CHAPTER III
RESEARCH METHODOLOGY

This chapter describes the methodology of this research study in order to successfully implement selected reading strategies through interactive teachings to enhance learners reading comprehension. The research methodology is divided into four parts as follows:

1. The design and rationale
2. The pilot study: phase one
3. The pilot study: phase two
4. The development of the pilot study to the main study
5. The main study

This study aims to address three questions which are paraphrased versions of the research questions.

1) The first question: Is it possible to implement Brown's reading strategies through interactive language teaching to enhance attitude to and motivation for reading in English in order to improve reading comprehension?

To answer this question, the preliminary or the first phase of the pilot study was needed. The preliminary study aimed to explore the possibility of implementing the chosen strategies through the selected approach through an action research with both qualitative and quantitative research methodologies, e.g. action research, interview, observation, classroom evaluation, questionnaires and pre/post tests. As it was conducted *in an extra time outside the regular class*, another study in a regular class prior to the main study was needed in order to modify the methods before using them in the main study. That means the second phase of the pilot study was conducted inside the regular classroom and also aims at responding to the second research question.

2) The second question: How can the implementation of Brown's reading strategies through interactive language teaching in *a compulsory course* be developed

to enhance attitude to and motivation for reading in English in order to improve reading comprehension?

This second phase of the pilot study has a specific purpose to try out all the methods modified based on the findings from the preliminary study in the first phase of the pilot study, but this time it is inside a regular class. Both qualitative and quantitative methodologies, e.g. action research, interview, observation, classroom evaluation, questionnaires and pre/post tests are used to collect all the data. After the second phase of the pilot study was completed, all the modifications were made to be used in the main study.

3) The third question: Does implementing Brown's reading strategies through interactive language teaching enhance attitude to and motivation for reading to improve reading comprehension in order to improve reading comprehension?

This question leads to the main study. The main study aims to investigate the effectiveness of the implementation of Brown's reading strategies through interactive language teaching to develop   attitude to and motivation for reading. In other words, the main study aimed to study whether or not all the modifications out of both phases of the pilot study work successfully in the target situation. That means whether or not the implementation results in better learners' attitudes to and motivation for learning to read in English and their higher level of reading comprehension. It is important to state that although the learners who participated in these three phases of the study were different learners but the teacher (observer) expected the results are the similar because all of them are the learners in the same level of education.

1.   Design and Rationale

The instruments were designed by the researcher with input from the advisor. The research instruments consisted of pre-post interview, pre-post questionnaires, pre/post test. In addition, there were the researcher's observation form, peer teacher's observation form, learners' classroom evaluation, Brown's reading strategies checklist and a learner's journal. The pre/post tests were tried out with the similar groups of learners in another school which is near to the target school in the same district i.e. Phratat Nongsammuen district.

2. Pilot Study: Phase One

2.1 The learners background

The subject in the pilot study phase one comprised seventeen learners-two male learners and fifteen female learners aged between thirteen and fourteen (average age: thirteen years five months). The learners volunteered to take part in a reading course in the first semester of the academic year 2008 from June-July. There were thirty-two hours in the course and the course took four hours a week over two months. The sample was made up from six learners in the top academic set, five from the middle and six from the bottom range. All the learners live in the same district and have studied English for eight years.

2.2 Collection of the data

The teacher (researcher) utilized an interview (see Appendix A), pre/post questionnaires (see Appendix B), pre/post tests (see Appendix C), the researcher observation's form (see Appendix D), peer teacher's observation form for peer teacher to observe (see Appendix E), classroom evaluation for each lesson (see Appendix F) and Brown's reading strategies checklist (2001) (see Appendix H) in the pilot study phrase one. The data from an interview were collected as the learners' background so the researcher could know each learner very well. The data from questionnaires were analyzed by means ($\overline{X}$) and standard deviation (S.D.) to compare their attitudes to and motivation for reading, and attitude to self-directed learning before and after that study. The data from pre/post tests were analyzed by means ($\overline{X}$) and standard deviation (S.D.). The means of the pre/post tests were compared to show changes (if any) in the learners' reading comprehension before and after the study. The data from observation forms and classroom evaluation were used to adjust the teaching and learning process

2.3 Data analysis

The data analysis was conducted employing percentage for an interview, means ($\overline{X}$) and standard deviation (S.D.) for questionnaires, pre/post test and Brown's reading strategies checklist (2001). The results of data analysis were presented as following.

2.3.1 Results of the interview

At the beginning of the study, an interview was conducted with the target group of learners. The interview was analogous to simple chatting because it was informal. The teacher (researcher) interviewed the learners in groups and the learners felt relaxed and free to express opinions.

2.3.2 Results of pre/post questionnaires

Before and after the study, the learners completed the same questionnaires on attitudes towards and motivation for reading English, and attitudes towards self-directed learning. The main aim of pre/post questionnaires were to compare the learners' attitudes to and motivation for reading in English, and attitudes to self-directed learning before and after study. At the end of the study the results showed that the learners had better attitudes towards and motivation for reading in English, and attitudes towards self-directed learning. The results of the questionnaires were shown in Table. 5

Table 5 Results of questionnaire on attitudes to reading English of participants in a pilot study phase one

	$\bar{x}$ Mean	S.D.	N	t-test	df
Pre-questionnaire	3.63	0.55	17	1.92**	16
Post-questionnaire	3.95	0.42	17		

** $p < 0.05$

Regarding to Table 5 the mean scores ($\bar{X}$) before the study was 3.63 and the mean scores ($\bar{X}$) after the study was 3.95. The differences between pre/post means scores ($\bar{X}$) was at the level of 0.05 significance (t=1.92, 16df, p>0.05). This meant that part the research question one "Does interactive language teaching approach improve the learners' attitudes to and motivation for reading English?" was verified.

Table 6 Results of questionnaire on motivation for reading English of participants in the pilot study phase one

	$\overline{x}$ Mean	S.D.	N	t-test	df
Pre-questionnaire	3.35	0.84	17	1.81**	16
Post-questionnaire	3.73	0.68	17		

** p < 0.05

According to Table 6, the result showed that means scores ($\overline{X}$) before the study was 3.35 and means scores ($\overline{X}$) after the study was 3.73. The differences of the pre/post mean scores ($\overline{X}$) was at the level of 0.05 significance (t-test=1.81, 16df, p>0.05). This proved that question one "Does interactive language teaching approach improve the learners' attitude to and motivation for reading in English?" was confirmed.

Table 7 Results of questionnaire on attitudes to self-directed learning of participants in the pilot study phase one

	$\overline{x}$ Mean	S.D.	N	t-test	df
Pre-questionnaire	3.20	0.42	17	1.93**	16
Post-questionnaire	3.40	0.39	17		

** p < 0.05

According to Table 7, it was found that the mean scores ($\overline{X}$) before the study was 3.20 and the mean scores ($\overline{X}$) after the study was 3.40. The differences between pre/post means scores was ($\overline{X}$) at the level of 0.05

significance (t-test=1.93, 16df, p>0.05). This demonstrated that the learners' attitudes to self-directed learning was significantly improved after the study although it was accepted that their reading ability to read for better comprehension through self-directed learning approach was still needed to be more developed little by little according to their own ability and motivation.

2.3.3 Results of pre/post test

At the beginning and the end of the teaching the pre/post tests were conducted. The learners from the three sets got higher scores in post test. The results are shown in Table

Table 8 Result of pre/post tests of participants in the pilot study phrase one

Result of pre/post tests	No. of Subjects	$\overline{x}$ Means	S.D.	t-test	df
Pre-test	17	12.76	6.10	6.303**	25
Post-test	17	17.35	5.05		

** p < 0.05

Regarding to Table 8, it showed that means scores ($\overline{X}$) of pre test score was 12.76 and the mean scores ($\overline{X}$) of post test score was 17.35. The differences between pre/post test means scores ($\overline{X}$) was at the level of .05 significance (t=6.303, 16df, p>0.05). This proved that question two "Does Brown's reading strategies improve the learner's reading comprehension?" was confirmed.

2.3.4 Results of the Researcher's Observation Form

From the beginning to the end of the course, the teacher (observer) observed the learners and collected the information. The information then was analyzed and categorized into four categories.

1) The Learners' Behaviors and Expressions

Almost all of the learners enjoyed reading activities. The teacher (researcher) observed that the learners participated in reading class in an active and lively manner.

2) Interaction with Peers (working together, consult each other)

The learners were happy to participate with the teacher (researcher) and their peers. The strong learners were willing to help the weak learners. They all could work together.

3) Interaction with a Teacher (Answer the teacher's question, suggest their ideas)

Almost all of the learners interacted with the teacher (researcher) very well. They were enthusiastic to do so.

4) Learners' Reading Strategies

The teacher (researcher) observed that all the learners employed all Brown's reading strategies (2001) especially reading strategies two: Graphemic rules and patterns.

2.3.5 Results of peer teacher's observation form

A peer teacher in the Foreign Language Department came to observe the class three times—at the beginning, middle and end of the study. Before coming to observe the class the researcher briefed this colleague on the purposes of the study and the method of observation to be used with the class. The teacher (researcher) provided a guideline for the observer which was in the form of a peer teacher's observation form. This colleague has two years teaching experience in Rajabhat Maha Sarakham University where she graduated with English as a major subject. She commented that at the beginning, some (50%) of the learners did not interact well with the teacher (researcher) though the teacher (researcher) tried to encourage the learners to participate in learning well. During observation of the class in the middle and at the end of the study, she noted that there had been much progress: the learners had changed their habits and all of them began to interact, both with the teacher (researcher) and their peers, actively.

2.3.6 Results of an evaluation form for each lesson

At the beginning of the study, the teacher (researcher) introduced Brown's reading strategies (2001), and modeled how to use Brown's reading

strategies to the learners. None of them was familiar with any reading strategies before, and all of them said they would employ Brown's reading strategies when they read. The strategy that the learners said they liked the most was Brown's reading strategies two: graphemic rules and patterns. They also said they liked working in groups. When the teacher (researcher) used reader's theater with them all of the learners commented that they love to work in groups. The only thing that some learners did not enjoy was presenting in front of the class.

2.3.7 Results of Brown's reading strategies (2001) checklist

The learners had never been trained with reading strategies effectively before. All of the learners reported that they employed guessing prior to the study, although they did not know that this was a reading strategy (See Appendix M). Most of the learners (90%) employed Brown's reading strategies two (2001): Graphemic rules and patterns and strategies seven (2001): Guessing. The Brown reading strategy that learners used the least (5%) was strategy nine: Distinguish between factual and implied meaning.

2.4 Summary of results of the pilot study phase one

The results of the pilot study phase one showed that within the 32 hours of interactive language teaching, the learners' attitudes to and motivation for reading in English was greatly improved. Different ($p= 0.05$) scores on the pre/post test suggested that instruction/training in Brown's Reading Strategies significantly enhanced the learners' reading comprehension. In addition, the results from learners' journal clearly showed that the learners' awareness of self-directed learning was highly raised through interactive language teaching.

3.   Pilot Study: Phase Two

3.1   Learners' background

The pilot study phase two consisted of 26 learners. The learners were purposively chosen. The learners were seven from the top set, nine from the middle set and another nine from the bottom set. The participants were all taking a compulsory reading class in the first semester of the academic year 2008 from August-September. There were thirty-two sessions in the course; the course took four sessions a week over two months. This class was taking a reading course that started from the beginning of the first semester of the academic year in May 2008 but the teacher (researcher) only started to conduct the research study in August to September 2008. The teacher (research) started the study late because she had a specific aimed to train the learners indirectly to prepare them for this new approach. This indirectly training process was introduced without clearly stated in order to guide them to be ready for experiencing the new way of teaching and learning in a natural way step by step. In other words, the teacher as a researcher tried to let the learners acquire new methods of teaching and learning subconsciously with the expectation to encourage them to learn with their own will not by forcing them starting from working in pairs and in a small group. This turned out to be successful to get a better collaboration from the learners than forcing them to learn.

3.2   Collection of the data

In the pilot study phase two the methodology was the same as in the pilot study phrase one.

3.3   Data analysis

The data analysis was investigated using percentage for an interview and Brown's reading strategies checklist, means ($\overline{X}$) and standard deviation (S.D.) for questionnaires, pre/post test and Browns' reading strategies checklist.

3.3.1   Results of the interview

The teacher (researcher) interviewed all the learners at the beginning of the course. The interview was an informal interview.   The teacher

(researcher) and the learners felt relaxed. The learners were interviewed with main questions (see Appendix A) and the data are shown in Appendix L.

3.3.2   Results of pre/post questionnaires

At the beginning and the end of the study, the questionnaires were distributed. The questionnaires in Thai were on attitudes towards and motivation for reading in English, and attitude towards self-directed learning. The results showed that the learners' attitudes towards and motivation for reading in English, and attitudes towards self-directed learning were improved at the end of the compulsory reading class. The results were shown in Tables 9, 10 and 11.

Table 9 Results of questionnaire on attitudes to reading English of participants in the pilot study phase two

	$\overline{x}$ Mean	S.D.	N	t-test	df
Pre-questionnaire	3.28	0.69	26	1.95**	25
Post-questionnaire	3.80	0.30	26		

** $p < 0.05$

According to Table 9, the results demonstrated that means scores ($\overline{X}$) before the study was 3.28 and mean scores ($\overline{X}$) after the study was 3.80. The differences of the pre/post means scores ($\overline{X}$) was at the level of .005 significance (t-test=1.95, 25df, p<0.05). This proved that question one "Does interactive language teaching approach improve the learners' attitude to and motivation for reading in English?" was confirmed.

Table 10 Results of questionnaire on motivation for reading English of participants
in the pilot study phase two

	$\bar{x}$ Mean	S.D.	N	t-test	df
Pre-questionnaire	3.33	0.27	26	3.86**	25
Post-questionnaire	3.72	0.21	26		

** $p < 0.05$

According to Table 10, the results showed that means scores ($\bar{X}$)
before the study was 3.33 and means scores ($\bar{X}$) after the study was 3.72.
The differences of the pre/post means scores ($\bar{X}$) was at the level of 0.05 significance
(t-test=3.86, 25df, p<0.05). This proved that question one "Does interactive language
teaching approach improve the learners' attitude to and motivation for reading in
English?" was confirmed.

Table 11 Results of questionnaire on attitudes to self-directed learning of participants
in the pilot phase two

	$\bar{x}$ Mean	S.D.	N	t-test	df
Pre-questionnaire	3.28	0.28	26	3.77**	25
Post-questionnaire	3.57	0.19	26		

** $p < 0.05$

According to Table 11, the results showed that means scores ($\bar{X}$)
before the study was 3.28 and means scores ($\bar{X}$) after the study was 3.57.
The differences of the pre/post means scores ($\bar{X}$) was at the level of 0.05 significance

(t-test=3.77, 25df, p<0.05). This proved that question one "Does interactive language teaching approach improve the learners' attitude to and motivation for reading in English?" was confirmed but not their ability to read in English for better comprehension through self-directed learning approach. The learners still needed more training to develop their self-directed learning skill step by step.

3.3.3   Results of pre/post test

Before and after the study the pre/post tests were conducted. The learners from the three sets got higher scores in post test. The results were shown in Table 12.

Table 12 Results of pre/post test of participants in the pilot study phase two

Result of pre/post test	No. of Subjects	$\bar{x}$ Means	S.D.	t-value	Sig
Pre-test	26	11.08	3.85	7.147**	.000
Post-test	26	15.00	4.65		

** p < 0.05

Regarding to Table 12, it showed that the mean scores ($\bar{X}$) of pre test score was 11.08 and the mean scores ($\bar{X}$) of post test score was 15.00. The differences between pre/post test means scores ($\bar{X}$) was at the level of 0.05 significance (t=7.147, 26df, p>0.05). This proved that question two "Does Brown's reading strategies improve the learner's reading comprehension?" was confirmed.

3.3.4   Results of the researcher observation form

The teacher (observer) observed the learners from the beginning throughout the end of the study and collected the information. The information then was analyzed and categorized into four categories.

1) The Learners' Behaviors and Expressions

All of the learners enjoyed reading activities. The teacher (observer) observed that the learners participated in reading class actively.

Throughout the course the teacher (observer) observed that the learners were active and lively in class. Unlike the participants in the Pilot group, the learners in this class did not show shyness about presenting in front of the class

2) Interaction with Peers (working together, consult each other)

The learners were willing to work in groups. The strong learners were willing to help the weak learners. They all could work together. From the results of the pilot study phase one, in this class the researcher asked the learners to check their answers with their partners or groups before the researcher would ask them. This seemed to encourage more interaction among the learners.

3) Interaction with a Teacher (Answer the teacher's question, suggest their ideas)

Almost of the learners interacted with the teacher (observer) very well. They seemed happy to interact with the teacher (researcher) and their peers.

4) Learners' Reading Strategies

The teacher (observer) noticed that all the learners employed all Brown's reading strategies (2001) especially reading strategies two: Graphemic rules and patterns.

3.3.5 Results of peer teacher's observation form

The same English teacher who came to observe the class in the pilot study phase one came to observe the class again. At the beginning she commented that almost all of learners (95%) in the pilot study phase two interacted very well with the teacher (observer) and their peers. They were not shy to ask and answer questions. Afterwards, she came to observe the class in the middle of the study and noted that all of the learners (100%) interacted with the teacher (observer) and their peers very well. Also, she remarked that the teacher (researcher) provided support to the learners allowing them to participate in learning well from the beginning. The learners interacted with both the teacher (researcher) and their peers in a lively manner.

3.3.6 Results of an evaluation form for each lesson

The teacher (researcher) introduced Brown's reading strategies (2001) and modeled to the learners how to use these at the beginning of the regular

reading course. The learners were excited to learn about the reading strategies. They all liked the strategies and they thought the strategies would benefit them when reading.   The strategy that the learners liked most was strategy two: graphemic rules and patterns. The learners really enjoyed working in groups. The learners said that group work was fun. They really enjoyed it.

3.3.7   Results of Brown's reading strategies (2001) checklist

Although, none of the learners had learned about reading strategies before the course, and they enjoyed using them through the interactive teaching process One outstanding example is almost all of the learners loved a new logical way to guess the meaning of an unknown word although this strategy was the one they always use but without realizing the right technique how to do that effectively. (see Appendix N). The results of using Brown's reading strategies were shown in Appendix P.

3.3.8   Results of learner's journal

The teacher (researcher) asked the learners to read outside classroom five reading items, and summarize what they have read onto their learner's journals by using Browns' Reading Strategies. At the end of the study all of the learners submitted the learners' journals. Although the reading items they chose were mainly from their text books indicating a limited source of information, this could reflect their better sense of responsibility for their own learning and motivation for moving towards being more self-directed learners.

3.4   Summary of results of the pilot study phase two

The results of the pilot study phase two showed that the learners' attitude to and motivation for reading in English was highly improved by the 32 sessions of interactive language teaching. Different (p= 0.05) scores on the pre/post test suggested that training to use Brown's Reading Strategies improved the learners' reading comprehension. Additionally, the result from learners' journal demonstrates that the learners' awareness of self-directed learning was raised through interactive language teaching but their reading comprehension was still needed to be improved more, for most of them as they were not able to read more difficult texts without teacher's guidance. Nevertheless, there was a good sign to improve their reading

comprehension but step by step within a long term as their current reading ability is below the expected standard of their level.

4. Development of the Main Study Based on the Findings of Pilot Study

The findings from both phases of the pilot study entailed various modifications for the main study as presented in the following topics.

4.1 Group Seating: The learners chose their own groups in pilot study phrase one. This meant that strong learners might sit with only strong learners, and weak learners had to sit with weak learners. When they participated in activities, weak learners groups could not do it well and sometimes did not do anything. To rectify this problem, the teacher (researcher) assigned the learners to three mixed-ability groups in for the pilot study phrase two. This made resulted in a smoother teaching and learning process since strong learners could help weak learners and they interacted with each other. Therefore, in the main study, the researcher arranged the learners into groups by mixing the three groups of the learners together.

4.2 Research design: In pilot phase one, the learners took an extra course. This caused many problems to both the researcher and the learners. Because the course was conducted during the last period of the day, some learners were tired. Moreover, some learners needed to do their assignments from other teachers. Sometimes the teacher (researcher) had to drive the learners home since the class was late in the evening. This required more expense on this research. Another problem was that the learners were not really motivated to take part in this study because it was not credited in terms of a grade. On the other hand, in the pilot study phase two, the training was conducted in a compulsory course. This allowed the teacher (researcher) and the learners to conduct this main study within the timetable of the school.

4.3 Brown's reading strategies checklist: Brown (2001) proposed ten reading strategies to aid reading comprehension. In order to enable the learners to remember all the strategies, the teacher (researcher) adapted Brown's reading strategies (2001) into a checklist. Brown's reading strategies (2001), for example, include having a purpose in reading. The teacher (researcher) asked the learners in the pilot study phase one to check the list before, during and after reading. The teacher (researcher) noticed that this did not work well as it took time and was monotonous for the learners. As

this might have affected the learners' attitudes to and motivation for reading, the teacher (researcher) decided not to use this checklist after every reading activity in the main study but using them at the end of lesson through class discussions in the main study.

Also, in order to help learners to read better through using grammatical knowledge, the teacher as researcher provided a supplement sheet focusing on important grammatical points if necessary. This is because of their weakness in grammar one factor impedes them to read with better comprehension apart from reading strategies. This also helps save time in teaching grammar within a limited time of reading lesson.

4.4 Research Purpose: Pilot studies phase one and two and the main study have the same purposes which are to enhance attitude to and motivation for reading in English. Clearly the results of both first and second phases of the pilot study confirmed the learners' improved reading comprehension. Nevertheless, the purpose of the main study was to reconfirm the finding. Thus, Brown's reading strategies (2001) are reassessed in helping to improve the learners' reading comprehension.

5. The Main Study

5.1 Population and samples

The population of the study was 115 learners in Matthayom Suksa Two at Phratat Nongsammuen School. The subjects in this study comprised 35 learners. The teacher (researcher) employed purposeful sampling method to choose the subjects. In the study, the learners must take a reading course "Reading Comprehension Course for Learners in the Eighth Grade" in the second semester of the academic year 2008. The age range of the learners is thirteen to fourteen. All of the learners live in the same district. The reason for choosing the learners in eighth grade is that the teacher (researcher) has been teaching the learners since they were in seventh grade. The researcher realizes that the learners have been studying English for several years but they are still having problems in English, especially reading. The learners are children so it is quite easy to cultivate good reading habits within them. Besides, they should have knowledge of English to encounter the demands of this era of globalization. This will benefit them in furthering their education, employment and

life-long learning. In accordance with the course aim to enhance learners' reading comprehension, it was relevant to the purpose of this research.

The samples were divided into three groups. The groups consist of twelve learners from top set, eleven from the middle set and twelve from the bottom set according to their English grades (subject code EN11301) for the academic year 2007, and from their scores in the study pre test.

Table 13 The Learners' English Grades of the Year 2007

Bottom Set		Middle Set		Top Set	
Learners No.	Grades	Learners No.	Grades	Learners No.	Grades
1	1	1	1.5	1	2.5
2	1	2	1.5	2	2.5
3	1	3	1.5	3	2.5
4	1	4	1.5	4	3
5	1	5	1.5	5	3
6	1	6	1.5	6	3
7	1	7	2	7	3
8	1	8	2	8	3
9	1	9	2	9	3.5
10	1	10	2	10	3.5
11	1	11	2	11	3.5
12	1			12	3.5

The teacher (researcher) did not tell the learners that they had been divided into groups following these criteria. The reason that the researcher divided the learners into three groups was that it enabled observation of the differences in learning progress and problems arising in each group. The researcher observed the bottom set learners particularly closely to determine whether they required extra (remedial) teaching. Although this may have been beneficial to this group, they were unwilling to take part in such extra classes because they had ingrained negative attitudes to learning English at this point.

However, in teaching and learning the three groups were mixed into new groups which included the three groups of the learners.

5.2 Research design

The design of the research study was an action research starting from the pre-interview to investigate necessary information of the learners such as their learning needs and so on. Also the pre/questionnaire reflected their attitudes to and motivations for learning to read in English of the target learners. All of this information as well as the feedback from each lesson were used to improve the lesson throughout the course from preparing the course at the beginning and improving the teaching and the learning during the course until the end of the course as the learners were requested to give feedback at the end of each lesson. Therefore, the teacher as a researcher could adjust the teaching according to the learners' needs throughout the course. This was ongoing needs analysis of the learners since the beginning of the course up until the end of the course.

5.3 Research instruments

There were seven tools in the main study. The research tools were pre-post interviews, pre-post questionnaires, the pre-test and the post-test, the teacher (researcher)'s observation form, peer teacher's observation form, an evaluation form for each lesson, and a learner's journal.

5.3.1 Pre/Post Interviews

The teacher (researcher) interviewed the learners in Thai (see Appendix A). At the beginning of the study to find out their background, whether their parents can read or not, how often the learners read, if the learners read in their free time or not, their attitudes to and motivation for reading English, what topics the learners want to read, their reading behaviors, what reading strategies they use in general and what topics the learners read. At the end of the study the researcher interviewed the learners to find out their attitudes to and motivation for reading English and their confidence to read English by themselves outside the classroom.

5.3.2 Pre/Post questionnaires

The researcher asked the learners to complete the questionnaires. The questionnaires were translated into Thai. The purposes of the questionnaires were to find out learners' attitudes to and motivation for reading English and attitudes

towards self-directed learning (see Appendix B). The researcher will translate the questionnaires into easy and clear Thai. There are two parts in the questionnaires.

Part I   Directions on how to fill in the questionnaires.

Part II   Items with rating scales to ask about the learners' attitudes toward reading and self-directed learning and motivation for reading.

5.3.3   The Pre/Post tests

The test was administered as follows:

1)   The topic chosen for the test were based on the curriculum and the results of the interview focusing on their needs and interests for reading in English. All the reading passages were from a variety of commercial texts (see Appendix C) which were re-approved by native speakers and advisor.

2)   The test was approved by three specialists for IOC check.

3)   The test was tried out in a school in the same levels of education with similar ability in English reading. Based on the data obtained, an item analysis was completed.   All the items were analyzed in terms of the level of difficulty and also discrimination index.

Thirty items were chosen as pre/post test (See Appendix C). The tests consisted of six passages, and the passages were put in order from the easiest to the most difficult. The tests were short answer tests 10 items, True-False questions 5 items, and the multiples choice questions 15 items. The total test items were 30 items. The learners were given 60 minutes to take the exam. Alderson (2000) from Cambridge University states that multiple choice questions are an ordinary tool for testing students' test comprehension, and short answers are good reason to understand the learners' responses if they have comprehended the text. Furthermore, Heaton (1998) mentioned that True/False reading test is one of the most generally employed tests of reading comprehension. The score obtained by the learners can be trusty guides of reading comprehension. Seymour & Walsh (2006) professors at City College of San Francisco mention that it is a good idea to use a diversity of test formats. The teacher (researcher) selected a variety of topics from the following content from the Academic Department (2001). The learners were given tests at the

beginning of the study and at the end of the study to compare the result before and after the study.

5.3.4 The researcher's observation form

The teacher (researcher) collected the data of the learners' interactions while they were learning to find out how they interact with the teachers or peers (see Appendix D) as well as whether or not they actively involved in the learning process. Also, the teacher (researcher) collected what reading strategies the learners used while they were reading.

5.3.5 Peer teacher observation form

There are two English teachers in the Foreign Languages Department at Phratat Nongsammuen School. The teacher (researcher) asked the peer English teacher in the English Department to come to observe when teaching (see Appendix E). Before observation the teacher (researcher) discussed the purposes and methodology of the study. The peer teacher came to observe the class three times—at the beginning, the middle and the end of the class. The peer teacher told the teacher (researcher) if the teacher (researcher) encouraged interaction in the classroom. The teacher (researcher) used comments to improve interactive teaching. Moreover, she wanted to know whether the learners were lively, enjoyable and happy in class.

5.3.6 An evaluation form for each lesson

The learners were given the evaluation form after teaching every hour (see Appendix F). This sought to find out what the learners want to keep and want to improve in class as well as other suggestions which they could reflect their own opinions or feeling freely on what happened in each lesson.

5.3.7 Learner's journal

Apart from reading twelve reading items (see Appendix I) inside the class room, the learners were assigned to read outside the class as well. The twelve reading items were chosen from some text books and websites by the teacher as a researcher based on the findings of the pre- interview focusing on their literal interests and national syllabus. They were presented from easier to more difficult ones. On the contrary, the learners were assigned to read ten reading items according to their own interests and reading ability the outside the classroom. Then the learners were required to write journals (see Appendix G) to hand in to the teacher

(researcher). This aimed at encouraging the learners to read by themselves outside classroom as much as possible in order to enhance their self-directed learning focusing on not only improving reading ability but also the responsibility for their own learning.

Table 14 The Summary of research instruments

Instruments	Person Who uses an instrument	A: With whom B: Why	When
1 Pre-tests and Post-tests	A teacher (researcher)	A: The participants B: To compare the participants' ability before and after the study.	Pre-test was used at the beginning of the study. Post-test was used at the end of the study.
2 Pre-post interviews	A teacher (researcher)	A: The participants B: To collect the participants' background, reading habit and reading strategies.	Before and after the study.
3. Questionnaires - Attitude toward reading - Motivation toward reading English - Attitude toward self-directed learning	A teacher (researcher)	A: The participants B: To investigate the improvement of the participants' attitudes to and motivation for reading, and reading English and attitudes toward self-directed learning.	Before and after the study
4. The researcher observation form	A teacher (researcher)	A: The participants B: To observe the interaction in the classroom.	While teaching
5. Peer teacher observation form	Peer English teacher	A: The teacher (researcher) and the participants B: To observe if the implementation promoted interaction in classroom.	While teaching
6. An evaluation form for each lesson	A teacher (researcher)	A: The participants B: The teacher (researcher) used feedback from the participants to improve teaching	After lessons
7. The learner's journal	A teacher (researcher)	A: The participants B: To promote self-directed learning.	Outside the classroom

5.4   Collection of the data

The collection of the data was done as follows:

The pre-post tests were piloted at one school around Phratat Nongsammeun School to find out if the exam was too difficult for the learners. Then the learners took the pre-test. Next, the learners were interviewed to find out their background, reading habits and topics they want to read. After that, the learners were taught reading strategies through interactive teaching. Moreover, the learners were assigned to read short paragraphs outside the classroom and complete the checklists. The learners were asked to do questionnaire at the end of the course. This aimed to find out the improvement of the learners' attitudes to and motivation for reading in English. The learners were given post-test at the end of the course to see the development of their reading comprehension. Also, some of the learners were interviewed to find out their attitudes to and motivation for reading English and their confidence to read English by themselves outside the classroom.

5.5   Data analysis

In the study, there were eight kinds of data: the data from pre/post interviews, the data from pre/post questionnaires, the data from a pre/post tests, the data from guiding the learners to use Brown's reading strategies (2001), the data from the researcher's observation form, the data from peer teacher's observation form, the data from classroom evaluation form, and the data from the learner's journal.

5.5.1   The Data from an Interview

The data from the pre/post interviews were collected as the learners' background.

5.5.2   The data from pre/post questionnaires

The data from the questionnaires were analyzed with average means ($\overline{X}$) and S.D. This illustrated the learners' attitudes to and motivation for reading and attitudes to self-directed learning before and after the study.

5.5.3   The data from pre/post tests

The data from the pre/post tests was analyzed with average means ($\overline{X}$) and S.D. This aimed to find out the improvement of the learner's reading comprehension before and after the study.

5.5.4 The data from the researcher's observation form

The researcher collected the data while teaching. The data from his/her observation form was collected to find out the learner's performance during reading and their interaction to the teacher (researcher) and peers.

5.5.5 The data from peer teacher's observation form

The data from peer teacher's observation form was used to compare the progress of the teacher (researcher) in teaching at the beginning, in the middle and at the end. The data from peer teacher told if the teacher (researcher) encourage interactions between the teacher (researcher) and the learners and among the learners.

5.5.6 The data from an evaluation form for each lesson

The data from the daily evaluation form was collected after every lesson. This aimed to find out what the learners wanted to keep and what they wanted to improve in teaching and learning.

5.5.7 The data guiding the learners to use Brown's reading strategies (2001)

The data from guiding the learners to use Brown' reading strategies were collected from the researcher after teaching. The data was analyzed to show how the researcher taught Browns' reading strategies (2001) through the interactive language teaching.

5.5.8 The learner's journal

The data of the learner's journal was used to investigate the improvement of the learner's self-directed learning focusing on not only improving their reading ability outside the classroom but also their responsibility of own learning.