



**Effects of the Use of Reading Logs on Reading Comprehension of
Mattayomsuksa 5 Students in Trang**

Umaisee Rakana

**A Thesis Submitted in Partial Fulfillment of the Requirements for the Degree of
Master of Arts in Teaching English as an International Language**

Prince of Songkla University

2017

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Thesis Title Effects of the Use of Reading Logs on Reading
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I hereby certify that this work has not already been accepted in substance for any degree, and is not being currently submitted in candidature for any degree.

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ชื่อวิทยานิพนธ์	ผลของการใช้แบบบันทึกการอ่านต่อการอ่านเพื่อความเข้าใจของนักเรียน ชั้นมัธยมศึกษาปีที่ 5 ในจังหวัดตรัง
ผู้เขียน	นางสาวอุ้มยี่ รัชอำณา
สาขาวิชา	การสอนภาษาอังกฤษเป็นภาษานานาชาติ
ปีการศึกษา	2559

บทคัดย่อ

การวิจัยนี้มีวัตถุประสงค์เพื่อเปรียบเทียบผลของการอ่านเพื่อความเข้าใจทั้งก่อนและหลังการใช้แบบบันทึกการอ่าน เพื่อเปรียบเทียบความแตกต่างในการอ่านเพื่อความเข้าใจระหว่างกลุ่มที่ใช้แบบบันทึกการอ่านและกลุ่มที่ใช้แบบคำถามหลังการอ่าน และเพื่อศึกษาทัศนคติของนักเรียนต่อการอ่านแบบบันทึกการอ่าน กลุ่มตัวอย่างคือนักเรียนจำนวน 88 คนที่กำลังศึกษาอยู่ชั้นมัธยมศึกษาปีที่ 5 โรงเรียนแห่งหนึ่งในจังหวัดตรัง ในภาคเรียนที่ 2 ปีการศึกษา 2559 แบ่งเป็นกลุ่มทดลองซึ่งใช้แบบบันทึกการอ่านจำนวน 44 คน และกลุ่มควบคุมซึ่งใช้แบบคำถามหลังการอ่านจำนวน 44 คน เครื่องมือที่ใช้ในการวิจัยประกอบด้วย แบบทดสอบความสามารถในการอ่านเพื่อความเข้าใจก่อนและหลังเรียน แบบบันทึกการอ่าน และแบบสอบถามทัศนคติต่อการอ่านแบบบันทึกการอ่าน ใช้การวิเคราะห์ข้อมูลทั้งเชิงปริมาณและเชิงคุณภาพ ผลการวิจัยพบว่าคะแนนหลังเรียนของกลุ่มทดลองและกลุ่มควบคุมสูงกว่าก่อนเรียนอย่างมีนัยสำคัญทางสถิติที่ระดับ 0.01 อย่างไรก็ตาม เมื่อเปรียบเทียบค่าความแตกต่างระหว่างคะแนนก่อนและหลังเรียนของทั้งสองกลุ่มพบว่ากลุ่มทดลองมีคะแนนสูงกว่ากลุ่มควบคุมอย่างมีนัยสำคัญทางสถิติที่ระดับ 0.01 ซึ่งแสดงให้เห็นว่าแม้ทั้งสองวิธีจะช่วยพัฒนาการอ่านเพื่อความเข้าใจแต่การอ่านโดยใช้แบบบันทึกการอ่านช่วยพัฒนาการอ่านได้มากกว่า ทั้งการอ่านเพื่อความเข้าใจโดยรวมและในระดับตัวอักษร นอกจากนี้ นักเรียนพึงพอใจกับการใช้แบบบันทึกการอ่านและเห็นว่าแบบบันทึกการอ่านมีประโยชน์ ช่วยให้ให้นักเรียนอ่านอย่างกระตือรือร้นและจดบันทึกได้อย่างอิสระ

คำสำคัญ: แบบบันทึกการอ่าน การอ่านเพื่อความเข้าใจ ทัศนคติ

Thesis Title	Effects of the Use of Reading Logs on Reading Comprehension of Mattayomsuksa 5 Students in Trang
Author	Miss Umaisee Rakana
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ABSTARCT

This study aimed to find out whether there is a difference in reading comprehension of the students before and after using reading logs, whether there is a difference in reading comprehension between the group using reading logs and the group using post-reading questions and the students' attitudes towards the use of reading logs. The study was conducted during the second semester of the academic year 2016. The participants were 88 Mattayomsuksa 5 students in a secondary school in Trang. They were divided into two groups: 44 in the experimental group with the use of reading logs and 44 in the control group with the use only of post-reading questions. The instruments used in this study were a pre-test, reading logs, a post-test, and a questionnaire on the students' attitudes towards the use of reading logs. The data were qualitatively and quantitatively analyzed. The findings revealed that the experimental and the control groups did noticeably better in the post-test and their pre- and post-test scores were significantly different at a 0.01 level. However, the mean difference between the pre- and post-test scores of the experimental group was significantly greater than that of the control group at a 0.01 level indicating that although both reading logs and post-reading questions could improve the students' reading comprehension, the former could do so to a greater extent than the latter overall and particularly in literal comprehension. Moreover, the students were pleased with the use of reading logs and considered it useful. Reading logs enabled them to read actively and take their own notes freely.

Keywords: Reading logs, reading comprehension, attitudes

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Rakana, U., & Teo, A. (in press). Effects of the use of reading logs on reading comprehension of Mattayomsuksa 5 students in Trang. *Proceedings of the 16th Sociology and Anthropology Graduate students Network Seminar, Naresuan University, Thailand.*

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คณะสังคมศาสตร์ มหาวิทยาลัยนเรศวร
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เรื่อง ขอแจ้งผลการพิจารณาบทความ

เรียน คุณอุ้มยี่ รั๊กซ์อาณา

ตามที่ ท่านได้เสนอบทความ เรื่อง “Effects of the use of reading logs on reading comprehension of Mattayomsuksa 5 students in Trang” เพื่อร่วมนำเสนอในโครงการสัมมนาเครือข่ายนักศึกษาระดับบัณฑิตศึกษา สาขาสังคมวิทยาและมานุษยวิทยา ครั้งที่ 16 นั้น

คณะสังคมศาสตร์ มหาวิทยาลัยนเรศวร ได้เรียนเชิญผู้ทรงคุณวุฒิในสาขาที่เกี่ยวข้องเพื่ออ่านทบทวน (Peer Review) บทความดังกล่าว ซึ่งได้ผลการประเมินบทความเป็นที่เรียบร้อยแล้ว

ในการนี้ เพื่อให้การนำเสนอบทความดังกล่าวเป็นไปด้วยความเรียบร้อยและบรรลุล่วงวัตถุประสงค์ คณะสังคมศาสตร์ มหาวิทยาลัยนเรศวร จึงขอแจ้งผลการพิจารณาบทความ ดังนี้

ตอบรับบทความดังกล่าว ให้เข้าร่วมงานสัมมนาเครือข่ายนักศึกษาระดับบัณฑิตศึกษา สาขาสังคมวิทยาและมานุษยวิทยา ครั้งที่ 16 ในระหว่างวันที่ 29 – 30 มิถุนายน 2560 ณ อาคารเอกาทศรถ มหาวิทยาลัยนเรศวร สามารถตรวจสอบรายละเอียดเพิ่มเติมได้ที่ <http://www.socscinu.ac.th/socant2017> ทั้งนี้ได้มอบหมายให้ คุณสกาวัฒน์ ไซศิริตันศักดิ์ เป็นผู้ประสานงาน หมายเลขโทรศัพท์ 0-5596-1924 / โทรศัพท์มือถือ 081-5338664

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คุณ ๖

กล่องจดหมายเข้า

Ms. Umaisee Rakana:

Thank you for submitting the manuscript, "Can reading logs promote grade 11 students' reading comprehension?" to ABAC Journal. With the online journal management system that we are using, you will be able to track its progress through the editorial process by logging in to the journal web site:

Manuscript URL:

<http://www.assumptionjournal.au.edu/index.php/abacjournal/author/submission/2719>

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If you have any questions, please contact me. Thank you for considering this journal as a venue for your work.

1. INTRODUCTION

English is an international language. It is a very important tool to communicate with people from all over the world. Many countries placed importance on English as the language their people should study because it provides a lot of chances for success in life. In every level of education in Thailand, English is a required foreign language course. English has been taught since kindergarten to university. According to the latest English curriculum, Thai students are required to study English from grade 1 to 12 (Ministry of Education, 2008).

Among the four skills of English, reading is considered one of the most important skills because it is an essential tool to access any kind of information and it is the basis of other skills. Therefore, reading is necessary for people in every age in order to get information or acquire knowledge from texts.

The purpose of reading is to comprehend the meaning the writer tries to convey to readers or to get the meaning from a text (Nuttall, 1996). Comprehending what readers are reading will make them acquire knowledge and achieve the goal of reading.

Teaching reading comprehension is commonly found in EFL classrooms. Therefore, effective teaching of reading comprehension tends to be a challenge in English language classrooms due to many problems. First, students cannot interpret the meaning while reading. Second, a lot of teachers teach reading by translating texts for students making them passive (Malehid, 2006). These teachers help students in an inappropriate way. Besides, Nuttall (1996) mentions that some English teachers do not know the process of teaching reading. As a result, students are not trained to develop the ability to understand texts. The above problems may contribute to unsatisfactory O-NET (Ordinary National Education Test) score of grade 9 students. For instance, despite the National Institute of Educational Testing Service's claim that the O-NET score of grade 9 students in 2016 was higher than that in 2015, the average score of 31.80 was apparently lower than 50 percent (Matichon, 2017).

To help students become more successful in English reading, many studies such as Jeanne and Currier (2013) and Janthong (2010) have tried to figure out strategies or

techniques to improve students' reading comprehension ability. Using reading logs is viewed as one technique to improve reading comprehension. Reading logs have been used in many subjects to develop reading comprehension. They not only promote interaction between the reader and the text but also make them enjoy a piece of their own ideas and opinions.

1.1 Definition of terms

Two key terms used in this study are defined as follows:

Reading comprehension refers to the ability to tell the main idea, supporting details, and the implications of narrative texts, which was measured by the pre-test and the post-test of three levels of reading comprehension: literal, inferential and evaluative.

Reading logs refer to reaction notes written by the students in Thai or in English about the novels they were assigned to read including their background knowledge, feelings and opinions while or after reading the novels.

2. RESEARCH QUESTIONS

This research sets out to address the following questions:

1. Is there a difference in reading comprehension of the students before and after the extended use of reading logs?
2. Is there a difference in reading comprehension between the group using reading logs and the group using post-reading questions?
3. What are the students' attitudes towards the use of reading logs?

3. LITERATURE REVIEW

The literature related to reading comprehension, the reader-response theory, and reading logs as well as related research on reading logs is reviewed in this section.

3.1 Reading comprehension

Reading is a receptive language process. It is a process in which the reader uses strategies to create meaning from the text (Goodman, 1967). Many researchers define reading in many ways. Liu (2010) defines reading as a process involving the reader and the text. It is a process in which the reader tries to make or interpret the meaning from the written text (Anderson & Nunan, 2008; Liu, 2010) and in doing so they need the ability to decode the text for their own understanding. Reading is an interaction between the reader and the text (Rumelhart, 1977). Reading is an active process which is very important for accessing any kind of information. In addition, reading is an important skill for learning (An, 2013) and it is the basis of other skills: listening, speaking, and writing.

Reading comprehension refers to an ability of a reader to understand what the writer wants to convey (Burn, 1999; Serafini, 2012). Reading comprehension is an intentional, active, and interactive process that occurs before, during and after a person reads a particular piece of writing. When readers understand texts, they will be able to conclude the main ideas and be able to tell details. Reading comprehension occurs when readers engage in a complex cognitive process of making meaning. While reading readers need to have schemata to connect with texts.

According to Raygor and Raygor (1985), there are three levels of reading comprehension: literal, inferential, and evaluative. These three levels of comprehension encourage readers to focus on information, discover the point and opinion of the text and apply information to their real life (Suominen & Wilson, 2002).

1. Literal comprehension is the ability of readers to read within the lines. It is a basic level of reading because information is directly and explicitly stated in the text. The text gives the information to readers by explicitly stating fact. The answers to questions on literal comprehension will be directly found in the text. Despite being basic, it is a very important level of comprehension. Without understanding in this level, the readers can't go any further. Examples of literal comprehension questions are *What is the main idea of the text?*; *Who was going to the shop?*; *Where did this situation occur?*; and *When did it happen?*.

2. Inferential comprehension is the ability of readers to read between the lines and make inferences about things not directly stated in the text. Inferential comprehension occurs when information is not explicitly stated in the passage and deeper understanding is required in order to draw a conclusion from the text. Examples of inferential comprehension questions are *What do you think will happen next?*; *What does "it" in line 2 mean?*; and *Why did his mother say "you should go"?*.

3. Evaluative comprehension requires readers to use some external criteria from their experience in order to evaluate the quality or values of the writing. Rubin (1993) suggested that evaluative comprehension is the process of comparing the information with the readers' prior knowledge. Readers must analyze what they have read and form an opinion based on the information given in the text. Examples of evaluative comprehension questions are *If you know Denial, will you help him?*; *Why or why not?*; and *If you are in this situation, what will you do?*.

3.2 Reading as a process

Reading as a process can be described in terms of three models of reading: the bottom-up, the top-down and the interactive models.

The bottom-up model refers to the reading process which moves from the lower level of letters and sounds to meaning, which is the higher level (Rude & Oehlkers, 1984). According to Liu (2010), the bottom-up model of reading is driven by text.

The top-down model refers to the reading process which moves from meaning which is higher level to letters and sounds. The reader brings the experience they have to the process of reading (Goodman, 1967). Liu (2010) asserts that reading is driven by meaning. It can be seen that the top-down model is opposite the bottom-up model.

The interactive model refers to the reading process which requires readers to use both the top-down and the bottom-up model at the same time and to use their background knowledge or schemata to connect with the text they are reading. Schemata are abstract structures of previous knowledge which enhance readers' ability to comprehend the text. According to Anderson and Pearson (1984), and Rumelhart (1985), schemata are meanings in memory in terms of the typical or normal situations or events that instantiate concepts. Sufficient schemata will make readers more

successful in reading. The interactive model is an effective process to develop and increase reading comprehension (Anderson, 2008 ; Eskey, 1998).

3.3 The reader-response theory

The reader-response theory has a growing influence on English as a foreign language literature class (Carlisle, 2000). Reader-response is accepted as an effective process of the interactive model. According to Bainbridge and Pantaleo (1999 cited in Starcher & Proffitt 2011), The theory views reading as an active process and puts emphasis on readers creating meaning of the text and actively constructing meaning as they interact with the text (Yilmaz, 2013). It is a kind of interaction which focuses on synthesis between the reader and the text. Reader-response is the process of author-reader-text relating to each other and creating meaning through individual reading experience (Anderson, 2012; Pittman & Honchell, 2014). It allows readers to set down not only their own thoughts and feelings but also their relevant experience in the reading task. It also involves readers in an active process and makes them become critical readers capable of determining meaning of the text.

According to Tucker (2000), reader-response theory will make readers understand what they read and enable them to write a variety of responses. It encourages readers to interpret or make meaning of the text by using their own experience, thoughts, background knowledge, cultural and reading context (Anderson, 2012). Rosenblatt (1995) stated that readers connect their own experience and the text while they are reading which makes them understand the text they read deeply.

Many researchers (Amer, 2003; Carlisle, 2000; Lyutaya, 2011; Tucker, 2000) confirm that the reader-response theory improves reading comprehension. Reading in this theory is a reflective process and it aids readers to be more meaningful and joyful in their reading. Furthermore, it encourages the readers to read actively and take their own notes freely.

3.4 Reading logs

Using reading logs is a technique based on the reader-response theory. Reading logs are pieces of paper where readers can freely express their own ideas and opinions.

They are a direct and simple tool to record readers' responses when their reading is over. The format of reading logs depends on the instructor. Generally, it includes topics for readers to fill out information and give their own opinions, experiences, and information such as characters' names, total number of pages, title of the story, setting, summary, problem, etc. Reading logs are considered as a tool which enhances readers' comprehension. They help readers to work through their understandings and interpretations of the text. Using reading logs as a tool engaging readers with the text and it enables them to make meaning and write down what they understand (Jeanne & Currier, 2013). Applying reading logs in class encourages students to read more than they would have without reading logs (Hurst, 2005 & Starcher & Proffitt, 2011). Furthermore, Lyutaya (2011) asserts that when reading is combined with the writing task as reading logs, students understand texts deeply.

Since the use of reading logs not only engages readers with the text but also enhances their reading comprehension and allows them to have deep understanding, reading logs are considered critical in the development of reading comprehension.

3.5 Related research

Several studies focused on using reading logs as a tool to improve students' reading comprehension.

Delarriva and Basabe (2015) explored the issue of reading which students favored in the production of their reading logs: cultural, linguistic, or personal. A group of 14 first year students enrolled in the English Literature II course in Argentina participated in this study. They were asked to read *the English Patient* by Ondaatje (1993) and write their own reading logs. The study was conducted for twenty days and the students were asked to write fourteen logs altogether. It was found that the students showed a tendency to consider issues that researchers label "cultural". An example of the sentence which was labeled culture was "The end of war makes societies change and as a consequence individuals are not the same, either,... and everyone has to adapt to new paradigms" (Delarriva & Basabe, 2015, p.44). It was also found that applying reading logs to literary text was very suitable for English language learners because it enhanced students' understanding and satisfaction of literary text. It was suggested that

reading logs cover students' cultural background and they should also be used to enhance students' language ability.

Jeanne and Currier (2013) studied the effect of using reading logs on 53 students' reading comprehension and their attitudes towards the use of reading logs in science texts. The students were asked to read three science texts on astronomy, space science and kids discovery and write a summary in reading logs which were evaluated only for completion. It was found that using reading logs increased the students' comprehension of the science texts. A clear look at the students' reading logs showed that they expressed more ideas and used more vocabulary. This indicated that the students had more understanding of the information in the reading. The findings showed that the students developed positive attitude towards reading science and become more confident in their understanding of the science texts.

Barilla and Dreyfuss (2005) studied six seventh grade students in a language arts classroom and six students in a self-contained fifth grade classroom in Chicago. These 12 students were using English as their native language. The purpose of this study was to find out how reading journal guided instruction can improve students' learning and how students with varying abilities respond to assigned literature. The students were divided into three groups: low level readers, average readers and high level readers. The students were assigned to read and write about the novel which was chosen for the whole class in three weeks and they were asked to write about the novel several times a week. Journals were collected from six students; two lower level readers, two average readers, and two high level readers. Findings revealed that low level readers created simple entries with few supporting details. Average readers' entries became longer; however, they repeated the same structure. High level readers' entries provided broad literary analysis including summary, interpretation, personal connections, literary element, opinions, and questions wondering, and predictions with almost every entry.

Muangpruan (2010) studied the development of a self-directed model through the use of reading logs of 32 first year Diploma Industrial Electronics students of Suphanburi Technical College, Thailand. The experiment took 16 weeks in total.

During the first six weeks, the students were taught self-directed learning in class. During the remaining 10 weeks they were asked to spend time on reading outside the class and writing what they had read through reading logs. The instruments in this study were a reading test, a self-directed learning scale and interview questions. It was found that there was significant development of the students' reading comprehension. The study revealed three findings. First, the students' post-test scores were significantly higher than their pre-test scores at a .01 level. Second, their self-directed learning scores for pre-studying and post-studying were different. Third, their score on the last reading log was higher than that on the first reading log at the .01 level of significance.

Janthong (2010) investigated effectiveness of questioning techniques through the use of reading logs to improve students' reading comprehension, their habits and self-directed learning behaviors. The participants of the study were 35 Mattayomsuksa 3 students in Phattalung, Thailand. The study was conducted for 15 weeks in the academic year of 2009. The students were asked to read 45 texts in total. Each week the students read three texts and they were asked to write in their reading log and submit it. The study revealed five findings. First, the students' use of questioning techniques was higher than before the treatment at a .01 level of significance. Second, before the treatment the students' reading habits were rated at the disagree level, but after the treatment their reading habits were ranked at the agree level. Therefore, their reading habits improved significantly at .01 level. Third, the students rated their reading behaviors showing that they were favorable for reading at a high level in the questionnaire. Fourth, the students noted in their reading logs that they could read faster and comprehend better than before. Fifth, the record of the frequency of use and amount of time the students spent on the reading corner showed that 57 percent of the students attended the reading corner more frequently every month.

4. SIGNIFICANCE OF THE STUDY

This study aimed to find out the effects of the use of reading logs on reading comprehension and the students' attitude towards the use of reading logs. It was expected to provide a beneficial guideline for English language teachers interested in

the use of reading logs to improve reading comprehension of Thai secondary school students. The study could also stimulate English teachers' interest in applying reading logs as an out-of-class homework to encourage meaningful learning for students.

5. RESEARCH METHODOLOGY

This section provided the details of the participants, instruments, data collection procedures, and data analysis.

5.1 Participants

The participants of this study were selected by purposive sampling. They were 88 Mattayomsuksa 5 students in a secondary school in Trang. Their age was between 16-18 years old. They were from two classes of the science-mathematics program and they were enrolled in the English Reading and Writing class in the second semester of the academic year 2016. Their grades in the English reading and writing subject of the first semester were similar. They were divided into two groups: an experimental group and a control group. Each group consisted of 44 students. The experimental group was asked to read novels and write in the reading logs. The control group was required to read the same novels as the experimental group, and they were asked to respond to the post-reading questions. The two groups were taught by the same teacher.

5.2 Instruments

There were four instruments in this study: pre- and post-tests, novels, reading logs, and a questionnaire.

5.2.1 Pre-test and post-test

To assess students' reading comprehension, the pre- and post-tests were administered to both experimental and control groups before and after the experiment. The same pre- and post-reading comprehension tests in this study were constructed by the researcher. The multiple choice format was selected because it was not only objective and reliable, but also easy to conduct and to score. The pre- and post-tests consisted of three different texts of approximately 300-500 words and 30 multiple

choice questions in total (10 questions for each text). The texts were chosen from the Internet because it allowed easy access to choices of texts. The title of the first text was “Think Before You Judge” retrieved from <http://forums.studentdoctor.net/threads/a-doctor-entered-the-hospital-in-hurry.901532/>. The title of the second text was “Learn to appreciate” retrieved from <http://www.moralstories.org/learn-appreciate/>. The title of the third text was “The giving tree” retrieved from <https://www.wattpad.com/story/54919418-the-giving-tree>.

The texts chosen for the pre- and post-tests in this study were of the same genre and level (pre-intermediate) as the novels selected for the students to read. The language used in the texts was similar to that in the novels and they contained morals. The pre- and post-test assess three levels of the students’ reading comprehension: literal (12 items), inferential (12 items) and evaluative (6 items). Fifty minutes were allotted for the students to complete the pre- and post- tests. The pre-test was administered before the use of reading logs; the post-test, after the use of reading logs.

The pre- and post-tests were checked for validity by three experts in the field. After the test was improved, it was piloted to establish reliability. The test was piloted on a group of Mattayomsuksa 5 students in a different school in Trang in the academic year of 2016. This group of students had similar background to the participants of the main study in terms of their program of study, age, and English grade. The reliability of the test was 0.854. After the reliability test, the test was improved for the main study (See Appendix A: Pre-and post-tests).

5.2.2 Novels and reading logs

After reviewing several novels, three novels were chosen based on the level of the students in both groups. Three novels of pre-intermediate level selected for this study were *The Card*, *Goldfish* and *Moondial*. The translation of these novels in Thai is not available. All of them contain morals. Each novel consists of seven chapters of approximately 1000 headwords. Every four weeks, the students were assigned to read one novel. In each of the first three weeks, the students read two chapters and wrote in the reading log about the two chapters. In the fourth week, the students read the last chapter and wrote in the reading log about the chapter and the whole novel. The students

were allowed to write in Thai or in English to ensure that language would not limit their thinking and they felt free to express themselves in the reading logs. Altogether, the students spent 12 weeks on reading three novels and writing 12 reading logs.

The reading logs were designed by the researcher. The reading logs of the first three weeks consisted of five topics: 1) the summary of the chapter(s) the students read, 2) lessons the students learned from the story, 3) the part of the story the students think was the best and their reasons to support their judgment, 4) the relevance of the story to the students' life, and 5) the students' prediction of the following chapter(s). The first topic aims at promoting literal comprehension because the students need to use the information stated in the story to summarize the chapter(s). The second and the fifth promote inferential comprehension because they need to make inferences about things not directly stated in the text and to draw a conclusion based on the information given in the story; and the third and the fourth, evaluative comprehension because they need to analyze what they have read and form an opinion based on the information given and their prior knowledge.

In the fourth week, the students obtained a different format of reading logs. The first page consisted of four topics similar to the first four topics in the reading logs of the first three weeks. The second page of the reading logs concerned the students' overall comprehension of the novel. There was only one topic with three sub-topics: 1) the summary of the whole novel, 2) the moral of the story, and 3) the part the students like the most and their reasons to support their judgments. These three sub-topics promote all three levels of reading comprehension: literal, inferential and evaluative respectively (See Appendix B: Reading logs for the experimental group).

5.2.3 Questionnaire

A questionnaire was designed by the researcher to elicit the attitudes of the experimental group towards the use of reading logs. It consisted of two parts. The first part contained 10 statements about the satisfaction and the usefulness of the reading logs. The students were asked to choose whether they agree with these statements and provide the reasons for their answer. The second part was an open-ended question inviting their comments and suggestions about the use of reading logs. Twenty minutes

were allotted for the students to complete the questionnaire. The questionnaire was checked by three experts and improved. The reliability of the questionnaire was 0.896. After the questionnaire was improved, it was piloted to establish reliability on a group of Mattayomsuksa 5 students in a different school in Trang in the academic year of 2016. Before the questionnaire was piloted, this group of students were trained to use reading logs for a novel so that they had enough experience to respond to the questionnaire. After the pilot, the questionnaire was improved for the main study (See Appendix D: Questionnaire for the experimental group).

5.3 Data collection procedures

The study was conducted in 14 weeks from November 2016 until February 2017. In the first week the pre-test was administered to the experimental group and the control group. From the second week until the thirteenth week, the students in the experimental group were exposed to the use of reading logs. At the same time the students in the control group were exposed to the post-reading questions. In the last week, both groups were given the post-test and the questionnaire were administered to the students in the experimental group. All the data were collected by the teacher and they were later analyzed by the researcher. The procedures of data collection were described below:

5.3.1 Administration of the pre- and post-tests

The pre-test was administered to the experimental group and the control group in the first week and the post-test was administered to both groups in the last week of the study. The students were allotted 50 minutes to complete each test.

5.3.2 Reading novels and reading logs

In each of the first three weeks, the students read two chapters and wrote in the reading log about the chapters they read. In the fourth week, the students read the last chapter and write in the reading log about the chapter and the whole novel. Altogether, the students spent 12 weeks on reading three novels and writing 12 reading logs.

A novel was given to the experimental group in the second week. The students were assigned to read one novel in four weeks. These novels and 12 reading logs were

assigned as an out-of-class activity. The reading logs were given on Mondays and were collected on Fridays. The reading logs were evaluated only for completion. Incomplete reading logs were returned to the students for completion, grammatical errors were ignored. After reading each novel, the students and the teacher discussed it in class.

For the control group the novels were given as in the experimental group. However, they were not assigned to write in the reading logs. Instead, they were asked to answer the post-reading questions. The post-reading questions were true or false questions and multiple choice questions. They covered three levels of comprehension: literal, inferential, and evaluative. In each of the first three weeks, the students read two chapters and answered 10 post-reading questions about the chapters they read. In the fourth week, the students read the last chapter and answered 15 post-reading questions about the chapter and the whole novel. The students were given the feedback on their answers to the post-reading questions after they finished each novel (See Appendix C: Post-reading questions for the control group).

5.3.3 Administration of the questionnaire

Twenty minutes were allocated to the experimental group to complete the questionnaire at the end of the experiment (week 14).

To sum up, the data collection procedures of the study are shown in Table 1.

Table 1 Data collection procedures

Week	Both groups	Experimental group	Control group
1	Pre-test		
2	Chapter 1,2	Reading log 1	Questions of Chapter 1,2 (10 items)
3	Novel 1 <i>The Card</i>	Chapter 3,4	Questions of Chapter 3,4 (10 items)
4		Chapter 5,6	Questions of Chapter 5,6 (10 items)
5		Chapter 7	Questions of Chapter 7 and the whole novel (15 items)

Week	Both groups	Experimental group	Control group	
6		Chapter 1,2	Reading log 5	Questions of Chapter 1,2 (10 items)
7	Novel 2 <i>Goldfish</i>	Chapter 3,4	Reading log 6	Questions of Chapter 3,4 (10 items)
8		Chapter 5,6	Reading log 7	Questions of Chapter 5,6 (10 items)
9		Chapter 7	Reading log 8	Questions of Chapter 7 and the whole novel (15 items)
10		Chapter 1,2	Reading log 9	Questions of Chapter 1,2 (10 items)
11	Novel 3 <i>Moondial</i>	Chapter 3,4	Reading log 10	Questions of Chapter 3,4 (10 items)
12		Chapter 5,6	Reading log 11	Questions of Chapter 5,6 (10 items)
13		Chapter 7	Reading log 12	Questions of Chapter 7 and the whole novel (15 items)
14			Post-test and questionnaire	Post-test

5.4 Data analysis

The data in this study consisted of the students' pre- and post-test scores. The questionnaire responses and the reasons students mentioned in the questionnaire were also analyzed. In addition the students' reading logs were analyzed for content concerning their reactions to the novels. These qualitative data were used to support the quantitative data. They were analyzed as follows:

1. To answer the first research question, the pre- and post-test scores of the experimental group were calculated using the mean scores and compared using the t-test.
2. To answer the second research question, the pre- and post-test scores of the experimental group and the control group were calculated using the mean scores and compared using the t-test.
3. To answer the third research question, the experimental group's responses to the questionnaire were calculated using percentages and the reasons they

mentioned in the questionnaire were also analyzed.

6. FINDING AND DISCUSSION

Two papers (Rakana & Teo, in press & 2017) were drawn upon in this section to address the three research questions and to discuss the findings of this study.

6.1 Effects of reading logs on students' reading comprehension

The first research question addressed in this study was "Is there a difference in reading comprehension of the students before and after using reading logs?" The findings are summarized in terms of overall and each level of comprehension.

6.1.1. Reading comprehension of the experimental group after the use of reading logs

The mean scores of the pre- and post-test of the students in the experimental group were compared using the paired samples t- test to determine whether there was any difference in their reading comprehension before and after the extended use of reading logs. The findings are presented in Table 2.

Table 2 Pre-and post-test scores of the experimental group

	Total	Mean	SD	t-value
Pre-test	30	13.75	4.64	12.213**
Post-test	30	23.02	3.62	

** Significant at 0.01

The data presented in Table 2 show that the pre- and post-test mean scores of the students in the experimental group were significantly different at a 0.01 level. The mean score of the students' reading comprehension increased from 13.75 in the pre-test to 23.02 in the post-test, showing that the students' reading comprehension significantly improved after the use of reading logs.

Further analysis shows that the students' reading comprehension improved in all three levels: literal, inferential and evaluative. The data are presented in Table 3.

Table 3 Pre- and post-test scores on three levels of reading comprehension of the experimental group

Level of reading comprehension	No.	Pre-test		Post-test		Mean difference	t-value
		Mean	SD	Mean	SD		
Literal	1	.48	.51	.84	.37	.36	4.200**
	2	.11	.32	.80	.41	.68	9.599**
	3	.59	.50	.91	.29	.32	3.304**
	4	.20	.41	.84	.37	.64	7.931**
	11	.50	.51	.89	.32	.39	4.146**
	12	.34	.48	.98	.15	.64	8.675**
	13	.14	.35	.89	.32	.75	11.358**
	17	.23	.42	.84	.37	.61	8.264**
	24	.73	.45	.95	.21	.23	3.170**
	26	.66	.48	.89	.32	.23	2.668**
Inferential	27	.59	.50	.89	.32	.30	2.936**
	5	.86	.35	.93	.25	.07	1.138
	6	.36	.49	.84	.37	.48	5.763**
	10	.52	.51	.89	.32	.36	4.200**
	14	.39	.49	.84	.37	.45	4.808**
	15	.73	.45	.18	.39	-.55	-6.145**
	16	.30	.46	.86	.35	.57	6.030**
	19	.11	.32	.14	.35	.02	.374
	21	.43	.50	.18	.39	-.25	-2.698**
	22	.75	.44	.91	.29	.16	2.201*
Evaluative	23	.39	.49	.93	.25	.55	7.183**
	29	.66	.48	.95	.21	.30	3.847**
	7	.70	.46	.93	.25	.23	2.668**
	9	.48	.51	.84	.37	.36	4.200**
	18	.11	.32	.14	.35	.02	.298
	20	.50	.51	.89	.32	.39	4.146**
	28	.70	.46	.84	.37	.14	1.634
	30	.45	.50	.14	.35	-.32	-4.073**

** Significant at 0.01 * Significant at 0.05

Table 3 shows that there was a significant difference between the pre-test and post-test scores in 26 out of 30 questions. Out of the 26 questions, all the differences except one (question 22) were at a significance level of 0.01 and the post-test scores of 23 questions were significantly higher than those of the pre-test. However, there were three questions in which the students' pre-test scores were significantly higher than their post-test scores.

For literal comprehension, the findings reveal a significant difference in the students' pre-test and post-test scores in all questions. This means that the students' ability to answer literal comprehension questions significantly increased after the use of reading logs. In the reading logs the students were required to summarize what they had read. A closer look at the students' reading logs shows that at the beginning most of the students summarized the novel incompletely and incorrectly. However, in their final logs they could summarize the whole novel precisely, completely and correctly. For instance, S1 wrote in his first log on Novel 1 "Denry wanted to go to the dance because he wanted to see the countess" which reflects his misunderstanding of the story. In his fourth log however he wrote "Denry wanted to go to the dance because he thought it would be a good chance for him" showing that he summarized the whole novel with a clearer understanding. It was clear that after S1 read the whole novel, his understanding of the story changed and he summarized it correctly. The above example illustrates that summarizing the novel every week helped improve the students' literal comprehension and this explains why the students did better in their post-test.

For inferential comprehension, the findings show a significant difference in the students' pre- and post-test scores in 10 out of 12 questions. There were eight questions in which the post-test scores were higher than the pre-test scores. This means that the students' ability to answer inferential questions significantly improved after the use of reading logs. It might be because in the reading logs the students had to answer the topic "lessons they have learned from the story" and "their prediction of the following chapters" which required them to make inferences about things not directly stated in the novel and draw a conclusion. As S7 noted in his ninth log of the third novel "we should show our respect to the elderly by using the gesture of wai" which he linked to his Thai culture and S4 noted "we should have a good manner and be polite to others"

(Log 10, Novel 3). It should be emphasized that these statements did not appear in the novel but the students made their own conclusions. By writing in the reading logs, the students gained experience in inferential comprehension and applied it to their post-test. As a result, their scores were higher than those in the pre-test. However, it should be noted that there were two questions (15 and 21) eliciting inferential comprehension in which the students' pre-test scores were significantly higher than their pre-test scores. Probably, these two questions were difficult for the students. For example, item 21 was "*We can compare the tree to...*" and the choices were A) parents B) children C) money D) ambition.

For evaluative comprehension, the findings show that there was a significant difference in the students' pre- and post-test scores in four out of six questions. This means that the students' ability to answer evaluative comprehension questions significantly increased after the use of reading logs. The students were required to analyze what they had read and form an opinion based on the information given and their prior knowledge by responding to two topics in the logs: the part of the story they think was the best and the relevance of the story to their life. A closer examination of the students' reading logs shows that they were able to judge the characters' action. For example, S2 wrote "Denry is genius and funny; this made him become a mayor of the town" (Log 4, Novel 1). S6 noted "Minty tried to help Sarah because she is a good person" (Log 10, Novel 3). Some students were able to judge the whole novel as can be seen in S43's writing "A story of the pearls is interesting and exciting to follow" (Log 8, Novel 2). These topics provided in the reading logs enabled the students to think critically and apply this experience of evaluative comprehension to their post-test. As a consequence, they obtained a significantly higher score in their post-test. Nevertheless, there was one question, question 30 in which the students' pre-test score was higher than their post-test score. The question was "*What is the moral of the story?*" and the choices were A) *Learn to be thankful* B) *Forget what you got* C) *Build a castle in the air* and D) *Let bygones be bygones*. It might be the case that the students were not familiar with the proverbs in the choices. Consequently, they did not answer the question correctly.

Based on the above findings, it can be concluded that the use of reading logs could enrich the students' reading comprehension in all three levels of comprehension: literal, inferential and evaluative.

6.1.2. Reading comprehension of the experimental and the control groups

The second research question addressed in this study was "Is there a difference in reading comprehension between the group using reading logs and the group using post-reading questions? The findings are summarized in terms of overall and each level of comprehension of both groups.

The pre- and post-test scores of the students in the experimental and the control groups were compared using the paired samples t-test to determine whether there was any difference in the students' reading comprehension between groups. The findings are presented in Table 4.

Table 4 Pre- and post-test scores of the experimental and the control groups

Group	Total	Test	Mean	SD	t-value
Experimental (Reading logs)	30	Pre-test	13.75	4.64	12.213**
		Post-test	23.02	3.62	
Control (Post-reading questions)		Pre-test	10.50	3.34	8.978**
		Post-test	15.41	2.02	

**Significant at 0.01

According to Table 4, the pre-test score of the experimental group was 13.75 and their post-test score was 23.02. At the same time the pre- and post-test score of the control group was 10.50 and 15.41 respectively. The findings show that both groups did noticeably better in the post-test than in the pre-test and their pre- and post-test scores were significantly different at 0.01 level. It can be said that students in both groups significantly improved their reading comprehension although they were given different treatments (reading logs for the experimental group and post-reading questions for the control group).

To further explore the extent of difference in reading comprehension between the experimental and the control groups, the mean differences between their pre- and post-test scores were compared. The findings are shown in Table 5.

Table 5 Mean differences between the pre- and post-test scores of the experimental and the control groups

Group	Total	Test	Mean	SD	Mean difference	t-value
Experimental	30	Pre-test	13.75	4.64	9.27	4.667**
		Post-test	23.02	3.62		
Control		Pre-test	10.50	3.34	4.91	
		Post-test	15.41	2.02		

**Significant at 0.01

Table 5 shows that the reading comprehension mean score of the experimental group increased from 13.75 in the pre-test to 23.02 in the post-test resulting in the mean difference of 9.27 between the pre- and post-test scores. Meanwhile, the reading comprehension mean score of the control group increased from 10.50 in the pre-test to 15.41 in the post-test leading to the mean difference of 4.91 between the pre- and post-test scores. When the mean differences between the pre- and post-test scores of the experimental and the control groups were compared, it was found that the mean difference between the pre- and post-test scores of the experimental group was significantly greater than that of the control group at 0.01 level. This indicates that although both reading novels together with the use of reading logs and reading novels along with post-reading questions could improve the students' overall reading comprehension, the former could do so to a greater extent than the latter.

The fact that the use of reading logs could enrich the students' understanding of the narrative text and improve their reading comprehension to a greater extent than reading novels along with post-reading questions is probably because reading logs made the students become active readers and the process of writing combined with reading contributed to interactive reading. The process of writing enabled the students to analyze the pieces of information they read and allowed them to engage in reading the novels. Reflecting on the reading logs every week, the students had a chance to

practice their comprehension. As a result, there was an increase of 9.27 in reading comprehension post-test score of the experimental group, which was almost two times as many as that of the control group.

To shed more light on the effects of reading logs and post-reading questions on reading comprehension, further analysis of the mean difference between the pre- and post-test scores of the experimental and the control groups in terms of levels of comprehension was carried out. The findings are presented in Table 6.

Table 6 Comparison of mean differences between the pre- and post-test scores of the experimental and the control groups in three levels of reading comprehension

Level of reading comprehension	No.	Mean difference between the pre- and post-test scores		SD		t-value
		Experimental group	Control group	Experimental group	Control group	
Literal	1	.36	.30	.57	.46	.614
	2	.68	.09	.47	.29	7.079**
	3	.32	-.30	.64	.55	4.817**
	4	.64	.00	.53	.61	5.214**
	11	.39	.43	.62	.55	-.366
	12	.64	.48	.49	.59	1.380
	13	.75	-.16	.44	.53	8.812**
	17	.61	-.11	.49	.49	6.926**
	24	.23	.61	.48	.49	-3.743**
	25	.68	.89	.47	.32	-2.380**
	26	.23	-.39	.57	.62	4.860**
27	.30	-.07	.67	.45	2.992**	
Total		5.82	1.77	2.95	2.38	7.077**
Inferential	5	.07	.05	.40	.48	.242
	6	.48	-.23	.55	.60	5.720**
	8	.48	.43	.55	.50	.406
	10	.36	-.18	.57	.54	4.589**
	14	.45	-.20	.63	.55	5.228**
	15	-.55	.45	.59	.63	-7.711**
	16	.57	-.18	.62	.66	.488**
19	.02	-.14	.40	.41	.839	

Level of reading comprehension	No.	Mean difference between the pre- and post-test scores		SD		t-value
		Experimental group	Control group	Experimental group	Control group	
Inferential	21	-.25	.59	.61	.59	6.582**
	22	.16	.34	.48	.57	1.622
	23	.55	.55	.50	.59	.000
	29	.30	.64	.51	.53	-3.069**
Total		2.64	2.11	2.08	2.10	1.172
Evaluative	7	.23	.25	.57	.44	-.211
	9	.36	.59	.57	.54	-1.909
	18	.02	.05	.51	.21	-.275
	20	.39	-.20	.62	.63	4.435**
	28	.14	.41	.55	.62	-2.172*
	30	-.32	-.07	.52	.40	-2.539**
Total		0.82	1.02	1.47	1.15	-0.728
Overall comprehension		9.27	4.91	5.04	3.63	4.664**

* Significant at 0.05 ** Significant at 0.01

As presented earlier, the mean difference between the pre- and post-test scores of the experimental group was significantly greater than that of the control groups indicating that reading novels together with the use of reading logs could improve the students' overall reading comprehension significantly more than reading novels along with post-reading questions. Table 6 delineates the mean differences between the pre- and post-test scores of the experimental and the control groups in terms of three levels of comprehension. It can be seen that the mean differences between the pre- and post-test scores on literal, inferential, and evaluative comprehension of the experimental group were 5.82, 2.64, and 0.82 respectively while those of the control group were 1.77, 2.11, and 1.02 respectively. When these mean differences between the pre- and post-test scores of both groups were further analyzed, it was found that the experimental group shows a greater improvement in literal comprehension than the control group at a significant level of 0.01. The mean differences between the pre- and post-test scores on inferential and evaluative comprehension of the experimental and the control groups were, however, not significant. That the mean difference between the pre- and post-test

scores on inferential comprehension of both groups was not significant was probably due to the fact that the students in the experimental group were given the whole novel from the start and many of them read beyond the weekly assigned chapters. This might deprive them of the chance to practice inferential comprehension by addressing the topic “I predict...will happen in the following chapters” which was provided in the reading logs. In addition, the students in the control group slightly outperformed those in the experimental group on evaluative comprehension because they might be trained with the evaluative questions in post-reading questions.

That there was a significant difference at a 0.01 level in the mean differences between the pre- and post-test scores on literal comprehension of the experimental and the control groups can be explained that the students in the experimental group wrote a summary of the novel every week which required them to make conclusions based on their understanding of the story and by writing every week they understood the novel clearly. It can be seen that reading logs allowed the students to pay attention to the important information and details of the novel. Therefore, the students in the experimental group did better in their post-test on literal comprehension.

6.2 Students’ attitude towards the use of reading logs

The third research question in this study was “What is the students’ attitude towards the use of reading logs” The data were quantitatively and qualitatively analyzed.

The students’ responses to the questionnaire eliciting their attitude towards the use of reading logs were calculated using percentages. The reasons provided by the students in support of their responses and the content of their reading logs were also analyzed to support the finding of the students’ attitude towards the use of reading logs. The findings are presented in Table 7.

Table 7 Students' attitudes towards the use of reading logs

No.	Statement	Number of responses (%)	
		Agree	Disagree
1.	I feel happy when I write in my reading logs.	38 (86.36%)	6 (13.64%)
2.	I read with purposes when I use reading logs.	38 (86.36%)	6 (13.64%)
3.	Reading logs guide me to pick the information in the story.	40 (90.91%)	4 (9.09%)
4.	Reading logs help me to understand the main idea of the story.	38 (86.36%)	6 (13.64%)
5.	Reading logs help me to think critically.	35 (79.55%)	9 (20.45%)
6.	Reading logs help me to think creatively.	39 (88.64%)	7 (11.36%)
7.	Reading logs motivate me to finish the novel.	35 (79.55%)	9 (20.45%)
8.	Reading logs encourage me to read more.	31 (70.45%)	13 (29.55%)
9.	Reading logs help me to remember the story.	36 (81.82%)	8 (18.18%)
10.	I will continue using reading logs when I read.	36 (81.82%)	8 (18.18%)

Overall, the findings show that most of the students ranging from 70.45% to 90.91% agreed with every statement of the questionnaire, indicating that they had positive attitudes towards the use of reading logs.

The highest percentage of the students (90.91%) agreed with the statement "Reading logs guide me to pick the information in the story". Most of the students explained that the reading logs make them understand the story more. A closer look at the students' writing of the story summary in their reading logs found that some of them misunderstood the story in their first log. However, when they summarized the whole story in their fourth log, they seemed to understand it clearly. The students' reading logs, therefore, provide support for the reasons they provided.

Most students, 88.64%, agreed that reading logs help them to think creatively. The students mentioned that reading logs allow them to think of something new and

create their imagination. The following quotes from the students' reading logs illustrate that they think freely and creatively:

“Denry’s action will not make him successful”. (S13, Log 1, Novel 1)

“If Denry still lies to others, he will not be trusted by anyone”. (S41, Log 3, Novel 1)

“Don’t trust anyone easily”. (S28, Log 8, Novel 2)

The students (86.36%) agreed that they felt happy when they wrote in their reading logs; they read with purposes when they used reading logs; and reading logs helped them to understand the main idea of the story.

According to the students, they felt happy when they wrote in their reading logs because they enjoyed reading and reading logs made them love writing. Their happiness in reading and writing in their logs can be seen through S30, who noted “I like the scene that Sype hid the pearl in the goldfish because he is clever” (Log 8, Novel 2) and S34, who wrote “Minty gave the mirror to Sarah because she made Sarah happy and I am happy for her” (Log 12, Novel 3).

The students provided many reasons for their agreement with the statement “I read with purposes when I use reading logs”. They stated that reading logs were useful for them because they provided the topics which they needed to read and get the information to write on. Therefore, topics in the reading logs guided them and made them read with purposes in order to get the information and write in their reading logs.

In relation to the third statement, “Reading logs help me to understand the main idea of the story”, the students mentioned that even though the reading was hard and complicated the reading logs made the story easier to understand and remember. The students' logs indicate that when the students summarized the story, they got the main idea and wrote in their logs clearly. The finding of this study supports Lyutaya (2011), who found that students understand texts deeply when reading is combined with a writing task as in reading logs.

Among the students 81.82% agreed that reading logs can help them to remember the story and they will continue using reading logs when they read. Summarizing and writing in their reading logs helped them to understand the story more than without reading logs. Consequently, they like to apply it when they read other texts in their daily life.

A high number of students (79.55%) agreed that reading logs can help them to think critically because reading logs allow them to think more and they get the idea faster. For example, in their logs S37 mentioned “I will be happy if I make others happy” (Log 12, Novel 3) and S42 wrote “I will only follow Denry’s good action” (Log 4, Novel 1). These examples show that the students thought beyond the story and they related the story to their feelings. It can be seen that the students can think critically by judging the situations and characters in the story and link the story to their own feelings.

Similar percentages of the students (79.55%) agreed that reading logs motivate them because they keep them focus on the task. Most of them mentioned that they wanted to focus on and finish the novel in order to get the information to write.

Quite a high number of students (70.45%) agreed that reading logs encourage them to read more. This can be seen in the reading logs of S9, who noted “When Carmady kept the key and ran away, I cheered him up and wanted to know if he can run away, it was really excited and I felt like I was there” (Log 7, Novel 2). This finding supports Husrt (2005) and Starcher and Profitt (2011), who found that applying reading logs in class encourages students to read more than they would have without reading logs.

Analysis of the data from the open-ended part of the questionnaire reveals that the use of reading logs brought about the students’ enjoyment and engagement in their reading of the novels.

The students’ enjoyment in reading the novels can be illustrated by comments made by S40 who wrote “I like the part that Denry wrote a report to Signal; it seemed like Denry could always make money” (Log 2, Novel 1) and S17 who wrote “I am excited when Miss Raven said she will take pictures of ghosts” (Log 10, Novel 3).

The following quotes from the students' reading logs show that the students played a part in the stories and took adventure with the characters:

“A woman pointed the gun and I felt like I was in the situation” (S19, Log 7, Novel 2).

“Cathy knew where Sype was and continued searching for the pearls because it was exciting and I wanted to know what was going to happen” (S17, Log 5, Novel 2).

“When I read the scene that Denry was in the Sneydhall, I felt like I was in that place” (S14, Log 3, Novel 1).

Although many of the students in this study enjoyed and were engaged in their reading of the novels, they suggested that the novels be shorter because they were difficult and the time to read was too short.

7. CONCLUDING REMARKS

This section presents a conclusion of the study, pedagogical implications and recommendations for further study.

7.1 Conclusion of the study

7.1.1 Reading comprehension

This study found that the use of reading logs significantly improved the students' overall reading comprehension and particularly literal comprehension. Most of the notes students wrote in their reading logs show that they gradually improved in terms of their comprehension of the novels and their feelings towards the characters in the novels indicating the students were engaged in an active process called reader-response which allows them to create their own meaning through their own experiences (Anderson, 2012; Pittman & Honchell, 2014). The findings of this study are similar to those of Lyutaya (2011), Muangpruan (2010), and Janthong (2010). It can be concluded that the use of reading logs improved the students' reading comprehension and enabled them to understand the novels deeply. Moreover, it encouraged the students to read

actively and take their own notes freely. This study also found that the use of post-reading questions could promote the students' overall comprehension. However, the improvement of the students in the control group was less than that of the experimental group. As the experimental group wrote the reading logs every week, their reading comprehension improved to a greater extent than those in the control group.

7.1.2 Attitudes towards the use of reading logs

Regarding the students' attitudes towards the use of reading logs, the study found that the students were pleased with the use of reading logs as a tool to reflect on what they are reading. The findings complement those of Jeanne and Currier (2013), Carlisle (2000) and Delarriva and Basabe (2015) that many students were favorable for the use of reading logs. The findings of this study show that reading novels coupled with the use of reading logs involved the students in the story. In addition, the students enjoyed expressing their ideas, feelings and opinions in their reading logs. It can be concluded that the reading logs could engage the students in reading the novel, enabled them to understand and remember the novels easily, and made them enjoy reading.

7.2 Pedagogical implications

Based on the findings of the study, pedagogical implications can be drawn as follows:

Firstly, this study provides relevant and useful information for teachers on the use of reading logs and post-reading questions to teach reading comprehension in English reading and writing class. The findings revealed that reading logs could develop the students' overall comprehension with the greatest improvement in literal comprehension level. To employ reading logs, it is advisable that the teacher should provide the summary topics for students because these summary topics would lead them to actively focusing on specific pieces of information in the text and enable them to improve their reading comprehension.

Secondly, this study found that the use of post-reading questions is useful for teaching reading and writing class because it helps students develop overall comprehension. Therefore, teachers can use both reading logs and post-reading

questions as techniques to encourage meaningful learning for students as an out of class activity. Based on the findings of this study, however, teachers should bear in mind that reading logs outweigh post-reading questions in promoting literal comprehension. Whereas, Evaluative level was slightly better in the control group than the experimental group because post-reading questions tap their evaluative comprehension.

Finally, although the attitudes of the students in this study towards the use of reading logs was found positive, some of them commented that the novels were too long and the time was too short. Teachers can handle this problem in several ways. For example, they can reduce the number of units for weekly reading assignment. Teachers may use shorter novels. Lastly, they can assign novel reading and writing of reading logs as semester-break homework.

7.3 Recommendations for further study

The recommendations for further study can be offered as follows:

Firstly, this study was restricted to a small group of Mattayomsuksa 5 students in a secondary school in Trang. The findings may not be generalizable to students in different levels and areas. In order to confirm the effects of the use of reading logs on reading comprehension, the study can be replicated with other groups of students who are in different educational levels and school contexts.

Secondly, since this study did not find a significant effect of reading logs on improving the students' inferential and evaluative comprehension which are desirable higher levels of comprehension that should be promoted in English class. Further study may consider not giving students the whole book from the start to avoid the possibility that they would read beyond the assigned chapters which would deprive them of the opportunity to practice answering inferential questions provided in reading logs. In addition, reading logs may be carefully re-designed to re-investigate its effect on developing these two levels of comprehension. In so doing, researchers may provide topics in reading logs which guide students to specific section of the text and get them to relate it to their life as well as to react to it.

Thirdly, reading novels combined with the writing task in reading logs were too much for students to complete each week. Therefore, further study may provide more time or reduce the number of units or pages assigned each week.

Fourthly, an interview with students after the use of reading logs in order to get in-depth information can be employed.

Finally, other genres such as expository and argumentative texts can be explored in conjunction with the use of reading logs.

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APPENDICES

Appendix A
Pre- and post-tests



Pre-test

There will be 30 items in this test and 50 minutes will be allowed for students to complete it.

Name.....

Student's number.....

Text I

Directions: Read the text and choose the correct answer for each question (number1-10).

A doctor entered the hospital in hurry after being called in for an urgent surgery. He answered the call, changed his clothes and went directly to the surgery block. He found the boy's father pacing in the hall waiting for the doctor. On seeing him, the dad yelled: "Why did you take all this time to come? Don't you know that my son's life is
5 in danger? Don't you have any sense of responsibility?" The doctor smiled and said: "I am sorry, I wasn't in the hospital and I came as fast as I could after receiving the call. And now, I wish you'd calm down so that I can do my work." "Calm down?! What if your son was in this room right now, would you calm down? If your own son dies now what will you do?" said the father angrily. The doctor smiled again and replied: "I will
10 say what Job said in the Holy Book "From dust we came and to dust we return, blessed be the name of God". Doctors cannot prolong lives. Go and intercede for your son, we will do our best by God's grace." "Giving advises when we're not concerned is so easy" murmured the father. The surgery took some hours after which the doctor went out happy. "Thank goodness!, your son is saved!" And without waiting for the father's reply
15 he carried on his way running. "If you have any question, ask the nurse!!" "Why is he so arrogant? He couldn't wait some minutes so that I ask about my son's state" commented the father when seeing the nurse minutes after the doctor left. The nurse answered, tears coming down her face: "His son died yesterday in a road accident; he was in the burial when we called him for your son's surgery. And now that he saved your son's life, he left running to finish his son's burial."

1. When the doctor entered the hospital, he went straight to.....
 - A. the call.
 - B. the surgery room.
 - C. the boy's father.
 - D. the changing room.

2. According to the text, which of the following is TRUE?
 - A. The doctor was not rushing to the hospital.
 - B. The boy's father spoke to the doctor softly.
 - C. The doctor allowed the boy's father to ask questions.
 - D. The surgery took more than one hour.
3. The text tells us that the boy the doctor saved was in.....
 - A. the hall.
 - B. the hospital.
 - C. the car.
 - D. the burial.
4. The boy's father told the nurse that the doctor was so arrogant because
 - A. the doctor was late to the surgery.
 - B. the doctor couldn't wait for any questions.
 - C. the doctor's son was dead.
 - D. the doctor couldn't save his son's life.
5. The doctor referred to the Holy Book because he wanted the father of the patient to
 - A. be harmful.
 - B. be thankful.
 - C. calm down.
 - D. slow down.
6. The nurse was crying because.....
 - A. she was sad for the man whose son was in the surgery room.
 - B. she felt sorry for the doctor lost his son in an accident.
 - C. she couldn't go to the funeral with the doctor.
 - D. she lost her son yesterday in a road accident.
7. Do you think the doctor in this story was good one? Why?
 - A. Yes, because he was kind to the nurse.
 - B. Yes, because he was responsible for his patient.
 - C. No, because he was rude to the patient's father.
 - D. No, because he told the guard to catch the patient's father.

8. From the text, we know that the doctor is
- A. calm.
 - B. naughty.
 - C. diligent.
 - D. angry.
9. The tone of the text could best be described as.....
- A. depressed.
 - B. hopeful.
 - C. enthusiastic.
 - D. joyful.
10. Which of the following can be concluded from the text?
- A. The doctor tried to save the patient who was in the surgery room.
 - B. The nurse finally could save the boy's life.
 - C. The nurse was angry at the man who blamed the doctor.
 - D. The doctor lost his son because of the accident.

Text II

Directions: Read the text and choose the correct answer for each question (number 11-20).

Once upon a time, there was a man who was very helpful, kindhearted, and generous. He was a man who will help someone without asking to pay him back. He will help someone because he wants to and he loves to. One day while walking into a dusty road, this man saw a purse, so he picked it up and noticed that the purse was empty. Suddenly a woman with a policeman shows up and gets him arrested.

5

The woman kept on asking where he hid her money but the man replied, "It was empty when I found it, Mam." The woman yelled at him, "Please give it back, It's for my son's school fees." The man noticed that the woman really felt sad, so he handed her all his money. He could say that the woman was a single mother. The man said, "Take these, sorry for the inconvenience." The woman left and policeman held the man for further questioning.

10

The woman was very happy but when she counted her money later on, it was doubled, she was shocked. One day while the woman was going to pay her son's school fees towards the school, she noticed that some skinny man was walking behind her. She thought that he may rob her, so she approached a policeman standing nearby. He was the same policeman, who she took along to inquire about her purse. The woman told him about the man following her, but suddenly they saw that man collapsing. They ran at him, and saw that he was the same man whom they arrested a few days back for stealing a purse.

He looked very weak and the woman was confused. The policeman said to the woman, "He didn't return your money, he gave you his money that day. He wasn't the thief but hearing about you son's school fees, he felt sad and gave you his money." Later, they helped the man stand up, and the man told the woman, "Please go ahead and pay your son's school fees, I saw you and followed you to be sure that no one steals your son's school fees." The woman was speechless.

11. This man handed the woman his own money because.....
- A. he thought the woman was angry.
 - B. he didn't want to be in jail.
 - C. he felt sorry that the woman had no money.
 - D. he had taken some money from her.
12. The woman was shocked when she counted the money because.....
- A. she could pay for her son's school fees.
 - B. there was twice as much money as before in her purse.
 - C. the man felt sorry for her that he stole her purse.
 - D. the policeman gave her double money.
13. The man followed the woman to school because.....
- A. he would rob her.
 - B. he wanted to protect her from the robber.
 - C. he was ordered to do so by the policeman.
 - D. he wanted to make sure that she spent the money wisely.

14. What could describe the woman in the story?
- A. a lazy woman.
 - B. a dishonest woman.
 - C. a lucky woman.
 - D. a wonderful woman.
15. The man thought that the woman was a single mother because.....
- A. the man knew her before.
 - B. she was responsible for her son's school fees.
 - C. her husband was waiting for her at home.
 - D. her son was good at planning and making people believe so.
16. Which of the following can be concluded from the text?
- A. The man maintained his goodness even though he faced bad situations.
 - B. The woman and the man made the mistakes unintentionally.
 - C. The woman left the purse because she wanted extra money.
 - D. The man changed his habit after he was caught.
17. According to the text, which of the following is TRUE?
- A. The man helped people in order to make them pay him back later.
 - B. There was some money in the purse but the man didn't notice at first.
 - C. The man found the woman's purse by accident.
 - D. The police was angry at the man when he knew that he took the woman's purse.
18. What is the tone of the text?
- A. Hopeful
 - B. Factual
 - C. Concerned
 - D. Sympathetic
19. What is the best title for this story?
- A. The kindhearted busy man
 - B. Learn to be thankful
 - C. The robber with a big heart
 - D. Catch the real thief

20. What is the moral of this story?
- A. Learn to thank what you are given.
 - B. Don't judge others.
 - C. Always listen to others' excuses.
 - D. Don't be angry; be happy.

Text III

Directions: Read the text and choose the correct answer for each question (number 21-30).

Once upon a time, there lived a big mango tree. A little boy loved to come and play around it every day. He climbed to the tree top, ate the mangoes, and took a nap under the shadow... He loved the tree and the tree loved to play with him. Time went by, the little boy grew, and he no longer played around the tree.

5 One day, the boy came back to the tree with a sad look on his face. "Come and play with me," the tree asked the boy. "I am no longer a kid, I don't play around trees anymore." The boy replied, "I want toys. I need money to buy them." "Sorry, I don't have money... but you can pick all my mangoes and sell them so you will have money." The boy was so excited. He picked all the mangoes on the tree and left happily. The boy didn't come back. The tree was sad.

10 One day, the boy grown into a man returned. The tree was so excited. "Come and play with me," the tree said. "I don't have time to play. I have to work for my family. We need a house for shelter. Can you help me?" "Sorry, I don't have a house, but you can chop off my branches to build your house." So the man cut all the branches off the tree and left happily. The tree was glad to see him happy but the boy didn't come back afterward. The tree was again lonely and sad.

15 One hot summer day, the man returned and the tree was delighted. "Come and play with me!" The tree said. "I am sad and getting old. I want to go sailing to relax myself. Can you give me a boat?" "Use my trunk to build your boat. You can sail far away and be happy." So the man cut the tree trunk to make a boat. He went sailing and didn't come back for a long time.

20 Finally, the man returned after he had been gone for so many years. "Sorry, my boy, but I don't have anything for you anymore. No more mangoes to give you." The tree

said. "I don't have teeth to bite," the man replied. "No more trunk for you to climb on." "I am too old for that now," the man said.

25

"I really can't give you anything, the only thing left is my dying roots," the tree said with sadness. "I don't need much now, just a place to rest. I am tired after all these years," the man replied. "Good! Old tree roots are the best place to lean on and rest. Come sit down with me and rest." The boy sat down and the tree was glad and smiled.

21. We can compare the tree to.....

- A. parents.
- B. children.
- C. money.
- D. ambition.

22. From the text, we can assume that the tree is.....

- A. selfish.
- B. kind.
- C. patient.
- D. brave.

23. How old was the boy when he asked for a boat?

- A. 15 years old.
- B. 25 years old.
- C. 45 years old.
- D. 85 years old.

24. The tree offered its branches to the boy because he wanted

- A. a house.
- B. a boat.
- C. money.
- D. time.

25. What was the last thing the tree gave to the boy?
- A. The fruit
 - B. The roots
 - C. The branches
 - D. The trunk
26. How did the boy make the tree happy at the end?
- A. He stayed with the tree.
 - B. He had nothing to ask for.
 - C. He never left the tree alone.
 - D. He loved dying roots.
27. According to the text, which is NOT TRUE?
- A. The boy always visited the tree when he had free time.
 - B. The tree always helped the boy to get what he wanted.
 - C. The boy was lucky to always have the tree to support him.
 - D. The boy was always the receiver.
28. Why should we not do what the boy did to the tree?
- A. because the boy was rude.
 - B. because the boy liked to live alone.
 - C. because the tree was a pity plant.
 - D. because the tree always helped the boy.
29. What is the best title for this story?
- A. The mango tree
 - B. The giving tree
 - C. The lucky tree
 - D. The smiling tree

30. What is the moral of the story?

- A. Learn to be thankful.
- B. Forget what you got.
- C. Build a castle in the air.
- D. Let bygones be bygones.

Pre- and post-test specifications

Text	Length	Levels of reading comprehension	No. of item	Item no.
1		Literal comprehension	4	1,2,3,4
Think Before You Judge	322 words	Inferential comprehension	4	5,6,8,10
		Evaluative comprehension	2	7,9
2		Literal comprehension	4	11,12,13,17
Learn to appreciate	366 words	Inferential comprehension	4	14,15,16,19
		Evaluative comprehension	2	18,20
3		Literal comprehension	4	24,25,26,27
The giving tree	469 words	Inferential comprehension	4	21,22,23,29
		Evaluative comprehension	2	28,30

Appendix B
Reading logs for the experimental group

Reflective reading log

(Chapter 1-2)

Student's name.....

Week.....Date.....

Title.....

1. Summary of the chapters

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2. Three lessons I learned are

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3. The best part of chapter 1-2 was

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because.....
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4. I can relate this story to my life because

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5. I predict

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will happen in the following chapters.

Reflective reading log

(Chapter 3-4)

Student's name.....

Week.....Date.....

Title.....

1. Summary of the chapters

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2. Three lessons I learned are

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3. The best part of chapter 3-4 was

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because.....
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4. I can relate this story to my life because

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5. I predict

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will happen in the following chapters.

Reflective reading log

(Chapter 5-6)

Student's name.....

Week.....Date.....

Title.....

1. Summary of the chapters

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2. Three lessons I learned are

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3. The best part of chapter 5-6 was

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because.....
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4. I can relate this story to my life because

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5. I predict

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will happen in the following chapters.

Reflective reading log

(Chapter 7 and the whole story)

Student's name.....

Week.....Date.....

Title.....

1. Summary of chapter 7

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2. Three things I learned are

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3. The best part of chapter 7 was

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because.....
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4. I can relate this story to my life because

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5. Based on the whole story,

5.1 Summarize the story.

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5.2 Tell the moral of the story.

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5.3 Describe what you like most in the story.

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Appendix C
Post-reading questions for the control group

Post-reading questions (Unit 1-2)

Directions: Put “True” in front of the statement which is correct or “False” in front of the statement which is incorrect.

1. _____ Denry should be fired because of his dishonest act.
2. _____ Denry offered himself to collect the money for Mr. Duncalf.
3. _____ Denry helped people pay rent with no return.
4. _____ Denry gave a house to the seventy year-old woman, Hullins.

Directions: Choose the best answer to each of the following questions.

5. How did Denry receive the invitation to the ball?
 - A. He sent himself the invitation.
 - B. The countess wanted him to be at the ball.
 - C. Mr. Duncalf put Denry’s name in his list.
 - D. Denry had a fantastic idea.

6. Nobody invited the countess to dance because.....
 - A. she was arrogant.
 - B. she was friendly.
 - C. she was very beautiful.
 - D. she was the richest in town.

7. What happened to Denry after Mr. Duncalf knew that he was in the ball?
 - A. He got an accident.
 - B. He quit.
 - C. He was hired.
 - D. He was fired.

8. How much rent did Mrs. Hullins pay each month?
- A. 15 pence.
 - B. 30 pence.
 - C. 60 pence.
 - D. 120 pence.
9. According to the story, what does the card refer to?
- A. An educated person.
 - B. An unusual person.
 - C. A well-known person.
 - D. A helpful person.
10. What idiom could describe Denry in these units?
- A. An army marches on its stomach.
 - B. In the same boat.
 - C. No pain, no gain.
 - D. Kill two birds with one stone.

Post-reading questions (Unit 3-4)

Directions: Put “True” in front of the statement which is correct or “False” in front of the statement which is incorrect.

1. _____ Miss Ruth was Denry’s dancing teacher.
2. _____ Miss Ruth didn’t have money for the rent.
3. _____ Denry believed that Ruth really had a headache.
4. _____ Denry was angry at Ruth when he knew what she said was all the lies.
5. _____ Denry was diligent. Therefore, he deserved to get a lot of money.
6. _____ Mrs. Machin was excited with the money in the hat box.

Directions : Choose the best answer to each of the following questions.

7. What does “it” line 26 on page 19 mean?
 - A. The key
 - B. The desk
 - C. The lock
 - D. The money
8. What could describe “Ruth” in these units?
 - A. Still water runs deep.
 - B. Between the devil and the deep blue sea.
 - C. As you sow, so you reap.
 - D. Look for a needle in a haystack.
9. What does “mend” in line 2 on page 20 mean?
 - A. feed
 - B. fix
 - C. find
 - D. fit
10. What happened to the van?
 - A. The van brake’s broke.
 - B. The van had no driver.
 - C. The van crashed.
 - D. The van flew in the water.

Post-reading questions (Unit 5-6)

Directions: Put “True” in front of the statement which is correct or “False” in front of the statement which is incorrect.

1. _____ Denry bought a small office for his own business.
2. _____ The countess remembered Denry and invited him to her house.
3. _____ The police caught the man who was robber at Sneyd hall.
4. _____ The countess agreed to be a part of The Saving Club after Denry helped her.
5. _____ Denry’s mother agreed to move to a new house.
6. _____ Lying to a mother is a good idea.

Directions: Choose the best answer to each of the following questions.

7. Who was Jack?
 - A. The town’s policeman.
 - B. The countess’ driver.
 - C. Sneyd hall’s guard.
 - D. Denry’s friend.
8. Denry rescued the countess from....?
 - A. an accident on the road.
 - B. an extremely bad thief.
 - C. a horrible fire.
 - D. a drowning.
9. Which is true according to unit 6?
 - A. Denry told her mother that he earned four thousands a year.
 - B. He lied to his mother about Mr. Wilbraham.
 - C. Mr. Wilbraham arrived late because of the train.
 - D. Mrs. Machin wanted to be the servant at Mr. Wilbraham’s.

10. That the countess repaid Denry's favour is.....

- A. a good thing.
- B. a complicated thing.
- C. an unbelievable thing.
- D. an important thing.

Post-reading questions (Unit 7 and the whole novel)

Directions: Put “True” in front of the statement which is correct or “False” in front of the statement which is incorrect.

1. _____ Councillor Cotterill had a money problem.
2. _____ Denry made the right decision to marry Ruth.
3. _____ Denry was asked to be a mayor because everyone thought he was young.
4. _____ Denry bought a very good player for the football club.
5. _____ Ruth used her money to save the football club.
6. _____ Denry became a mayor after he married.
7. _____ Denry began his life with a poor little house.
8. _____ Denry succeeded in his life because of his parents.
9. _____ Everybody around Denry supported him, whatever he did.
10. _____ Denry wasn't afraid of changing his job; he always took a risk.

Directions : Choose the best answer to each of the following questions.

11. When did Denry's life start to change?
 - A. When the countess danced with him at the ball.
 - B. When Ruth was his dancing teacher.
 - C. When he collected money for Codleyn.
 - D. When he travelled with Ruth and thought of a new business.
12. Why did the town need the new mayor?
 - A. The councilor Bloor was dead.
 - B. Denry was a Town councilor.
 - C. Mr. Capron Smith had recently died.
 - D. Barlow was suitable to be the new mayor.

13. Denry would make a good mayor for Bursley because.....
- A. he made people laugh.
 - B. he understood people in Bursley.
 - C. he was good at managing.
 - D. he had a business in Burley.
14. I would like to have Denry as my friend because.....
- A. he was a good model.
 - B. he spent a lot of money.
 - C. He always helped me.
 - D. he loved his mother.
15. If you were Denry, would you invite yourself to the ball? Why?
- A. Yes, because I don't like the job I am doing.
 - B. Yes, because it may be a start of good things.
 - C. No, because I don't know how my life will change.
 - D. No, because the ball isn't interesting.

Post-reading question specifications

Novel	Unit	Levels of reading comprehension	No. of item	Item no.
	1-2	Literal comprehension	4	2,3,4,5
		Inferential comprehension	4	6,7,8,9
		Evaluative comprehension	2	1,10
	3-4	Literal comprehension	4	1,2,3,4
		Inferential comprehension	4	6,7,9,10
		Evaluative comprehension	2	5,8
	5-6	Literal comprehension	4	1,2,3,7
		Inferential comprehension	4	4,5,8,9
		Evaluative comprehension	2	6,10
7 and the whole novel	Literal comprehension	6	4,5,7,9,11,12	
	Inferential comprehension	6	1,3,6,8,10,13	
	Evaluative comprehension	3	2,14,15	

Post-reading questions (Unit 1-2)

Directions: Put “True” in front of the statement which is correct or “False” in front of the statement which is incorrect.

1. _____ Carmady didn't agree to help Kathy find the pearls.
2. _____ Sype was in the prison for more than 15 years.
3. _____ Peeler Mardo died before Carmady found him.
4. _____ Carmady was relaxed while he was working.
5. _____ The murderers killed Mardo because they wanted his money.
6. _____ Lutin was willing to work on finding the Leander pearls with Carmady.
7. _____ The murderers who killed Mardo were very cold-blooded.
8. _____ Dishonest people like Carmady and Lutin should have been in jail.

Directions : Choose the best answer to each of the following questions.

9. What did Carmady do?
 - A. A policeman.
 - B. A crook.
 - C. A prisoner.
 - D. A detective.

10. Who did Carmady go to see first?
 - A. Kathy.
 - B. Peeler Mardo.
 - C. Rush Madder.
 - D. Sype.

Post-reading questions (Unit 3-4)

Directions: Put “True” in front of the statement which is correct or “False” in front of the statement which is incorrect.

1. _____ Carmady met Madder at his house.
2. _____ Madder had known Carmady.
3. _____ Madder was shocked when he heard about pearls.
4. _____ Madder put poison in Carmady’s glass.
5. _____ Carol did not hear what Madder and Carmady were saying.
6. _____ Carmady got information about goldfish when he went to the quiet bar.
7. _____ Madder was a good guy.
8. _____ The barman was very polite.

Directions : Choose the best answer to each of the following questions.

9. Which is not true about four mistakes Carmady had done?
 - A. He agreed to help Kathy.
 - B. He saw Peeler Mardo’s dead body.
 - C. He came to Rush Madder’s house.
 - D. He drank the worst whiskey.
10. Carmady hurt Madder because.....
 - A. he worked with Carol.
 - B. he told Carmady that the pearls weren’t real.
 - C. he was a betrayer.
 - D. he gave Carmady a glass of strange drink.

Post-reading questions (Unit 5-6)

Directions: Put “True” in front of the statement which is correct or “False” in front of the statement which is incorrect.

1. _____ Sunset betrayed Carmady.
2. _____ Carmady, Sunset, Carol, and Madder agreed to work together.
3. _____ Carol and Madder killed Peeler Mardo.
4. _____ Sunset died.
5. _____ Carmady tried to find the man who sold goldfish.
6. _____ Old Wallace was the person who had a lot of goldfish.
7. _____ Old Wallace and Sype referred to the same person.
8. _____ Sype stole pearls so, he deserved to die.

Directions : Choose the best answer to each of the following questions.

9. How much would Carmady pay for Sype if he agreed to work with him?
 - A. Five grand.
 - B. Ten grand.
 - C. Fifteen grand.
 - D. Twenty grand.
10. Was Old Wallace a good or a bad person?
 - A. He was a good person because he never harmed anyone.
 - B. He was a good person because he fed the fish.
 - C. He was a bad person because he killed people.
 - D. He was a bad person because he stole the pearls.

Post-reading questions (Unit 7 and the whole novel)

Directions: Put “True” in front of the statement which is correct or “False” in front of the statement which is incorrect.

1. _____ Sype died with his eyes open.
2. _____ Carol and Madder knew where Sype lived from Sunset’s paper.
3. _____ Carmady killed goldfish.
4. _____ Carmady had the pearls.
5. _____ Carmady should help Sype even though he was a thief.
6. _____ Carmady fell for Mrs. Sype’s trick.
7. _____ Carmady was finally successful in his work.
8. _____ Carmady was addicted to smoking.
9. _____ Carmady was a good man.
10. _____ It wasn’t wrong that Mrs. Sype shot Carol to protect herself and Carmady.

Directions : Choose the best answer to each of the following questions.

11. How many people came to Sype’s house after Carmady came?
 - A. 2 persons.
 - B. 3 persons.
 - C. 4 persons.
 - D. 5 persons.
12. Who shot Donovan?
 - A. Madder.
 - B. Carmady.
 - C. Mr.Sype.
 - D. Mrs.Sype.

13. According to the story, which is not true?
- A. Carmady and Kathy divided money in halves.
 - B. Mrs. Sype wanted the pearls in Carmady's hand.
 - C. Madder's injured but he was still alive.
 - D. Carmady found the Leander pearls easily.
14. Which moral do you learn from Carmady?
- A. Where there's a will, there's a way.
 - B. A friend in need is a friend indeed.
 - C. A poor workman blames his tools.
 - D. It is never too late to mend.
15. What did Carmady do when he saw two thick fish with slow movements in the fish tank?
- A. He caught it.
 - B. He killed it.
 - C. He observed it.
 - D. He did nothing.

Post-reading question specifications

Novel	Unit	Levels of reading comprehension	No. of item	Item no.
Goldfish	1-2	Literal comprehension	4	2,3,9,10
		Inferential comprehension	4	1,4,5,6
		Evaluative comprehension	2	7,8
	3-4	Literal comprehension	4	3,5,9,10
		Inferential comprehension	4	1,2,4,6
		Evaluative comprehension	2	7,8
	5-6	Literal comprehension	4	5,6,7,9
		Inferential comprehension	4	1,2,3,4
		Evaluative comprehension	2	8,10
7 and the whole novel	Literal comprehension	6	1,2,4,12,13,15	
	Inferential comprehension	6	3,6,7,8,11,14	
	Evaluative comprehension	3	5,9,10	

Post-reading questions (Unit 1-2)

Directions: Put “True” in front of the statement which is correct or “False” in front of the statement which is incorrect.

1. _____ Minty’s dad was alive.
2. _____ Minty’s mother ignored Minty’s words about the ghost.
3. _____ Kate was a teacher.
4. _____ Minty used to come to Aunt Mary’s house.
5. _____ Minty had the same taste of music as Aunt Mary.
6. _____ Minty met a boy who was a ghost.
7. _____ Minty traveled to the future.
8. _____ Minty should help others because she was the only one who has a sixth sense.

Directions : Choose the best answer to each of the following questions.

9. Where was the Moondial?
 - A. In the hospital.
 - B. In the room.
 - C. At the hall.
 - D. At the statue.
10. Was Kate a good mother?
 - A. Yes, because she took a very good care of Minty.
 - B. Yes, because she always listened to and agreed with Minty.
 - C. No, because she kept the secret about the ghost.
 - D. No, because she hurt Minty.

Post-reading questions (Unit 3-4)

Directions: Put “True” in front of the statement which is correct or “False” in front of the statement which is incorrect.

1. _____ Minty was from the village.
2. _____ Mrs. Crump was a mean person.
3. _____ Mrs. Crump was an employer.
4. _____ Minty found the way to help her mother.
5. _____ Miss Raven used to hurt Minty.
6. _____ Minty was rude that she didn't welcome Miss Raven.
7. _____ Minty escaped because she didn't want to stay at Aunt Mary's house anymore.
8. _____ Minty saw ghosts; they didn't have faces.

Directions : Choose the best answer to each of the following questions.

9. What made Minty so sure that she was in another century?

- A. The oldest horse.
- B. The horses and carriages.
- C. Tom told her so.
- D. She was here before.

10. The child who was singing was.....

- A. a girl called Sarah.
- B. Tom.
- C. Tom's sister, Dorrie.
- D. Minty.

Post-reading questions (Unit 5-6)

Directions: Put “True” in front of the statement which is correct or “False” in front of the statement which is incorrect.

1. _____ Minty lied to Miss Raven about the ghosts and a sundial.
2. _____ Tom was very lucky not to meet Miss Raven.
3. _____ Sarah had a birthmark on her knee.
4. _____ Miss Raven liked cats.
5. _____ Miss Raven found fault with Minty all the time.
6. _____ Minty planned carefully to save Tom from Miss Raven.
7. _____ Minty and Tom came to the red room the first time.
8. _____ Minty tried to say that Sarah wasn't a devil.
9. _____ Miss Vole should be called the devil because she kept threatening Sarah by telling _____ that she was a devil.
10. _____ Tom intentionally lied to Mary about his name.

Post-reading questions (Unit 7 and the whole novel)

Directions: Put “True” in front of the statement which is correct or “False” in front of the statement which is incorrect.

1. _____ Minty was a good girl because she helped people with no returns.
2. _____ Minty was very excited when she heard the word “Halloween”.
3. _____ Minty was shocked when she heard Miss Raven’s voice because it was as cold as Mrs. Crump’s.
4. _____ The village children threw stones at Sarah in the garden.
5. _____ Minty and Tom tried to prove that Sarah wasn’t a devil.
6. _____ Sarah was beautiful.
7. _____ The children Minty saved were back to their family.
8. _____ Mr. World was an honest man.
9. _____ Minty had a sixth sense.
10. _____ Miss Raven’s behavior shouldn’t be taken as a model.

Directions : Choose the best answer to each of the following questions.

11. Where did Tom and Minty meet Sarah?
 - A. At the room of mirror.
 - B. At the churchyard.
 - C. In the garden.
 - D. In the hospital.

12. Why did the shapes call Sarah a devil child?
- A. Because she had the blue cloak.
 - B. Because she had the birthmark.
 - C. Because she was so unkind to everyone.
 - D. Because she was so lazy to do housework.
13. What happened to Minty's mother at the end?
- A. She died in the hospital.
 - B. She recovered.
 - C. She knew that Minty was in danger.
 - D. She tried to help Minty.
14. What did Minty do?
- A. A student.
 - B. A nurse.
 - C. A servant.
 - D. A witch.
15. Which is true according to the story?
- A. Miss Raven was a ghost.
 - B. Mr. World was right about Minty.
 - C. Mary's mother always helped Minty.
 - D. Aunt Mary disliked Minty.

Post-reading question specifications

Novel	Unit	Levels of reading comprehension	No. of item	Item no.
		Literal comprehension	4	2,4,5,9
	1-2	Inferential comprehension	4	1,3,6,7
		Evaluative comprehension	2	8,10
		Literal comprehension	4	1,4,8,10
	3-4	Inferential comprehension	4	3,5,7,9
		Evaluative comprehension	2	2,6
Moondial		Literal comprehension	4	1,3,7,8
	5-6	Inferential comprehension	4	4,5,6,10
		Evaluative comprehension	2	2,9
	7 and the whole novel	Literal comprehension	6	2,3,4,5,6,11
		Inferential comprehension	6	7,9,12,13,14,15
		Evaluative comprehension	3	1,8,10

Appendix D
Questionnaire for the experimental group

Questionnaire on attitudes towards the use of reading logs

Objective: This questionnaire is designed to obtain information about students' attitude towards the use of reading logs. Please give all the information as best as you can. Your information will not affect your English grade.

Part 1: Attitudes towards the use of reading logs

Directions: Please put a tick (✓) in the column that represents your reaction to the statements and give reasons to explain your reaction in the last column.

Nos.	Statements	Agree	Disagree	Reason
1.	I feel happy when I write in my reading logs.			
2.	I read with purposes when I use reading logs.			
3.	Reading logs guide me to get the information in the story.			
4.	Reading logs help me to understand the main idea of the story.			
5.	Reading logs help me to think critically.			
6.	Reading logs help me to think creatively.			
7.	Reading logs motivate me to finish the novel.			
8.	Reading logs encourage me to read more.			
9.	Reading logs help me remember the story.			
10.	I will continue using reading logs when I read.			

Part 2: Comments and suggestions about the use of reading logs

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Papers

Paper 1

Rakana, U., & Teo, A. (in press). Effects of the use of reading logs on reading comprehension of Mattayomsuksa 5 students in Trang. *Proceedings of the 16th Sociology and Anthropology Graduate students Network Seminar, Naresuan University, Thailand.*

**Effects of the use of reading logs on reading comprehension of
Mattayomsuksa 5 students in Trang**

ผลของการใช้แบบบันทึกการอ่านต่อการอ่านเพื่อความเข้าใจของนักเรียน
ชั้นมัธยมศึกษาปีที่ 5 ในจังหวัดตรัง

Umaisee Rakana (1)

อุมัยซี รักษ์อาณา

Adisa Teo (2)

อดิสา เทียว

บทคัดย่อ

งานวิจัยนี้มีวัตถุประสงค์เพื่อเปรียบเทียบผลของการอ่านเพื่อความเข้าใจทั้งก่อนและหลังการใช้แบบบันทึกการอ่าน และเพื่อศึกษาทัศนคติของนักเรียนต่อการอ่านโดยใช้แบบบันทึกการอ่าน กลุ่มตัวอย่างคือนักเรียนจำนวน 44 คนที่กำลังศึกษาอยู่ชั้นมัธยมศึกษาปีที่ 5 โรงเรียนแห่งหนึ่งในจังหวัดตรัง ในภาคเรียนที่ 2 ปีการศึกษา 2559 เครื่องมือที่ใช้ประกอบด้วย แบบทดสอบวัดความสามารถการอ่านเพื่อความเข้าใจก่อนเรียน แบบบันทึกการอ่าน แบบทดสอบวัดความสามารถการอ่านเพื่อความเข้าใจหลังเรียน และ แบบสอบถามทัศนคติการใช้แบบบันทึกการอ่าน ข้อมูลที่ได้นำมาวิเคราะห์ทั้งเชิงปริมาณและเชิงคุณภาพ ข้อมูลจากแบบทดสอบวัดความสามารถในการอ่านเพื่อความเข้าใจก่อนและหลังเรียน คำนวณโดยใช้ค่าเฉลี่ย ค่าส่วนเบี่ยงเบนมาตรฐาน และค่าที่ ข้อมูลจากแบบสอบถามทัศนคติของนักเรียน คำนวณโดยใช้ค่าเฉลี่ย และเหตุผลสนับสนุนคำตอบของนักเรียนได้นำมาวิเคราะห์ด้วยเช่นกัน ผลการวิจัยพบว่า คะแนนทดสอบหลังเรียนของนักเรียนในการอ่านเพื่อความเข้าใจทั้งสามระดับ (ความเข้าใจระดับตัวอักษร ความเข้าใจระดับตีความ และความเข้าใจระดับการประเมินค่า) สูงกว่าคะแนนก่อนเรียนอย่างมีนัยสำคัญทางสถิติที่ระดับ 0.01 นอกจากนี้นักเรียนพอใจกับการใช้แบบบันทึกการอ่านและเห็นว่า แบบบันทึกการอ่านมีประโยชน์ ช่วยให้นักเรียนอ่านอย่างกระตือรือร้นและจดบันทึกได้อย่างอิสระ

คำสำคัญ: แบบบันทึกการอ่าน, การอ่านเพื่อความเข้าใจ, ทัศนคติ

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Abstract

This study aimed to find out whether there is a difference in reading comprehension of the students before and after using reading logs and their attitude towards the use of reading logs. The participants were 44 Mattayomsuksa 5 students in a secondary school in Trang. The study was conducted during the second semester of the academic year 2016. The instruments used were a pre-test, reading logs, a post-test, and a questionnaire on the students' attitude towards the use of reading logs. The data were quantitatively and qualitatively analyzed. The data from the pre- and post-tests were calculated using mean scores and compared using the t-test. The students' responses to the questionnaire were calculated using percentages and their reasons in support of the responses were also analyzed. In addition, the students' reading logs were analyzed for content concerning their reactions to the novels. The findings reveal that the students' post-test scores were significantly higher than their pre-test scores at 0.01 level and after the use of reading logs the students improved their reading comprehension at all three levels of comprehension: literal, inferential and evaluative. Moreover, the students were pleased with the use of reading logs and considered it useful. Reading logs enabled them to read actively and take their own notes freely.

Keywords: reading logs, reading comprehension, attitude

Introduction

English is an international language. It is a very important tool to communicate with people from all over the world. Many countries placed importance on English as the language their people should study because it provides a lot of chances for success in life. In every level of education in Thailand, English is a required foreign language course. Among the four skills of English, reading is considered one of the most important skills because it is an important tool to access any kind of information. The purpose of reading is to comprehend the meaning the writer tries to convey or to get the meaning from a text (Nuttall, 1996). Comprehending what readers are reading will make them acquire knowledge or achieve the goal of reading.

Teaching reading comprehension is commonly found in EFL classrooms. Effective teaching of reading comprehension tends to be a challenge for teachers due to many problems. First, students cannot interpret the meaning while reading. Second, a lot of teachers teach reading by translating texts for students making them passive (Malelohid, 2006). These teachers help students in an inappropriate way. Besides, Nuttall (1996) mentions that some English teachers do not know the process of teaching reading. As a result, students are not able to understand texts. The above problems may contribute to unsatisfactory O-NET (Ordinary National Education Test) score of grade 9 students. National Institute of Educational Testing Service claims that the O-NET score of grade 9 students in 2016 was higher than that in 2015, the average score of 31.80 was apparently lower than 50 percent (Matichon, 2017).

To help students become more successful in English reading, many studies tried to figure out strategies or techniques to improve their reading comprehension. Using reading logs is viewed as one technique to improve reading comprehension. Reading logs not only promote interaction between the reader and the text but also make the reader enjoy a piece of his/her own ideas and opinions.

Literature review

Reading comprehension

Reading is a receptive language process in which the reader uses strategies to create meaning from the text (Goodman, 1998). Reading comprehension refers to an ability of readers to get meaning from what they are reading and it requires the comprehending of meaning in written texts (Serafini, 2012). Suominenn & Wilson (2002), there are three levels of comprehension: literal, inferential and evaluative. Literal comprehension is the ability of readers to read within the lines. It is very simple because information is directly and explicitly stated in the text. Inferential comprehension is the ability of readers to read between the lines and make inferences about things not directly stated in the text. Evaluative comprehension requires readers to use some external criteria from their experience in order to evaluate the quality or values of the writing.

The reader response theory

The reader response theory has had a growing influence on English as a foreign language literature class (Carlisle, 2000). The theory views reading as an active process and puts emphasis on readers creating meaning of the text and actively constructing meaning as they interact with the text (Yilmaz, 2013). It is a kind of interaction which focuses on synthesis between the reader and the text. Reader response is the process of author-reader-text relating to each other and creating meaning through individual reading experience (Anderson, 2012; Pittman & Honchell, 2014). Many researchers (Amer, 2003; Carlisle, 2000; Lyutaya, 2011; Tucker, 2000) confirm that the reader response theory improves reading comprehension. Reading in this theory is a reflective process and it enables readers to be more meaningful and joyful in their reading. Furthermore, it encourages the readers to read actively and take their own notes freely.

Reading logs

Using reading logs is a technique based on the reader response theory. Reading logs are pieces of paper where readers can freely express their ideas and opinions. They are a direct and simple tool to record readers' responses when their reading is over (Yilmaz, 2013). Reading logs are considered a tool which enhances readers' comprehension. They help readers to work through their understandings and interpretations of the text. Reading logs do not only involve readers with the text but also make them have a clearer understanding of it.

Since reading logs offer many benefits in English language classrooms, this study aimed to find out whether there is a difference in reading comprehension of the students before and after using reading logs and their attitude towards the use of reading logs.

Research methodology

Participants

Forty-four Mattayomsuksa 5 students of science-mathematics program in a secondary school in Trang were selected by purposive sampling. They were enrolled in

the English Reading and Writing class in the second semester of the academic year 2016. Their age was between 16-18 years old.

Instruments and procedures

The study was conducted in 14 weeks from November 2016 until February 2017. In the first week, the pre-test was administered to the students. From the second week until the thirteenth week, the students were exposed to the use of reading logs. In the last week, the post-test and the questionnaire were respectively administered to the students.

The pre- and post-tests focused on reading comprehension. It consisted of three texts of approximately 300-500 words with 30 multiple choice questions in total (10 questions for each text). The questions were designed to assess the students' three levels of reading comprehension, namely literal (12 questions), inferential (12 questions) and evaluative (6 questions). The test was checked for validity and reliability by three experts in the field and then revised as suggested. The test was piloted with thirty Mattayomsuksa 5 students who had similar backgrounds and English grades to those of the participants in the study. The reliability of the test was 0.85.

Three novels of pre-intermediate level selected for this study were *The Card*, *Goldfish* and *Moondial*. The translation of these novels in Thai is not available. All of them contain morals. Each novel consists of seven chapters. Every four weeks, the students were assigned to read one novel. In each of the first three weeks, the students read two chapters and wrote in the reading log about the two chapters. In the fourth week, the students read the last chapter and wrote in the reading log about the chapter and the whole novel. The students were allowed to write in Thai or in English to ensure the language would not limit their thinking and they feel free to express themselves in the reading logs. These novels and the writing of 12 reading logs were assigned as out of class activity. The reading logs were assigned on Mondays and collected on Fridays. They were evaluated only for completion and grammatical errors were ignored. After finishing each novel, the students and the teacher discussed it in class. Altogether, the students spent 12 weeks on reading three novels and writing 12 reading logs.

The reading logs of the first three weeks consisted of five topics: 1) the summary of the chapter(s) the students read, 2) lessons the students learned from the story, 3) the part of the story the students think was the best and their reasons to support their judgment, 4) the relevance of the story to the students' life, and 5) the students' prediction of the following chapter(s). The first topic aims at promoting literal comprehension; the second and the fifth, inferential comprehension; and the third and the fourth, evaluative comprehension.

In the fourth week, the students obtained a different format of reading logs. The first page consists of four topics similar to the first four topics in the reading logs of the first three weeks. The second page of the reading logs concerned the students' overall comprehension of the novel. There was only one topic with three sub-topics: 1) the summary of the whole novel, 2) the moral of the story, and 3) the part the students like the most and their reasons to support their judgments. These three sub-topics promote all three levels of reading comprehension: literal, inferential and evaluative respectively.

A questionnaire was designed by the researcher to elicit the attitudes of the experimental group towards the use of reading logs. It consisted of two parts. The first part contained 10 statements about the satisfaction and the usefulness of the reading logs. The students were asked to choose whether they agree with these statements and provide the reasons. The second part was open-ended. It elicited their comments and suggestions about the use of reading logs.

The data collection procedures of the study are summarized in Table 1.

Table 1 Data collection procedures

Week	Novel	Procedures	
1		Pre-test	
2		Chapter 1,2	Reading log 1
3	Novel 1 The Card	Chapter 3,4	Reading log 2
4		Chapter 5,6	Reading log 3
5		Chapter 7	Reading log 4
6		Chapter 1,2	Reading log 5
7	Novel 2 Goldfish	Chapter 3,4	Reading log 6
8		Chapter 5,6	Reading log 7
9		Chapter 7	Reading log 8

Week	Novel	Procedures	
10		Chapter 1,2	Reading log 9
11	Novel 3 Moondial	Chapter 3,4	Reading log 10
12		Chapter 5,6	Reading log 11
13		Chapter 7	Reading log 12
14	Post-test and questionnaire		

Data analysis

The pre- and post-test scores of the students' reading comprehension were calculated using the mean scores and compared using the t-test. The students' responses to the questionnaire were calculated using percentages and the reasons they mentioned in the questionnaire were also analyzed. In addition, the students' reading logs were analyzed for content concerning their reactions to the novels. These qualitative data were used to support the quantitative data.

Findings

The students' reading comprehension after the use of reading logs

The students' mean scores of the pre- and post-tests were compared using the paired samples t- test. The findings are presented in Table 2.

Table 2 Students' pre-and post-test scores on reading comprehension

	Total	Mean	SD	t-value
Pre-test	30	13.75	4.64	12.213**
Post-test	30	23.02	3.62	

** Significant at 0.01

Table 2 shows that the pre- and post-test mean scores of the students were significantly different at 0.01 level. The mean score of the students' reading comprehension increased from 13.75 in the pre-test to 23.02 in the post-test showing that the students' reading comprehension significantly improved after the use of reading logs.

Further analysis shows that the students' reading comprehension improved at all three levels. The data are presented in Table 3.

Table 3 Students' pre- and post-test scores on three levels of reading comprehension

Level of reading comprehension	No.	Pre-test		Post-test		Mean difference	t-value
		Mean	SD	Mean	SD		
Literal	1	.48	.51	.84	.37	.36	4.200**
	2	.11	.32	.80	.41	.68	9.599**
	3	.59	.50	.91	.29	.32	3.304**
	4	.20	.41	.84	.37	.64	7.931**
	11	.50	.51	.89	.32	.39	4.146**
	12	.34	.48	.98	.15	.64	8.675**
	13	.14	.35	.89	.32	.75	11.358**
	17	.23	.42	.84	.37	.61	8.264**
	24	.73	.45	.95	.21	.23	3.170**
	25	.23	.42	.91	.29	.68	9.599**
	26	.66	.48	.89	.32	.23	2.668**
	27	.59	.50	.89	.32	.30	2.936**
	Inferential	5	.86	.35	.93	.25	.07
6		.36	.49	.84	.37	.48	5.763**
8		.50	.51	.98	.15	.48	5.763**
10		.52	.51	.89	.32	.36	4.200**
14		.39	.49	.84	.37	.45	4.808**
15		.73	.45	.18	.39	-.55	-6.145**
16		.30	.46	.86	.35	.57	6.030**
19		.11	.32	.14	.35	.02	.374
21		.43	.50	.18	.39	-.25	-2.698**
22		.75	.44	.91	.29	.16	2.201*
23		.39	.49	.93	.25	.55	7.183**
29		.66	.48	.95	.21	.30	3.847**
Evaluative	7	.70	.46	.93	.25	.23	2.668**
	9	.48	.51	.84	.37	.36	4.200**
	18	.11	.32	.14	.35	.02	.298
	20	.50	.51	.89	.32	.39	4.146**
	28	.70	.46	.84	.37	.14	1.634
	30	.45	.50	.14	.35	-.32	-4.073**

*significant at 0.05 **significant at 0.01

Table 3 shows that there was a significant difference between the pre- post-test scores in 26 out of 30 questions. Out of the 26 questions, all the differences except one (question 22) were at a significance level of 0.01 and the post-test scores of 23 questions were significantly higher than those of the pre-test. However, there were three questions

in which the students' pre-test scores were significantly higher than those of the post-test.

For literal comprehension, the findings reveal a significant difference in the students' pre-test and post-test scores in all questions. This means that the students' ability to answer literal comprehension questions significantly increased after the use of reading logs. In the reading logs the students were required to summarize what they had read. A closer look at the students' reading logs shows that at the beginning most of the students summarized the novel incompletely and incorrectly. However, in their final logs they could summarize the whole novel precisely, completely and correctly. For instance, S1 wrote in his first log on Novel 1 "Denry wanted to go to the dance because he wanted to see the countess" which reflects his misunderstanding of the story. In his fourth log however he wrote "Denry wanted to go to the dance because he thought it would be a good chance for him" showing that he summarized the whole novel with a clearer understanding. It was clear that after S1 read the whole novel, his understanding of the story changed and he summarized it correctly. The above example illustrates that summarizing the novel every week helped improve the students' literal comprehension and this explains why the students did better in their post-test.

For inferential comprehension, the finding shows that there was a significant difference in the students' pre- and post-test scores in 10 out of 12 questions. There were eight questions in which the post-test scores were higher than those of the pre-test meaning that the students' ability to answer inferential questions significantly improved after the use of reading logs. It might be because in the reading logs the students had to answer the topic 'lessons they have learned from the story' and 'their prediction of the following chapters' which required them to make inferences about things not directly stated in the novel and draw a conclusion. As S7 noted in his ninth log of the third novel 'we should show our respect to the elderly by using the gesture of wai' which he linked to his Thai culture and S4 noted 'we should have a good manner and be polite to others' (Log 10, Novel 3). It should be emphasized that these statements did not appear in the novel but the students made their own conclusions. By writing in the reading logs, the students gained experience in inferential comprehension and applied it to their post-test. Consequently, their scores were higher than those in the pre-test. However, it

should be noted that there were two questions (15 and 21) eliciting inferential comprehension in which the students' pre-test scores were significantly higher than their post-test scores. Probably, these two questions were difficult for the students. For example, item 21 was 'We can compare the tree to...' and the choices were A) parents B) children C) money and D) ambition.

For evaluative comprehension, the finding shows that there was a significant difference in the students' pre- and post-test scores in four out of six questions. This means that the students' ability to answer evaluative comprehension questions significantly increased after the use of reading logs. The students were required to analyze what they had read and form an opinion based on the information given and their prior knowledge by responding to two topics in the logs: the part of the story they think was the best and the relevance of the story to their life. A closer examination of the students' reading logs shows that they were able to judge the characters' action. For example, S2 wrote 'Denry is genius and funny; this made him become a mayor of the town' (Log 4, Novel 1). S6 noted 'Minty tried to help Sarah because she is a good person' (Log 10, Novel 3). Some students were able to judge the whole novel as can be seen in S43's writing 'A story of the pearls is interesting and exciting to follow' (Log 8, Novel 2). These topics provided in the reading logs enabled the students to think critically and apply this experience of evaluative comprehension to their post-test. As a result, they obtained a significantly higher score in their post-test. Nevertheless, there was one question, question 30, in which the students' pre-test score was higher than that of the post-test. The question was 'What is the moral of the story?' and the choices were A) Learn to be thankful B) Forget what you got C) Build a castle in the air and D) Let bygones be bygones. It might be the case that the students were unfamiliar with the proverbs in the choices. Consequently, they did not answer the question correctly.

Based on the above findings, it can be concluded that the reading logs could enrich the students' reading comprehension at all three levels of comprehension: literal, inferential and evaluative.

The students' attitude towards the use of reading logs

The students' responses to the questionnaire eliciting their attitude towards the use of reading logs were calculated using percentages. The findings are presented in Table 4

Table 4 Students' attitude towards the use of reading logs

No.	Statement	Number of responses (%)	
		Agree	Disagree
1.	I feel happy when I write in my reading logs.	38 (86.36%)	6 (13.64%)
2.	I read with purposes when I use reading logs.	38 (86.36%)	6 (13.64%)
3.	Reading logs guide me to pick the information in the story.	40 (90.91%)	4 (9.09%)
4.	Reading logs help me to understand the main idea of the story.	38 (86.36%)	6 (13.64%)
5.	Reading logs help me to think critically.	35 (79.55%)	9 (20.45%)
6.	Reading logs help me to think creatively.	39 (88.64%)	7 (11.36%)
7.	Reading logs motivate me to finish the novel.	35 (79.55%)	9 (20.45%)
8.	Reading logs encourage me to read more.	31 (70.45%)	13 (29.55%)
9.	Reading logs help me to remember the story.	36 (81.82%)	8 (18.18%)
10.	I will continue using reading logs when I read.	36 (81.82%)	8 (18.18%)

Overall, the findings show that most of the students ranging from 70.45% to 90.91% agree with every statement of the questionnaire indicating that they have positive attitude towards the use of reading logs.

The highest percentage of the students (90.91%) agreed with the statement 'Reading logs guide me to pick the information in the story'. Most of the students explained that the reading logs make them understand the story more. A closer look at the students' writing of the story summary in their reading logs found that some of them misunderstood the story in their first log. However, when they summarized the whole story in their last log, they seemed to understand it clearly. The students' reading logs, therefore, provide support for the reasons they provided.

Most students, 88.64%, agreed that reading logs help them to think creatively. The students mentioned that reading logs allow them to think of something new and

create their imagination. The following quotes from the students' reading logs illustrate that they think freely and creatively:

'Denry's action will not make him successful' (S13, Log 1, Novel 1).

'If Denry still lies to others, he will not be trusted by anyone' (S41, Log 3, Novel 1).

'Don't trust anyone easily' (S28, Log 8, Novel 2).

The students (86.36%) agreed that they felt happy when they wrote in their reading logs; they read with purposes when they used reading logs; and reading logs helped them to understand the main idea of the story.

According to the students, they feel happy when they write in their reading logs because they enjoy reading and reading logs make them love writing. Their happiness in reading and writing in their logs can be seen through S30 who noted 'I like the scene that Sype hid the pearl in the goldfish because he is clever' (Log 8, Novel 2) and S34 who wrote 'Minty gave the mirror to Sarah because she made Sarah happy and I am happy for her' (Log 12, Novel 3).

The students provided many reasons for their agreement with the statement 'I read with purposes when I use reading logs'. They stated reading logs are useful for them because they provided the topics which they needed to read and get the information to write on. Therefore, topics in the reading logs guided them and made them read with purposes in order to get the information and write in their reading logs.

Regarding the third statement, 'Reading logs help me to understand the main idea of the story', the students mentioned that even though the reading was hard and complicated the reading logs made the story easier to understand and remember. The students' logs indicate that when the students summarized the story, they got the main idea and wrote in their logs clearly. The finding of this study supports Lyutaya (2011) who found that students understand texts deeply when reading is combined with a writing task as in reading logs.

Among the students 81.82% agreed that reading logs can help them to remember the story and they will continue using reading logs when they read. Summarizing and

writing in their reading logs helped them to understand the story more than without reading logs. Consequently, they like to apply it when they read other texts in their daily life.

A high number of students (79.55%) agreed that reading logs can help them to think critically because reading logs allow them to think more and they get the idea faster. For example, in their logs S37 mentioned “I will be happy if I make others happy” (Log 12, Novel 3) and S42 wrote “I will only follow Denry’s good action” (Log 4, Novel 1). These examples show that the students thought beyond the story and they related the story to their feelings. It can be seen that the students can think critically by judging the situations and characters in the story and link the story to their own feelings.

Similar percentages of the students (79.55%) agreed that reading logs motivate them because they keep them focus on the task. Most of them mentioned that they wanted to focus on and finish the novel in order to get the information to write.

The students (70.45%) agreed that reading logs encourage them to read more. This can be seen in the reading logs of S9, who noted “When Carmady kept the key and ran away, I cheered him up and wanted to know if he can run away, it was really excited and I felt like I was there” (Log 7, Novel 2). This finding supports Husrt (2005) and Starcher and Profitt (2011), who found that applying reading logs in class encourages students to read more than they would have without reading logs.

Analysis of the data from the open-ended part of the questionnaire reveals that the use of reading logs brought about the students’ enjoyment and engagement in their reading of the novels.

The students’ enjoyment in reading the novels can be illustrated by comments made by S40 who wrote ‘I like the part that Denry wrote a report to Signal; it seemed like Denry could always make money’ (Log 2, Novel 1) and S17 who wrote ‘I am excited when Miss Raven said she will take pictures of ghosts’ (Log 10, Novel 3).

The following quotes from the students’ reading logs show that the students played a part in the stories and took adventure with the characters:

‘A woman pointed the gun and I felt like I was in the situation’ (S19, Log 7, Novel 2).

‘Cathy knew where Sype was and continued searching for the pearls because it was exciting and I wanted to know what was going to happen’ (S17, Log 5, Novel 2).

‘When I read the scene that Denry was in the Sneydhall, I felt like I was in that place’ (S14, Log 3, Novel 1).

Although many of the students in this study enjoyed and engaged in their reading of the novels, they suggested that the novels should be shorter because they were difficult and the time was too short.

Conclusions

This study found that the use of reading logs significantly improved the students’ reading comprehension, both overall and at each level of comprehension: literal, inferential and evaluative. In addition, the students’ literal comprehension showed the greatest improvement among the three levels of comprehension. Most of the notes the students wrote in their reading logs show that they gradually improved in terms of their comprehension of the novels and their feeling towards the characters in the novels indicating they were engaged in an active process called reader-response which allows them to create their own meaning through their own experiences (Anderson, 2012; Pittman & Honchell, 2014). The findings of this study are similar to those of Lyutaya (2011), Muangpruan (2010), and Janthong (2010). It can be concluded that the reading logs improved the students’ reading comprehension and enabled them to understand the novels deeply. Moreover, they encouraged the students to read actively and take their own notes freely.

Regarding the students’ attitude towards the use of reading logs, the study found that the students were pleased with the use of reading logs as a tool to reflect on what they are reading. Our findings complement those of Jeanne and Currier (2013), Carlisle (2000) and Delarriva and Basabe (2015) that many students were favorable for the use of reading logs. The findings of this study show that reading novels coupled with the use of reading logs involved the students in the story. Besides, the students enjoyed

expressing their ideas, feelings and opinions in their reading logs. It can be concluded that the reading logs could engage the students in reading the novels, enabled them to understand and remember the novels easily, and made them enjoy reading.

Pedagogical implications

This study provides relevant and useful information for teachers on the use of reading logs to teach reading comprehension in English language classrooms. The findings reveal that reading logs could help the students gain a clearer understanding of the novels and enjoy expressing themselves freely. Therefore, reading logs can serve as a beneficial alternative to promote students' reading comprehension as an out of class activity. Although the attitude of the students in this study towards the use of reading logs was found positive, some of them commented that the novels were too long and the time was too short. Teachers can handle this problem in several ways. For example, they can reduce the number of units for weekly reading assignments. Teachers may use shorter novels. Lastly, they can assign novel reading and writing of reading logs as a semester break homework.

Recommendations for further study

This study was restricted to a small group of Mattayomsuksa 5 students (grade 11th) in a secondary school in Trang. The findings may not be generalizable to students in different levels and areas. Other genres such as expository and argumentative texts can be explored. Reading novels combined with the writing task in reading logs were too much for students to complete each week. Therefore, further study may provide more time or reduce the number of units or pages assigned each week. An interview with students after the use of reading logs in order to get in depth information can be employed.

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Paper 2

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Can reading logs promote grade 11 students' reading comprehension?

Abstract

The purpose of this study was to investigate whether there is a difference in reading comprehension between the group using reading logs and the group using post-reading questions. The participants were 88 grade 11 students enrolled in English reading and writing class in a secondary school in Trang. They were 44 in an experimental group with the use of reading logs and 44 in a control group with the use of post-reading questions. The study was conducted for 14 weeks in the second semester of the academic year 2016. The instruments used in this study were a pre-test, reading logs, and a post-test. The pre- and post-test scores of the experimental and the control groups were calculated using the mean scores and compared using the t-test. The findings revealed that the experimental and the control groups did noticeably better in the post-test than in the pre-test and their pre- and post-test scores are significantly different at 0.01 level. However, the mean differences between the pre- and post-test scores of the experimental group was significantly greater than that of the control group at 0.01 level. This indicates that although both reading logs and post-reading questions can improve the students' reading comprehension, the former can do so to a greater extent than the latter overall and particularly in literal comprehension.

Keywords: Reading comprehension, reading logs, reading novels

Introduction

English is a very important tool to communicate with people from all over the world. Especially in the context of the ASEAN community, English gains top priority because it is a working language in the ASEAN countries. Many countries placed

importance on English as the language their people should study because it provides a lot of chances for success in life. In every level of education in Thailand, English is a foreign language which learners need to learn. English has been taught since kindergarten to university. According to the latest English curriculum, Thai students are required to study English from grade 1 to 12 (Ministry of Education, 2008).

Reading is an important skill for learning (An, 2013) and it is considered as the basis of other skills. Furthermore, reading skill is critical for ASEAN citizen because soon many kinds of documents used among people in ASEAN will be written in English. Therefore, reading is necessary for people in every age in order to get information or acquire knowledge from texts, and any kinds of materials. However, reading has become a serious problem in Thailand because Thai students at all educational levels are poor in reading because they are not understand what they read (Deemea, 2016).

Many researchers define reading in many ways. Nuttall (1996) defines reading as a process that the readers tries to get meaning from the written text. Liu (2010) defines reading as a process involving the reader and the text. It is a process in which the reader tries to make or to interpret the meaning from the written text (Anderson & Nunan, 2008, Liu, 2010, and Mosenthal & Pearson, 2000) and in doing so they need the ability to decode the text for their own understanding. There are three models of reading: the bottom-up, the top-down and the interactive models. The bottom-up model refers to the reading process which moves from letters and sounds called lower level to meaning which is higher level (Rude and Oehlkers,1984). The top-down model refers to the reading process which moves from meaning which is higher level to letters and

sounds called lower level. The reader brings the experience they have to the process of reading. Interactive model refers to the reading process which involves both letters which is lower level and meaning which is higher level to comprehend the text. The interactive model requires readers to use both the top-down and the bottom-up model at the same time.

Reading comprehension refers to an ability or capability of readers to get meaning from what they are reading and it requires the comprehending of meaning in written texts (Serafini, 2012). Reading comprehension is an intentional, active, and interactive process that occurs before, during and after a person reads a particular piece of writing. When readers understand the texts, they will be able to conclude the main ideas and be able to tell details. Reading comprehension occurs when readers engage in a complex cognitive process and they try to make meaning. Three levels of comprehension which are literal, inferential and evaluative encourage readers to focus on information, discover the point and opinion of the text and apply information to their real life (Suominen & Wilson, 2002). Literal comprehension is very simple because information is directly and explicitly stated in the text. The text gives the information to readers by explicitly stating fact. Inferential comprehension occurs when information is not explicitly stated in the passage and deeper understanding is required in order to draw a conclusion from the text. Evaluative comprehension is the process of comparing the information with the readers' prior knowledge. Readers must analyze what they have read and form an opinion based on the information given in the text.

Reader-response is accepted as an effective process of interactive model which could improve students' reading comprehension. It involves readers in an active process

and makes them become critical readers who are capable of determining the meaning of the text. According to Tucker (2000), reader-response theory will make readers understand what they read and enable them to write a variety of responses. It encourages readers to interpret or make meaning of the text by using their own experience, thoughts, background knowledge, cultural and reading context (Anderson, 2012). Rosenblatt (1995) stated that readers connect their own experience and the text while they are reading which makes them understand the text they read deeply.

To improve students' reading comprehension, there are many effective ways that teachers try to apply in their classrooms and reading logs are viewed as a beneficial tool to enhance students' reading comprehension. Reading logs have been used to apply the reader-response theory in EFL classrooms (Yilmaz, 2013). The format of reading logs depends on the instructors. Generally, it includes topics for readers to fill out information and give their own opinions, experiences, and so on such as characters' names, total number of pages, title of the story, setting, summary, problem and etc. Since the use of reading logs not only engages readers with the text but also enhances their reading comprehension and allows them to have deep understanding, reading logs are considered critical in the development of reading comprehension.

Therefore, to explore the development of reading comprehension by using reading logs in reading and writing class, this study investigated whether there is a difference in reading comprehension between the group using reading logs and the group using post-reading questions.

Research methodology

Participants

The participants of this study were 88 grade 11 students in a secondary school in Trang. They were selected by purposive sampling. They were from two classes of the science-mathematics program and they were enrolled in English reading and writing class in the second semester of the academic year 2016. Their grades in the English reading and writing subject of the first semester were similar. They were divided into two groups: experimental group and control group. Each group consisted of 44 students. The experimental group was asked to read novels and write in the reading logs. The control group was required to read the same novels as the experimental group, and they were asked to respond to the post-reading questions. The two groups were taught by the same teacher.

Instruments and procedures

To assess students' reading comprehension, the pre- and post-test were administered to both experimental and control groups before and after the experiment. The reading comprehension test constructed by the researcher consisted of three different texts of approximately 300-500 words. They were chosen from the internet and 30 multiple choice questions (10 questions for each text) assessed 3 levels of comprehension: literal (12 questions), inferential (12 questions), and evaluative (6 questions). To ensure the content validity and the reliability, the test was checked by three experts in the field and then revised as suggested. The test was piloted on a group of Grade 11 students in a different school in Trang in the academic year 2016. This group of students had similar background to the participants of the main study in terms of their program of study, age, and English grade. The reliability of the test was 0.854.

After reviewing several novels, three novels were chosen based on the level of the students in both groups. The Card, Goldfish and Moondial consisted of the same number of chapters (7 chapters) and they have no translation in Thai. These novels were all pre-intermediate level and all of them contain morals.

The reading logs were designed by the researcher. In the first week, reading logs consisted of 5 topics: 1) the summary of the chapter(s) the students read, 2) lessons they learned from the story, 3) the part of the story they think was the best and their reasons to support their judgment, 4) the relevance of the story to their life, and 5) their prediction of the following chapter(s). The first topic promotes students' literal comprehension because they need to use the information stated in the story to summarize the chapter(s). The second and the fifth topics promote the students' inferential comprehension because they need to make inferences about things not directly stated in the text and to draw a conclusion based on the information given in the story. The third and the fourth topics promote the students' evaluative comprehension because they need to analyze what they have read and form an opinion based on the information given and their prior knowledge.

As an additional note, in the fourth week, the students received a different format of reading logs. The first page consisted of four topics: 1) the summary of the chapter the students read, 2) lessons they learned from the story, 3) the part of the story they think was the best and their reasons to support their judgment, 4) the relevance of the story to their life. The second page of the reading logs concerned the students' overall comprehension of the novel. There was only one topic with three sub-topics which cover all three levels of reading comprehension: 1) the summary of the whole

novel, 2) the moral of the story, and 3) the part they like the most. These three sub-topics promote students three levels of comprehension respectively which are literal, inferential and evaluative.

The first novel was given to the experimental group in the second week. Each novel were assigned to read in four weeks. These novels and 12 reading logs which covered three levels of comprehension: literal, inferential, and evaluative were assigned as out of class during a period of three months in the second semester of the academic year 2016. Every four weeks, the students were assigned to read one novel. In each of the first three weeks, the students read two chapters and write in the reading log about the chapters they read. In the fourth week, the students read the last chapter and write in the reading log about the chapter and the whole novel. The students were allowed to write in Thai or in English to make sure that the language would not limit their thinking and they feel comfortable and free to express themselves in the reading logs. Reading logs were collected and checked for completion, grammatical errors were ignored. Incomplete reading logs were returned to the students. After reading each novel, the students and teacher discussed it in class.

For the control group the novels were given as in the experimental group. However, they were not assigned to write in the reading logs. Instead, they were asked to answer the post-reading questions. The post-reading questions were true or false questions and multiple choice questions. They covered three levels of comprehension: literal, inferential, and evaluative. In each of the first three weeks, the students read two chapters and answered 10 post-reading questions about the chapters they read. In the fourth week, the students read the last chapter and answer 15 post-reading questions

about the chapter and the whole novel. Students were given the feedback on their answers to the post-reading questions after they finished each novel.

To sum up, the data collection procedures of the study were shown in Table 1.

Table 1 Data collection procedures

Week	Both groups	Experimental group	Control group	
1		Pre-test		
2		Chapter 1,2	Reading log 1	Questions of Chapter 1,2 (10 items)
3	Novel 1	Chapter 3,4	Reading log 2	Questions of Chapter 3,4 (10 items)
4	The Card	Chapter 5,6	Reading log 3	Questions of Chapter 5,6 (10 items)
5		Chapter 7	Reading log 4	Questions of Chapter 7 and the whole novel (15 items)
6		Chapter 1,2	Reading log 5	Questions of Chapter 1,2 (10 items)
7	Novel 2	Chapter 3,4	Reading log 6	Questions of Chapter 3,4 (10 items)
8	Goldfish	Chapter 5,6	Reading log 7	Questions of Chapter 5,6 (10 items)
9		Chapter 7	Reading log 8	Questions of Chapter 7 and the whole novel (15 items)
10		Chapter 1,2	Reading log 9	Questions of Chapter 1,2 (10 items)
11	Novel 3	Chapter 3,4	Reading log 10	Questions of Chapter 3,4 (10 items)
12	Moondial	Chapter 5,6	Reading log 11	Questions of Chapter 5,6 (10 items)
13		Chapter 7	Reading log 12	Questions of Chapter 7 and the whole novel (15 items)
14		Post-test		

Data analysis

The pre- and post-test scores of the experimental and the control groups were calculated using the mean scores and compared using the t-test.

Findings

Overall reading comprehension

The pre- and post-test scores of the students in the experimental and the control groups were compared using the paired samples t-test to determine whether there was any difference in the students' reading comprehension between groups. The findings are presented in Table 2.

Table 2 Pre- and post-test scores of the experimental and the control groups

Group	Total	Test	Mean	SD	t-value
Experimental	30	Pre-test	13.75	4.64	12.213**
		Post-test	23.02	3.62	
Control		Pre-test	10.50	3.34	8.978**
		Post-test	15.41	2.02	

**Significant at 0.01

According to Table 2, the pre-test score of the experimental group was 13.75 and their post-test score was 23.02. At the same time the pre- and post-test score of the control group was 10.50 and 15.41 respectively. The findings show that both groups did noticeably better in the post-test than in the pre-test and their pre- and post-test scores were significantly different at 0.01 level. It can be said that students in both

groups significantly improved their reading comprehension although they were given different treatments (reading logs for the experimental group and post-reading questions for the control group).

To further explore the extent of difference in reading comprehension between the experimental and the control groups, the mean differences between their pre- and post-test scores were compared. The findings are shown in Table 3.

Table 3 Mean differences between the pre- and post-test scores of the experimental and the control groups

Group	Total	Test	Mean	SD	Mean difference	t-value
Experimental	30	Pre-test	13.75	4.64	9.27	4.667**
		Post-test	23.02	3.62		
Control		Pre-test	10.50	3.34	4.91	
		Post-test	15.41	2.02		

**Significant at 0.01

Table 3 shows that the reading comprehension mean score of the experimental group increased from 13.75 in the pre-test to 23.02 in the post-test resulting in the mean difference of 9.27 between the pre- and post-test scores. Meanwhile, the reading comprehension mean score of the control group increased from 10.50 in the pre-test to 15.41 in the post-test leading to the mean difference of 4.91 between the pre- and post-test scores. When the mean differences between the pre- and post-test scores of the experimental and the control groups were compared, it was found that the mean difference between the pre- and post-test scores of the experimental group was

significantly greater than that of the control group at 0.01 level. This indicates that although both reading novels together with the use of reading logs and reading novels along with post-reading questions could improve the students' overall reading comprehension, the former could do so to a greater extent than the latter.

The fact that the use of reading logs could enrich the students' understanding of the narrative text and improve their reading comprehension to a greater extent than reading novels along with post-reading questions is probably because reading logs made the students become active readers and the process of writing combined with reading contributed to interactive reading. The process of writing enabled the students to analyze the pieces of information they read and allowed them to engage in reading the novels. Reflecting on the reading logs every week, the students had a chance to practice their comprehending. As a result, there was an increase of 9.27 in reading comprehension post-test score of the experimental group which was almost two times as many as that of the control group.

Three levels of reading comprehension

To shed more light on the effects of reading logs and post-reading questions on reading comprehension, further analysis of the mean difference between the pre- and post-test scores of the experimental and the control groups in terms of levels of comprehension was carried out. The findings are presented in Table 4.

Table 4 Comparison of mean differences between the pre- and post-test scores of the experimental and the control groups in three levels of comprehension

Level of comprehension	No.	Mean difference between		SD		T-value
		the pre- and post-test scores		Experimental	Control	
		Experimental	Control			
		group	group	group	group	
Literal	1	.36	.30	.57	.46	.614
	2	.68	.09	.47	.29	7.079**
	3	.32	-.30	.64	.55	4.817**
	4	.64	.00	.53	.61	5.214**
	11	.39	.43	.62	.55	-.366
	12	.64	.48	.49	.59	1.380
	13	.75	-.16	.44	.53	8.812**
	17	.61	-.11	.49	.49	6.926**
	24	.23	.61	.48	.49	-3.743**
	25	.68	.89	.47	.32	-2.380**
	26	.23	-.39	.57	.62	4.860**
	27	.30	-.07	.67	.45	2.992**
	Total		5.82	1.77	2.95	2.38
	5	.07	.05	.40	.48	.242
	6	.48	-.23	.55	.60	5.720**
	8	.48	.43	.55	.50	.406
	10	.36	-.18	.57	.54	4.589**
	14	.45	-.20	.63	.55	5.228**
	15	-.55	.45	.59	.63	-7.711**

Inferential	16	.57	-.18	.62	.66	5.488**
	19	.02	-.14	.40	.41	1.839
	21	-.25	.59	.61	.59	-6.582**
	22	.16	.34	.48	.57	-1.622
	23	.55	.55	.50	.59	.000
	29	.30	.64	.51	.53	-3.069**
	Total		2.64	2.11	2.08	2.10
Evaluative	7	.23	.25	.57	.44	-.211
	9	.36	.59	.57	.54	-1.909
	18	.02	.05	.51	.21	-.275
	20	.39	-.20	.62	.63	4.435**
	28	.14	.41	.55	.62	-2.172*
	30	-.32	-.07	.52	.40	-2.539**
	Total		0.82	1.02	1.47	1.15
Overall comprehension		9.27	4.91	5.04	3.63	4.664**

* Significant at 0.05 ** Significant at 0.01

As presented earlier, the mean difference between the pre- and post-test scores of the experimental group was significantly greater than that of the control groups indicating that reading novels together with the use of reading logs could improve the students' overall reading comprehension significantly more than reading novels along with post-reading questions. Table 4 delineates the mean differences between the pre- and post-test scores of the experimental and the control groups in terms of three levels of comprehension. It can be seen that the mean differences between the pre- and post-

test scores on literal, inferential, and evaluative comprehension of the experimental group were 5.82, 2.64, and 0.82 respectively while those of the control group were 1.77, 2.11, and 1.02 respectively. When these mean differences between the pre- and post-test scores of both groups were further analyzed, it was found that the experimental group shows a greater improvement in literal comprehension than the control group at a significant level of 0.01. The mean differences between the pre- and post-test scores on inferential and evaluation comprehension of the experimental and the control groups were, however, not significant.

That there was a significant difference at a 0.01 level in the mean differences between the pre- and post-test scores on literal comprehension of the experimental and the control groups can be explained that the students in the experimental group wrote a summary of the novel every week which required them to make conclusions based on their understood of the story and by writing every week they understand the novel clearly. It can be seen that reading logs allowed students to pay attention to the important information and details of the novel. Therefore, the students in the experimental group did better in their post-test on literal comprehension.

Conclusions

This study found that the use of reading logs significantly improved the students' overall comprehension. In particular, the students' literal comprehension showed the greatest improvement among the three levels of comprehension. This is because reading logs make the students become active readers by reading and creating meaning to write in the reading logs (Anderson, 2012 & Yilmaz, 2013). The findings of this study are in line with those studies by Lyutaya (2011) and Janthong (2011).

However, it was also found that reading logs did not help the students much in inferential and evaluative comprehension. Therefore, the findings of this study may imply that reading logs could be an effective tool to improve reading comprehension in literal level. Moreover, they engaged the students with the novel and encouraged them to take their own notes freely. As the experimental group wrote the reading logs every week, their reading comprehension improved to a greater extent than those in the control group. It should be pointed out that this study also showed that the use of post-reading questions could also improve the students' overall comprehension. However, the improvement of the students in the control group was less than that of the experimental group.

Pedagogical implications

This study provided useful information for teachers on the use of reading logs and post-reading questions to teach reading comprehension in English reading and writing class. The findings showed that the reading logs could develop the students' overall comprehension with the greatest improvement in literal level. To employ reading logs, it is advisable that the teacher should provide the summary topics for students because these summary topics would lead them to actively focusing on specific pieces of information in the text and enable them to improve their reading comprehension. This study also found that the use of post-reading questions is useful for teaching reading and writing class because it helps students develop overall comprehension. Therefore, teachers can use both reading logs and post-reading questions as techniques to encourage meaningful learning for students as an out of class

activity. Based on the findings of this study, however, teachers should bear in mind that reading logs outweigh post-reading questions in promoting literal comprehension.

Recommendations for further study

This study was conducted with grade 11 students in reading and writing class in a secondary school in Trang. In order to confirm the effects of the use of reading logs on reading comprehension, the study can be replicated with other groups of students who are in different educational level and school contexts. However, since this study did not find a significant effect of reading logs on improving the students' inferential and evaluative comprehension which are desirable higher levels of comprehension that should be promoted in English class, further study may carefully design reading logs and re-investigate its effect on developing these two levels of comprehension. In so doing, researchers may provide topics in reading logs which guide students to specific section of the text and get them to relate it to their life as well as to react to it.

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