purposive sampling. The study was one pre-and post-test design. Prior to the experimental phase, the subjects were administered a pre-test so as to assess their English reading and writing ability. The subjects were instructed by the researcher in the SQ5R technique.

Since this action research aimed to determine the effectiveness of the SQ5R technique, the experimental instrument was the reading package, consisting of two phases: the introductory and training phase. The introductory phase included three stages: informing the purpose of the study, modeling the lesson in the SQ5R, and discussing the learning steps in the SQ5R. The training phase comprised ten lessons, all of which followed seven instructional steps of the integration of reading and writing: Survey, Question, Read, Recite, Record, React, and Review.

The data-collecting instrument was the pre- and post-test constructed by the researcher to assess the reading comprehension and writing ability. In the reading comprehension part thirty items of multiple choice with four options were designed to tap three levels of reading comprehension. They were eight literal, fourteen reinterpretation, and eight inference questions. To assess writing ability, students were required to write two short paragraphs of about 80-100 words at length. The first paragraph is a summary of the text and the second paragraph is the students’ opinions about the text. The two scorers marked the writing part based on the analytical scoring rubric, focusing on four different aspects—summarization, reaction, organization, and language quality.

In analyzing the data, the mean scores of the pre- and post- reading test were compared using the paired sample t-test to see the significant improvement of overall reading comprehension and the students’ response to literal, reinterpretation, and inference questions.
The mean scores of the pre- and post- writing test were compared using the paired sample t-test to see the difference in improvement of overall writing ability and writing aspects of summarization, reaction, organization, and language quality. The mean scores of the post-test (overall reading and writing) were compared utilizing Pearson Product-Moment Correlation Coefficient to see the correlation between students’ reading comprehension and writing ability.

**Findings**

1. The students’ overall reading comprehension was significantly improved at 0.01 level. The pre-test mean score is 17.21 and the post-test mean score is 21.56.

<table>
<thead>
<tr>
<th>Tests</th>
<th>Total Scores</th>
<th>Percentage</th>
<th>High</th>
<th>Low</th>
<th>Mean</th>
<th>S.D.</th>
<th>t-values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-test</td>
<td>30</td>
<td>57.39</td>
<td>22</td>
<td>12</td>
<td>17.21</td>
<td>2.99</td>
<td>7.8089 *</td>
</tr>
<tr>
<td>Post-test</td>
<td>30</td>
<td>71.87</td>
<td>27</td>
<td>17</td>
<td>21.56</td>
<td>2.71</td>
<td></td>
</tr>
</tbody>
</table>

* Significant at 0.01 level

2. The students’ level of literal, reinterpretation, and inference comprehension were significantly improved at the 0.01 level.

The students’ level of literal, reinterpretation, and inference comprehension after the SQ5R activities were higher. The literal comprehension (\( \bar{x} = 6.31, \text{ S.D.} = 0.85 \)), reinterpretation (\( \bar{x} = 9.86, \text{ S.D.} = 1.65 \)), and inference (\( \bar{x} = 5.56, \text{ S.D.} = 1.29 \)).

<table>
<thead>
<tr>
<th>Question type &amp; No. of items</th>
<th>Pre-test</th>
<th>Post-test</th>
<th>t-values</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Percentage Mean S.D.</td>
<td>Percentage Mean S.D.</td>
<td></td>
</tr>
<tr>
<td>Literal (8 items)</td>
<td>62.89</td>
<td>5.03 1.37</td>
<td>78.90</td>
</tr>
<tr>
<td>Reinterpretation (14 items)</td>
<td>58.92</td>
<td>8.25 1.81</td>
<td>69.19</td>
</tr>
<tr>
<td>Inference (8 items)</td>
<td>46.87</td>
<td>3.75 1.45</td>
<td>69.53</td>
</tr>
</tbody>
</table>

* Significant at 0.01 level

3. The students’ overall writing ability was significantly better at 0.01 level.

The students’ overall writing ability after the SQ5R activities were higher (\( \bar{x} = 14.52, \text{ S.D.} = 1.64 \))
4. The students’ writing aspects of summarization, reaction, organization, and language were significantly improved at the 0.01 level.

The students’ writing aspects after the SQ5R activities were higher. The summarization ($\bar{x} = 3.50$, S.D.= 0.61), reaction ($\bar{x} = 3.71$, S.D.= 0.63), organization ($\bar{x} = 3.71$, S.D.= 0.53), language quality ($\bar{x} = 3.54$, S.D.= 0.39).

<table>
<thead>
<tr>
<th>Writing Aspects</th>
<th>Pre-test %</th>
<th>Post-test %</th>
<th>t-values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Summarization</td>
<td>43.59</td>
<td>70.15</td>
<td>10.8418 * (N = 5)</td>
</tr>
<tr>
<td>Reaction</td>
<td>36.71</td>
<td>74.21</td>
<td>14.3540 * (N = 5)</td>
</tr>
<tr>
<td>Organization</td>
<td>50.93</td>
<td>74.39</td>
<td>11.1940 * (N = 5)</td>
</tr>
<tr>
<td>Language quality</td>
<td>52.18</td>
<td>70.69</td>
<td>12.6582 * (N = 5)</td>
</tr>
</tbody>
</table>

* Significant at 0.01 level

5. The students reading and writing abilities were positively correlated at 0.001 level.

<table>
<thead>
<tr>
<th>Variables</th>
<th>$r_{yy}$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reading comprehension</td>
<td>0.3939 **</td>
</tr>
<tr>
<td>Writing ability</td>
<td>0.4233 **</td>
</tr>
</tbody>
</table>

** Significant at 0.001

**Discussions**

From Finding 1 and 2, it was found that students enhanced their English reading achievement. The reason for this might be due to the fact that the SQ5R engaged the student readers with the text since the very first to the very last step of teaching/learning. Throughout

According to Finding 3 and 4, it was found that not only the overall writing ability was significantly improved (p<0.01) but also the writing aspects of summarization, reaction, organization, and language quality were significantly improved (p<0.01). The Finding 5 indicated that the students’ reading and writing abilities were positively correlated (p<0.001). The reason for the significant improvement may be due to that integrative lessons of reading and writing provide students with the input (content and linguistic knowledge) and the situation when the students can develop their learning by making use of the interrelation of at least two language arts. Reading and writing involve both composing and comprehending.

Reading provides students with a model of linguistic forms, the pieces of content information. Reading can be the writing prompt because it provides students with subject matter for discussion or composition and unlimited amounts of language. The more students read, the more they become familiar with the vocabulary, idioms, sentence patterns, and organizational flow (Cazden 1983, White 1980, Leeds 2003, Raimes 1983). According to the degree of writing aspect improvement, reaction and summarization were greater improved than organization. This might be the fact that a lot of training can result in reaction and summarization because students used their cognitive and metacognitive strategies (Cotterall & Reinders, 2004). Even though practices make perfect as students do a lot of reading and writing that are mutually beneficial to one another, organization and language quality account for less improvement than reaction and summarization. If foreign language learning and writing are concerned, writing takes a great deal of time to acquire the habit of using correct forms of words in appropriate situations (Zamel 1882). Ten weeks of training, therefore, is insufficient for students to acquire the linguistic competence.

Implications for Instruction
The research findings imply that the use of SQ5R reading technique can help students improve their reading comprehension and writing ability. For reading comprehension the SQ5R improves not only students’ overall comprehension but also the response to literal, reinterpretation, and inference questions. In writing, the SQ5R improves overall writing ability as well as four separated aspects of writing, including summarization, reaction, organization, and language quality. The SQ5R reading technique also shows the positive correlation between students’ reading comprehension and writing ability.

The implications can be elaborated as follows.

Firstly, the SQ5R holds the teaching strategy for teachers but the learning formula for students. From the students’ view, the technique engages the readers to play an active rather than passive role in reading. The survey stage traps the students to look for the general meaning of the text. When they generate their own questions, students set the purpose of reading by predicting the meaning of the text, and later confirm or reject their prediction in the critical reading step. Recitation or rehearsal (Pauk, 1984) help students remember the target language for later use. While they are answering questions in full sentences as well as taking notes in the record stage, they are collecting the needed information and preparing for their summaries. Summarization requires paraphrasing, and elaboration, the cognitive strategies (Cotterall and Reinders, 2004). In the react stage, when students give opinions about the text, they employ their thinking skills by combining their prior knowledge and experience to the meaning of the text. They need the elaboration strategy to link the pieces of information in their written work. Not only some cognitive learning strategies, but also metacognitive strategies (Coterrall and Reinders, 2004)—planning the organization of written language, and monitoring while performing a task—are required in linking pieces of information into the written work. The final stage of review requires students to consciously reread through the text to ensure that the key points were covered and the written work is accurate. Additional peer’s and teacher’s feedback and corrections, as well as self-corrections after training complete, reinforce students’ writing ability because they have done “Writing to learn” activity (Kiefer, 1997). From the teacher’s view, the SQ5R can promote students’ autonomous learning because the seven steps of teaching accord ten principles of independent and autonomous learning: The learning outcomes are clear and specific; the learning activities engage and enthuse the students; the students have opportunities to make decisions about their learning; the students have access to a range of useful resources: teacher, other students, books etc; the teacher give support during the activities, the students are being taken through a cycle of learning: doing, thinking, theorizing, and planning; the
activities address a range of learning styles to suit all of the students (VARK: Visual, Auditory, Read and Write, Kinesthetic); the teacher gain confidence from the activity; the activity require the students to use high level thinking skills; and there is space for the students to reflect on what they have learned and how they learned it (Moore, 2010).

Secondly, the SQ5R creates collaboration and cooperation. Since the students are assigned to work in groups of mixed abilities (either fixed or rotated), they participate more. They come from different learning background so their schemata will benefit the group members in completing the tasks when they compromise, negotiate meaning, and self-monitor (Hess, 2001). Clearly, the classroom becomes a non-threatening environment and the activities are motivating. There will be no troublemakers and distract even the most fastidious and most motivated (Hess, 2001) because the students engage in a series of tasks. Above all, there will no quick students who finish work in some short moments, and there are no students who are left behind. The SQ5R seems to serve correct pacing for large multilevel classes (Hess, 2001).

Last, but not least, the SQ5R is one of study reading skills techniques that can help students if well trained to become independent learners. As we are in a sea of change, we are moving from the “dominance of the medium of the books to the dominance of screen”—computer, television, video. These modern real-life modes of communication and recreation provides many new channels for subject matters. Many teachers believe that the use of single print text is insufficient for meaning making and engaging adolescents in content area classroom (Walker & Bean, 2005). The teachers, therefore, do not operate one of the important roles, unless they train their students to become autonomous learners.

Recommendations for Further Studies

Based on the research findings of this study, some recommendations for further studies are provided as follows.

1. The training in this study was conducted with a special group of third year lower secondary level in a particular teaching and learning context for one semester. In order to confirm the effects of the SQ5R reading technique on reading comprehension and responses to literal, reinterpretation, and inference questions; and writing ability as well as four aspects of writing, including summarization, reaction, organization, and language quality, should be replicated with other groups who are either in normal classes of the same educational levels,
or in different educational levels or fields of study. The results would help increase better understanding of the effectiveness of the SQ5R implementation.

2. Since this study investigated whether the SQ5R affects students’ reading comprehension and writing ability, further study should investigate whether the SQ5R affects reading comprehension and spoken ability as reading and speaking are also interrelated language arts.

3. From the results of the study, it can be assumed that the use of the SQ5R enhance reading comprehension and their responding ability to literal, reinterpretation, and inference questions in the narrative texts. Since the SQ5R is a reading formula for content area reading, thus students should be asked to respond to a questionnaire or should be interviewed to find whether they make use of this technique while reading expository texts in other academic subjects.

4. Some variables, such as language aptitude and learning styles, which may have an influence on reading comprehension and writing ability were not included in this study. Thus further studies should include these variables to see whether they contribute to the students’ reading comprehension and writing ability of the special groups of the students.

5. The SQ5R is one of the study reading techniques, further studies, therefore, should compare the SQ5R with other reading techniques, such as K-W-L, DR-TA and QAR to see whether these comparable techniques affect the degree of improvement of students’ ability in reading comprehension and writing ability.

References


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Heinemann.


Appendices

Appendix A: Examples of students’ written work (All are copied from original papers.)

Student A

Before getting treatment

Once there was a town. I was near a mountain. The mountain was a volcano. It started to growl. It smoke and noise came out. People in the town ran from it. Rocks fell on the town. Ashes came down twelve feet of ashes covered the town. Many people died. At last the volcano shopped. The melted rock cooled. It did not reach the town. The town is known. All over the world now.

I like story but it so sad because people in to town.


After getting treatment

There was the volcano eruption near a town. People ran from it. The sky was full of ash and dust killed many people died. Lava cooled before it reached the town. A thousand more year passed, the town was full of ash and dust farmers lived on it. Now, the town is famous for visitors.

In my opinions. I felt so sad after read the story. It happen very slowly but it can killed many people died. Many people ran for their lives. I felt happy because people found streets and houses.

Student B

Before getting treatment

Once there was a town. It was near a mountain. The mountain was a volcano. One day the volcano started to growl. Smoke and noise came out. The melted rock moved toward the town. It was like a slow river of fire. People in the town ran from it. Ashes came down. Many people died. At last the volcano stopped. The melted rock cooled. It did not reach the town. Almost a thousand more years passed. Then people started to dig. They wanted to find the lost town. They found streets and houses. The town is known all over the world now. Its name is Pempeii. It is in the south of Italy.

I don’t like the story. Because It’s so sad.

After getting treatment
More than a year a town named Pompeii. It had ash and dust came out. The sky was full of ash and dust. And covered the town. The volcanic eruption killed a lot of people. A thousand years passed many people building streets and houses. Now, the town is well-known for tourist.

In my opinions. I felt so sad after read the story. Because, The volcanic eruption killed a lot of people and many people died slowly.

Student C

Before getting treatment

There was a town. It was near a mountain. The mountain was a volcano. One day the volcano started to growl. The top blew off smoke and noise came out. There was rock moved toward the town. It was a slow river of fire. The people in the town ran from it. Ashed came down Twelve feet of ashes covered the town. Many people died. At last the volcano stopped. The melted rock cooled. It did not reach the town. A thousand years passed. The town was hidden. The farmers lived on top. Almost that people started to dig. Because they wanted to find the lost town. After they found streets and houses. The town is know all over the world now. It is in the south of Italy. It name is Pompeii.

I’m feel sorry and afraid. all about volcano.
After getting treatment

One day the volcano erupted and it blew of ash and lava. The volcanic ashes covered the town, so a lot of people died. Then the lava had cooled before it reach the town. The town was hidden for thousand years. Many years ago, there was a town that was situated near a volcano. And the town is famous for tourists.

In my opinions. I felt so sad because the volcanic eruption a natural phenomenon killed many people died and happen very slowly. I think the people must to thanks farmers rescued life them. They can found the lost town.

Student D

Before getting treatment

1000 years ago. Once there was a town. It was near a volcano. Once day the volcano started to growl. People in the town died. When the volcano stopped. Ashes and dirt covered the town. The town was hidden. Then people wanted to find the lost town. The dug out the dirt and moved the ashes. They found very beautiful town. Its name is Pompeii. It is in the south of Italy. We can visit it for see interesting place of the world.

After I read story. I think Pompeii is interesting place. If I have opportunity I wanted to visit and see what life was like in the town.

After getting treatment
Many years ago has a town near volcano. One day the volcano erupted so a lot of people died because ashes covered the town. When the volcano stopped the town was under dirt and ashes. Many years passed people dug and found the buried town. Now the town is famous for tourists around the world.

The volcanic eruption is a natural phenomenon. It happen very fast and it can kill many people and destroy everything where it can reach. After I read this story I feel frightened of volcano but I want to visit “Pompeii” for see what the town look like. Although I never go there but I believe it’s beautiful and it’s interesting place to visit. The volcano made a famous place.

Student E

Before getting treatment
There was one town. It was near a Volcano mountain. One day the volcano started to growl. Smoke and noise came out. The melted rock moved toward the town. People ran from it. Rocks in the mountain fell. Many people died. A thousand years passed. The town was hidden. After that people started to dig. They wants to find the lost town. They moved the ashes. They found streets and houses. Beautiful statues were there. Painting on the walls were still there. So this town is known all over the world.
I feel in the town is very beautiful and has many visitor now. I want to go that. The second of my thinking is the volcano is the mountain is bad because Many people in that died but When the melted rock cooled, the volcano stopped In the town is beautiful. And the visitor can walk on the beautiful streets.

After getting treatment

Many years ago there has a city, it was near a volcano mountain. One day the volcano erupted, it killed a lot of people. A thousand years passed farmers began to dig the lost city and they found it. Now! This city is well-known all the world. Its name is Pompeii.

I feel sad and excited because the volcano can kill a lot of people died and it destroyed this old city but if I have a lot of money I will go there. I want to know what life was like in the town and I want to see old streets, old houses and beautiful statues. I think it’s very beautiful. I will take a lot of photos!