THE EFFECT OF COLLABORATIVE STRATEGIC READING (CSR) WITH MIND MAPPING TECHNIQUE ON READING COMPREHENSION OF MATTHAYOMSUKSA 5 STUDENTS AT RAJADAMRI SCHOOL

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ASHIRA CHAIWONG

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THE THESIS TITLED

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BY

ASHIRA CHAIWONG

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The aim of this study is to examine the impact of Collaborative Strategic Reading (CSR) with Mind Mapping on the reading comprehension and the satisfaction of students. A pre-experimental design was employed, and 30 Matthayomsuksa Five students at Rajadamri School were chosen using cluster random sampling during the 2021 academic year. The research instruments used to collect the data for this study included English lesson plans for Matthayomsuksa Five students using CSR with Mind Mapping Technique, Pretest-Posttest, and a questionnaire on learning satisfaction. The data from pre-test and post-test was analyzed by t-test, mean scores, and standard deviation. Additionally, student satisfaction was analyzed through questionnaires using mean and standard deviation. The findings of the study revealed a significant increase in reading comprehension ability after utilizing CSR with Mind Mapping at the .05 level, indicating the effectiveness of this approach. Furthermore, students expressed high levels of satisfaction with studying CSR with Mind Mapping, as evidenced by an average score of 3.51-4.50 and a mean score of 3.69. Overall, this study highlights the positive impact of CSR with Mind Mapping on the reading comprehension and satisfaction of the students. These findings have significant implications for language educators seeking to enhance their teaching methods and the learning outcomes of students.

Keyword : Collaborative Strategic Reading (CSR), Mind Mapping technique, Reading comprehension

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CHAPTER 1
INTRODUCTION

Background of the Study

In modern society, foreign language learning is essential daily because it is an important tool for educational communication. Pursuing professional knowledge, building an understanding of the world community's culture and vision, and being aware of cultural diversity and global society perspective bring goodwill and cooperation among members of the ASEAN community, making the English language more important and necessary. Therefore, it is time to plan and prepare for the development of children and youth. Thai people should have quality, and desirable characteristics as society expects, along with encouraging children and youth. This is the nation's future, showing the importance of English as a tool for acquiring knowledge in ASEAN society and on the world stage. (Fatina, 2010)

Education encourages a person to grow and prosper physically, emotionally, socially, and intellectually to become a member of a society of high moral values. If a society is uneducated, it cannot find peace. The researcher sees that education is so important. Moreover, there is supported to promote educated citizens as seen in the vision of the basic education core curriculum, BE 2551, which states that:

Basic education core curriculum develops all learners, which is a nation's strength to be human that is well balanced in morals, knowledge, physical health, and consciousness of being a Thai citizen and a global citizen. This adheres to the government and the monarchy, with the king as the head of state. Learners are equipped with basic knowledge and skills, including the attitude necessary for career and lifelong learning education, based on the belief that everyone can learn and develop themselves to their full potential. (Office of the Basic Education Commission, 2008)

In conclusion, the education of the core curriculum of basic education, B.E. 2551, focuses on the learner. People can learn and develop themselves to their full potential.

Therefore, good education management must develop learners to their full potential of individual learners.

In this age of information technology, English has become very important in spreading knowledge. Most of the information is in English as the common language of communication. The Ministry of Education realizes the importance of learning, the necessity of knowledge, and the ability to use the English language. Therefore, it has set up a foreign language learning subject emphasizing 4 skills: listening, speaking, reading, and writing. Reading skills are the most important skill because reading is a skill that can be learned from the English language. This is a way to broaden knowledge. Besides that, reading helps develop thinking and increase knowledge. So reading is valuable. Once a student has developed functional reading, this skill will be with that student forever. This makes the student capable of self-enhancing knowledge. Hence, reading is a critical skill for everyone and an important goal for all English teachers.

The report of the National Institute of Educational Testing Service (NIETS) regarding the test results of the Ordinary National Educational Test (O-NET) from 2015 - 2020 of Matthayomsuksa 6 students found that their score on English subjects was less than 50% and from the National Basic Test (O-NET) report, Matthayomsuksa 6 students of Academic Year 2020 found that the average score in English subjects was 29.94%. The results of the National Test Report (O-NET) Matthayomsuksa 6, Academic Year 2020, Rajadamri School found that the percentage of students who received the average score of 50 English subjects or more was only 3.81 and it was -4.70 in the academic year of 2018-2019. This indicates that the learners' English language skills were below the threshold. It was discovered through interviews with 30 students that they had reading skills issues. Difficulty in taking the exam, inability to grasp what has been read, and inability to generate thoughts from what has been read make the learner feel that English is difficult and far from being able to succeed, affecting the academic achievement of English subjects. If teachers do not fix the problem, it may affect the students at higher levels.

English reading comprehension instruction plays a crucial role in developing students' language skills and overall academic achievement. However, many students struggle with comprehending English texts due to various factors such as language barriers, limited vocabulary, and inadequate reading strategies. The problem at hand is the challenge of developing effective reading comprehension skills among students. Reading comprehension is a fundamental aspect of literacy and plays a crucial role in academic achievement and lifelong learning. However, many students struggle with comprehending texts, which hinders their overall academic progress and impedes their ability to extract meaning from written material. Addressing these issues is crucial for fostering strong reading comprehension skills among students. By identifying effective instructional approaches and strategies, educators can develop interventions that enhance students' abilities to comprehend texts across various genres and subjects.

In addition, Maneelert (2003) said that the student's inability to read and translate is the main reason that the students have low academic achievement. At schools in general, teachers often teach reading by assigning students to read stories and performing exercises at the end of the chapter. When students have finished reading, they cannot complete the exercise, so the teacher keeps translating until it is complete. Teaching reading like this shows that teachers did not encourage reading for comprehension to students, which was consistent with Sumitra Angwatanakul (1997) who said that teachers' teaching methods directly affected the learning results. To boost the students' academic achievement, English teachers should, therefore, teach students reading strategies to help them develop their reading abilities more effectively.

In conclusion, reading problems arise from reading teaching methods. Solving reading problems is complex because reading is a learning process that requires students' appropriate time and methodology. Teaching methods of reading in English should encourage higher-level thinking and writing summaries. It helps students practice effective thinking, analytical, and synthesis skills of what they read. Moreover, it is in line with the Basic Education Core curriculum, BE 2551, which requires students to have the

ability to read at a comprehensible level, including making analyses and conclusions, interpreting, and expressing opinions from the readings. (Moollaong, 2015)

As a Matthayomsuksa 5 English teacher, the researcher has analyzed the problems and reasons for the unsuccessful learning outcomes of the English subject and the poor student achievement. From teaching experience, it was found that 3 problems caused the situation: 1) the teachers organized learning and teaching activities without systematic use of teaching methods. The content is often based on one of the textbooks, and the teacher is responsible for teaching many courses at different levels, along with many other roles. 2) Students have different background knowledge—lack enthusiasm for learning. Students need to become more familiar with the vocabulary, and lack skills, correct reading strategies, and systematic thinking making them lack reading skills. 3) Methods for teaching reading that are problematic. Learners usually cannot read comprehension abilities, as well as the ability to arrange their ideas after reading, preventing them from linking text elements. This was due to a need for appropriate reading methods or approaches. Sumitra Angwatanakul (1997) stated that teachers' teaching methods directly affected students' English reading achievement. Teachers should teach students reading strategies to help them develop their reading skills. Learners' reading will be more effective. Teaching learners to recognize reading strategies properly and to apply them in reading activities increases their motivation to read Nolan (1991), which is consistent with Carrell, Devine, and Eskey (1988) , that teaches learners the benefits of using tactics and how reading strategies can be applied appropriately to the situation will help the reader become successful in reading. Therefore, teachers must develop teaching methods that will improve the reading ability of learners to be more effective.

Such issues Contributed to pupils' relatively low reading comprehension abilities, a challenge that the researcher has always confronted. The researcher is convinced that if students are appropriately developed in reading abilities. There are effective reading promotion exercises that are engaging, will make students more interested in reading, and will enable students to have improved reading comprehension abilities.

From the study of papers, textbooks, research papers, academic journals, and reading teaching guidelines to guide learning activities to promote reading comprehension of Matthayomsuksa 5 students, researchers found that teaching methods that are interesting and suitable for solving reading comprehension problems are Collaborative Strategic Reading it is based on the combination of Reading Strategy and Cooperative Learning, which allows learners with varying levels of ability to work together in small groups to help each other grasp the passages and exchange reading ideas. It begins by utilizing each individual's existing knowledge and experience to read and predict the information to be read. When learning new terms, practice problem-solving. Exercise comprehension and review and assess students understanding to summarize the information from what they can read on their own.

This strategy emphasizes the exchange of ideas. It encourages interactions among learners to create a body of knowledge based on the readings rather than the teachers' perceptions. This strategy aligns with the Interactive Approach, which sees reading as a social activity. Furthermore, peer learning is regarded as effective learning. (Areerug Mejang, 2004) Reading activities with peers in this manner will assist, motivate and encourage students to participate in activities actively; pupils will have a positive learning attitude and will be more interested in learning. (D. W. Johnson, Johnson, & Smith, 1991)

When reading strategies are integrated into collaborative learning, it organizes learning activities for learners with different skill levels to work together and help create the workload for the group to achieve their goals. The students will develop learning skills in the 21st century, such as critical thinking, problem-solving, and creative thinking. Moreover, teamwork is necessary, especially in group work, as learners learn to live with others. Furthermore, performing their duties in the group appropriately by using the group process to assist in learning. Students studying in small groups will have the intention of learning content rather than learning in large groups and have an understanding that is more durable than learning the same content using other teaching methods and also

found that students learning in a collaborative group had higher learning satisfaction. (Vygotsky & Cole, 1978) (B. G. Davis, 1993)

One strategy that can be used to improve reading comprehension in English is to use a Mind Mapping technique. Widdowson (1981), consistent with Sawai Fakkao (2001), Mind Mapping has been mentioned to develop the teaching of English to be more effective. Teachers must find techniques to increase their students' motivation, interest, and creativity. Creating mind maps is considered a technique to promote understanding and help learners read English more effectively to learners. As Carrell, Pharis, and Liberto (1989) commented, mind maps effectively develop important vocabulary before the reading process. It can test students' basic knowledge and help them draw out structures of the text. This old knowledge can be well connected with new knowledge. When students have completed the lesson, they can discuss using a mind map for better understanding. Z. T. Davis and McPherson (1989) further expressed that the old knowledge can be mapped through peer discussion to help learners relate old knowledge to new knowledge. Mind Maps are effective and flexible reading teaching strategies that can be used in pre-and post-reading activities. It helps students see the elements and relationships of the parts of the text they read, helping them to draw conclusions and linking each part's relationship together in unity.

Mind maps can be applied in various activities to enhance English language teaching because when teaching language for communication, learners use language as a medium for receiving or sending data. It comprises language proficiency in all four skills: listening, speaking, reading, and writing. Reading and listening skills are receptive, and speaking and writing skills are productive. Mind map activities can help students use it as a tool to help summarize the essence of short stories from reading content or from listening to different stories. As for speaking and writing skills, a mind map activity can help learners use it as a planning tool. Students can use it to prepare the information before sending the message. Tanasuwan (2000) and Buzan and Buzan (1996) define "mind mapping" as a technique used to organize ideas to connect ideas effectively. Prioritization weighting, binding, thinking, or various information to be combined orderly before it comes out so

others can understand the author's purpose. Mind mapping is using keywords to present the main idea and will focus on the distribution from the center to the point, which is like a little thought using symbol color dimensional visualization helps to organize the relationships of ideas. There are lines to see the connections between contents. Using a mind map in planning, brainstorming, and group processes by encouraging and helping each other in planning, studying, gathering information, and building knowledge, students find ways further to develop their educational skills, subjects, and knowledge.

Collaborative Strategic Reading (CSR) with Mind Mapping provides a compelling approach to develop reading comprehension skills among students. By integrating the collaborative strategies of CSR with the visual mapping technique of mind mapping, this instructional method offers several advantages and benefits that contribute to effective reading comprehension development. Collaborative Strategic Reading (CSR) with Mind Mapping encourages active participation and engagement among students through collaborative discussions and interactions, students actively construct meaning, share perspectives, and collectively make sense of the text. The inclusion of mind mapping as a visual representation tool further stimulates engagement by providing a tangible and interactive way for students to organize their thoughts and visually connect ideas.

Collaborative Strategic Reading (CSR) with Mind Mapping fosters the development of critical thinking skills necessary for effective reading comprehension. By engaging in collaborative discussions, students are prompted to analyze, evaluate, and synthesize information from the text. They learn to question the text, make connections, and draw inferences, promoting higher-order thinking and deeper understanding. The integration of CSR with Mind Mapping cultivates metacognitive awareness in students. As they collaborate and reflect on their reading strategies and comprehension processes, students become more conscious of their thinking and learning. They develop self-regulation skills, such as monitoring their understanding, identifying areas of confusion, and adjusting their strategies accordingly. This metacognitive awareness empowers students to become independent and strategic readers.

In conclusion, Collaborative Strategic Reading (CSR) with Mind Mapping offers a powerful and effective instructional approach for developing reading comprehension skills. By promoting engagement, critical thinking, metacognitive awareness, and peer learning, CSR with Mind Mapping equips students with the necessary tools to comprehend texts, analyze information critically, and become lifelong learners. The visual representation provided by mind mapping further enhances comprehension and organization of information. Embracing CSR with Mind Mapping can significantly impact students' reading comprehension abilities and empower them to succeed academically and beyond.

Therefore, the researcher is interested in improving reading skills in English by using Collaborative Strategic Reading (CSR) with Mind Map to organize activities that are significantly different from teaching methods normally used by many teachers and do not seem to work. Developing English reading skills by studying Collaborative Strategic Reading (CSR) with a mind map (Mind Map) may be one way to solve problems efficiently. Analytical thinking also helps to solve the problem of boredom among learners. In addition to the students doing self-study activities, reading in this way forces the students to use the ability always to communicate the meaning in the text that students will read. It also encourages learners to think all the time. The researcher believes that the method of teaching by Collaborative Strategic Reading (CSR) with a mind map will be able to solve problems and develop reading comprehension for students and develop learners to have the ability to think critically and have the skills to seek knowledge on their own.

Research Questions

1. What is the impact of Collaborative Strategic Reading (CSR) with Mind Mapping Technique on reading comprehension of Matthayomsuksa 5 students?
2. What is the impact of Collaborative Strategic Reading (CSR) with Mind Mapping Technique on the satisfaction of Matthayomsuksa 5 students?

Research Objectives

1. To investigate the students' reading comprehension using English lesson plans based on Collaborative Strategic Reading (CSR) with Mind Mapping Technique.
2. To measure the students' satisfaction towards using English lesson plans based on Collaborative Strategic Reading (CSR) with Mind Mapping Technique.

Hypothesis

1. The post-test means scores of students who studied using Collaborative Strategic Reading (CSR) with Mind Mapping Technique will be higher than the pre-test means scores.
2. Matthayomsuksa 5 students who studied using Collaborative Strategic Reading (CSR) with Mind Mapping Technique will be satisfied with their learning.

Scope and Limitation of the Study

Population: 141 students are studying in Matthayomsuksa 5, Rajadamri School.

Sampling Method: Cluster random sampling

Sample: 1 classroom with 30 students studying in Matthayomsuksa 5, Academic year 2021.

Conceptual Framework

The researcher investigated the ideas, principles, and methods of learning management in this study by reading Collaborative Strategies and Mind Mapping Technique. to be utilized as a conceptual framework for study. The researcher has integrated the processes of Collaborative Strategic Reading (CSR) with Mind Mapping Technique to develop a learning management approach. with the following steps

1.Pre-Reading

Preview (Survey) students brainstorm, and the instructor encourages the learners in each group to mobilize knowledge on the topic to be studied, thereby extracting the learners' actual knowledge. Then have the students read the first paragraph

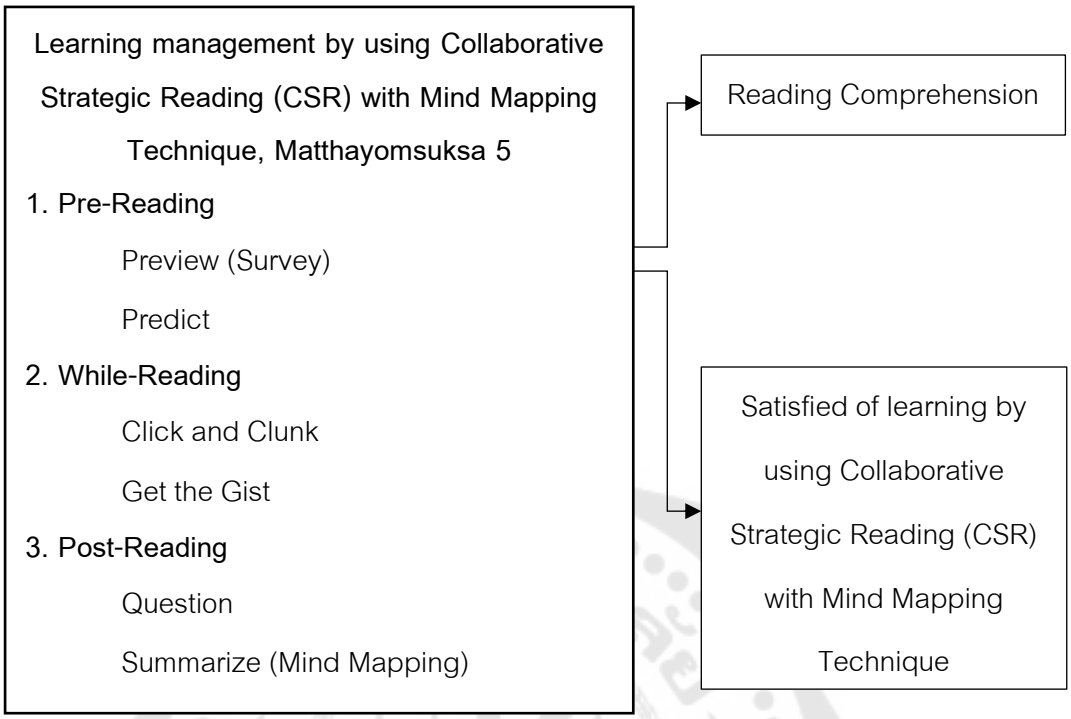
and brainstorm within the group based on previous experiences, title, or part of the story to predict in advance what the story will be read.

2. While-Reading

Each learner reads the next paragraph at a time. While reading, if students do not understand, other members will help each other to study (Click and Clunk); click refers to vocabulary and idioms that students understand, while clunk refers to vocabulary and idioms that students do not understand. Find important words or ideas that will help learners understand or find a hint of the sentence before or after the text. Alternatively, students can analyze the word's prefix and suffix. Then have the students in the group understand the clunk part that appears in the reading paragraph. At this stage, it will capture the importance of the content read. Students compared with group members and exchanged ideas to find conclusions as a group. Have the learners complete this process one paragraph at a time until the end of the story. In this step, students use thought techniques in writing outlines of the themes they read.

3. Post-Reading

The wrap-up is an activity step after reading. Which asks each student about the important opinions of the stories they read (Questions about the important ideas in the passage). Each learner discusses. Exchange questions and answers within the group, and help each group make five group questions, then have each group send a representative to ask the other group to create an energetic atmosphere. And then review the knowledge. After that, each student summarizes the whole story (What I have earned) by using a mind map and bringing it up for discussion in the group and the classroom.



Significance of the Study

1. This study will result in students having better reading potential in English. Which is the basis for which students can learn English to the next level.

2. This study will examine how to empower students to have better reading skills in English courses. Other English teachers were able to use the results of this study to teach reading at other levels.

Definition of terms

1. **Collaborative Strategic Reading (CSR)** is a teaching and learning activity that combines two teaching concepts: reading strategies and cooperative learning strategies. This includes associating prior knowledge with the text, predicting the text in advance, guessing the meaning of words from context, summarizing the main idea using one's own language, asking questions about the text, and review a summary of what students have learned. As for cooperative learning, it is a teaching and learning activity that relies on interaction within a group of 4 mixed ability learners, with different roles and responsibilities as follows: group Leader, vocabulary leader, gist leader, and coordinator.

Cooperative reading strategies have a process in which learners briefly explore the entire chapter, then divide the chapter into sections to gather vocabulary and grasp the main points. In which every step of the reading activity has a discussion and exchange of opinions in the group to arrive at a conclusion from the content that the learners read by themselves, with the teacher as a consultant or other help only.

2. Mind Mapping Technique is a learning management that uses mind maps to help supplement post-reading instruction by presenting information or knowledge gained from reading texts and collecting them systematically for understanding easily. There is a teaching process in which students have to summarize the main points and minor points, then summarize their understanding from the story as a mind map.

3. Teaching reading using Collaborative Strategic Reading (CSR) with Mind Mapping Refers to reading teaching strategies aimed at developing reading comprehension skills by integrating Collaborative Strategic Reading (CSR) with Mind Mapping comes together in a reading process by students summarize the gist of what they read by using a mind map. Which has the following steps:

1.Pre-Reading

Preview (Survey) students brainstorm, and the instructor encourages the learners in each group to mobilize knowledge on the topic to be studied, thereby extracting the learners' actual knowledge. Then have the students read the first paragraph and brainstorm within the group based on previous experiences, title, or part of the story to predict in advance what the story will be read.

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4. Reading comprehension is the ability to read English language content that students can understand the meaning of the words, read for details, and understand the main ideas. This can be tested for comprehension by taking a reading comprehension test given to students before and after using the designed materials.

5. Satisfied of learning by using Collaborative Strategic Reading (CSR) with Mind Mapping Technique is the satisfaction of the students toward the learning management by using Collaborative Strategic Reading (CSR) with Mind Mapping Technique that created by the researcher. The satisfaction was measured by asking students to complete a satisfaction questionnaire.

6. Matthayomsuksa 5 Students is students studying in Mathayomsuksa 5, Rajadamri School in the first semester of the 2021 academic year.

CHAPTER 2
REVIEW OF RELATED LITERATURE

This chapter was created to present a literature review about the foundation of Collaborative Strategic Reading (CSR) with Mind Mapping Technique. There are four parts showing those documents.

1. An Overview of the Basic Education Core Curriculum in Thailand 2008: Foreign Language Areas (English)
    1.1 What is learned in foreign languages?
    1.2 Learning Standards (Grades 10-12)
2. Collaborative Strategic Reading (CSR)
    2.1 Definition of Collaborative Strategic Reading (CSR)
    2.2 Teaching process using collaborative reading strategies.
3. Mind Mapping
    3.1 Definition of Mind Mapping
    3.2 Steps to make Mind Mapping
    3.3 Mapping in the Teaching of Reading Comprehension
4. Reading Comprehension
    4.1 Meaning of reading comprehension.
    4.2 Elements of Reading Comprehension
    4.3 Reading comprehension level
    4.4 Teaching Reading
5. A Review of Previous Studies on Collaborative Strategic Reading (CSR) with Mind Mapping

1. An Overview of the Basic Education Core Curriculum in Thailand 2008: Foreign Language Areas (English)

The Ministry of Education has announced the 2008 basic education curriculum as the core curriculum of the country. By setting goals and learning standards as goals and

directions for developing the quality of learners to be good people, have intelligence, good quality of life and competitiveness in the global arena. Office of the Basic Education Commission (2008), at the same time, adjust the curriculum development process to be in line with the spirit of the National Education Act 2542 and its amendment (No. 2) BE 2545, focusing on distribution. Educational powers give local and educational institutions a role and play in curriculum development. To comply with the condition and local needs establishment of basic education courses achieve the goals that one can expect all parties involved, at the national level, the community, the family and the individual must work together in a systematic and continuous way in planning, implementing, promoting, supporting, inspecting and revising to develop the youth of the nation to the quality of the established learning standards. (Office of the Basic Education Commission, 2008)

International language literacy is very necessary and central to everyday life in today's global society, as it serves as an important medium for connectivity, schooling, finding information, livelihood, and creating awareness of the world community's cultures and visions. Foreign languages help students become aware of the diversity of cultures and points of view in the global society, which leads to friendship and solidarity with people from all around the world. They aid in the advancement of learners by providing them with a greater understanding of themselves and others. As a result, students can study and appreciate variations in languages and cultures, practices and rituals, thought, community, economy, policy, and administration. They will be able to communicate in foreign languages as well as have faster and broader access to bodies of information, and they will be able to lead their lives with vision.

In the core curriculum of basic education, English is the primary foreign language that is mandatory for all students. However, educational institutions have the flexibility to offer additional foreign languages, such as French, German, Chinese, Japanese, Arabic, Pali, and languages of neighboring countries, based on their own discretion. These languages can be included in the curriculum and appropriate learning management can be provided by the respective educational establishments.

1.1 What is learned in foreign languages.

Foreign language learning encompasses various aspects and aims to provide learners with a comprehensive set of skills and knowledge. The learning areas of foreign languages focus on fostering a positive attitude towards foreign languages and providing opportunities for communication in diverse contexts, such as obtaining information, pursuing higher education, making a living, and engaging in global activities. Through foreign language learning, learners gain exposure to a wide range of global issues and develop the ability to effectively convey Thai concepts and cultures to the global community. The main contents of foreign language learning are as follows:

1. Language for Communication: This includes developing proficiency in listening, speaking, reading, and writing in foreign languages. Learners acquire skills in sharing data and knowledge, expressing feelings and opinions, translating, presenting information and ideas, and establishing meaningful interpersonal relationships.

2. Language and Culture: Foreign language learning involves understanding and appreciating the connections between foreign languages and the cultures of native speakers. It explores the interactions, similarities, and differences between native languages and cultures and Thai culture, promoting effective cross-cultural communication.

3. Language and Relationships with Other Learning Areas: Foreign language learning integrates with other subjects, enabling learners to link language learning with various domains of knowledge. It facilitates the exploration of new knowledge and broadens learners' perspectives.

4. Language and Relationships with Community and the World: Foreign language learning prepares learners to use foreign languages in different contexts, including the classroom, local community, and the global society. It serves as a foundation for further education, livelihood, and knowledge exchange within the global community.

By engaging with these core aspects of foreign language learning, learners develop essential communication skills, cultural awareness, and a global mindset that enables them to actively participate in an interconnected world.

1.2 Learning Standards (Grades 10-12)

Strand 1: Language for Communication

Standard F1.1: Understanding of and capacity to interpret what has been heard and read from various types of media, and ability to express opinions with proper reasoning.

1. Follow instructions provided in manuals for various tasks, understanding and interpreting explanations, clarifications, and descriptions both in written and spoken form.

2. Demonstrate accurate reading skills by reading aloud a range of texts, including news articles, advertisements, poems, and skits, while adhering to the principles of effective reading.

3. Construct sentences and texts that discuss various forms of non-textual material and define and provide non-textual information based on sentences and texts that have been heard or read.

4. Analyze the fundamental concepts, delve into the meanings, comprehend, and express perspectives after listening to and reading informative and entertaining posts, while offering justifications and explanations to support illustrations.

Standard F1.2: Endowment of language communication capabilities for data and knowledge exchange; effective representation of thoughts and opinions.

1. Engage in conversations and written communication to share information about oneself, surroundings, thoughts, situations, news/incidents, and societal concerns, expressing ideas in a coherent and appropriate manner.

2. Utilize questions fluently, while also providing directions, clarifications, and interpretations effectively.

3. Speak and write to articulate needs and offer, accept, or decline assistance in both simulated and real-life scenarios.

4. Skillfully request and present evidence, identify, clarify, compare, and share opinions on matters, issues, news, and circumstances that have been heard or read.

5. Articulate personal thoughts and perspectives on various topics, events, perspectives, and news/incidents using logical reasoning in both spoken and written form.

Standard F1.3: Capability to present data, information, ideas, and points of view on a variety of topics orally and in writing.

1. Speak and write to current data/experiences, news/incidents, matters, and numerous topics of societal concern.

2. Speak and write to outline the key idea/theme found by review of matters, events, reports, accidents, and circumstances that are relevant to their interests.

3. Speak and write to share views regarding local events, experiences, and accidents, as well as to offer justifications and explanations for illustration.

Strand 2 Lang. and Culture Standard

F 2.1: Native speakers' appreciation of the connection between language and culture, as well as their ability to use language suitable to occasions and locations.

1. Choose suitable vocabulary, tone of voice, gestures, and etiquette for different people, times, and locations by following social manners and culture of native speakers.

2. Explain/discuss native speakers' lives, opinions, values, and the roots of practices and rituals.

3. Participate in, advise on, and plan relevant language and cultural events.

F 2.2: Understanding of the similarities and variations between native and Thai speakers' languages and cultures, as well as the ability to use language correctly and appropriately.

1. Explain/compare differences between the structures of sentences, texts, idioms, sayings, proverbs and poems in foreign languages and Thai language.

2. Analyze/discuss the parallels and distinctions between native speakers' and Thais' lives, values, and history, and adapt them accordingly.

Strand 3 Language and Its Relationship to Other Subjects of Study

Standard F3.1: International languages are used to link knowledge with other fields of study, as a foundation for further advancement, and to explore knowledge and expand one's world view.

1. Conduct research/search for, register, summarize, and share perspectives on data relating to other learning fields, and address them orally and in writing.

Strand 4 Language and Interaction with the Community and the World

Standard F 4.1: The ability to use a foreign language in a variety of contexts in education, culture, and society.

1. Utilize language effectively for communication in authentic or simulated situations within the classroom, school, community, and broader society.

Standard F4.2: Usage of foreign languages as basic tools for further education, livelihood, and exchange of learning with the world community

1. Employ foreign languages to conduct research, gather, analyze, and summarize knowledge and various data from media and diverse learning sources, enabling further education and enhancing livelihood.

2. Communicate and share information with the public, in foreign languages, about the school, community, local area, and the nation, disseminating data and news effectively.

2. Collaborative Strategic Reading (CSR)

2.1 Definition of Collaborative Strategic Reading (CSR)

Collaborative Strategic Reading or CSR strategy is a reading teaching strategy aimed at developing reading comprehension. It was invented by Janette K. Klingner, a professor at the University of Miami. USA, and Sharon Vaughn, a professor at the University of Texas, USA. Vaughn, Klingner, and Bryant (2001) discuss collaborative strategic reading is a reading comprehension strategy that focuses on learners as the

focus of cooperation in the exchange of ideas in reading in a mixed group of 4 students each with different roles and responsibilities Including the leader of the group Leader explains words Leaders grasp the importance and coordinator collaborative reading strategies for students to explore the entire reading briefly. Then divide the chapters to read them one by one to collect the vocabulary and focus on the importance. When reading all sections, summarize and review the essence of the whole reading. In every step of the reading activity there were discussions and discussions in the group. To draw conclusions from the content that the students read by themselves.

According to Vaughn et al. (2001), collaborative reading strategies are a strategy for teaching reading comprehension that allows learners to use effective reading strategies while doing reading activities with an emphasis on cooperation in exchanging ideas while reading among learners of mixed abilities, with the strategies used being reading surveys. Which is used in the pre-reading process comprehending the terminology used during reading comprehension which is used when reading and summarizing the reading. In accordance with Bremer, Vaughn, Clapper, and Kim (2002), who said that reading collaborative strategies is a teaching strategy for reading comprehension. This involves teaching reading skills created through role-exchange teaching and collaborative learning, as well as allowing students to practice reading strategies. Including reading surveys that are applied to all chapters only once after first understanding the terminology that is used for reading chapters, paragraph by paragraph or section by section using it many times during reading comprehension that is used for reading chapters, paragraph by paragraph or section by section using it several times between reading and review summaries. Which is applied to all chapters only once after reading to use while reading and working together in a collaborative learning group.

It can be concluded that collaborative reading strategies focus on developing reading comprehension. Emphasize collaboration in working in groups to exchange ideas and mix abilities of learners within the group. By allowing students to roughly explore all reading chapters then divide the chapters to read them one by one. To

compile vocabulary and capture the essence when reading all, make a summary of the entire reading by every step of the reading learners will discuss and exchange ideas within the group. To draw conclusions from the content that the students read by themselves.

2.2 Teaching process by using collaborative reading strategies.

In this research, the researcher used Klingner and Vaughn collaborative reading strategy teaching process Vaughn and Klingner (1999), which divided the teaching process using CSR into four techniques include (1) preview the text, (2) click and clunk, (3) get the gist, and (4) wrap up.

Before reading: Preview the text.

Prior to reading, students engage in previewing the text. This involves reading the entire passage before diving into specific sections. Previewing serves several purposes, such as activating prior knowledge, generating interest in the subject matter, and facilitating predictions. Students quickly scan headings, key phrases, photographs, and charts to gain an overview of the content. The instructor initiates a classroom conversation by asking questions related to the previewed information. Furthermore, the instructor assists students in setting expectations for what they aim to learn from the reading.

While reading: Click and clunk (I get it - I do not get it)

While reading, students actively assess their comprehension and gauge their understanding of the material. If their comprehension is smooth and uninterrupted, they continue reading without any issues. However, when they come across difficulties in understanding a phrase, concept, or idea, it becomes a "clunk." Clunks impede reading comprehension and hinder the overall comprehension of the text. In these cases, students recognize the presence of clunks and utilize fix-up strategies found on clunk cards to overcome comprehension obstacles.

Fix-up strategies may include but are not limited to:

1. Vocabulary Fixing: When encountering an unfamiliar word, students reread the phrase and search for contextual clues to infer its meaning. They

may also break the word into its prefix, syllables, or suffix to identify smaller, familiar words.

2. Read-Pause-Reflect: Students take breaks during reading to reflect on and consolidate their understanding of key ideas within each section. If they encounter difficulty comprehending a particular portion, they reread that section to enhance comprehension.

3. Partner Retelling: In this collaborative activity, students work in pairs, with one student acting as the "re-teller" and the other as the "listener." The re-teller is responsible for summarizing the main ideas, principles, and key points derived from the reading, while the listener actively engages by attentively listening, offering feedback, and posing questions. At the instructor's discretion, one listener is chosen at random to share the information presented by the re-teller.

After reading: Wrapping up

Following the completion of reading, students summarize the main ideas from the entire passage. They generate questions about specific details in the text and provide corresponding answers. Students are encouraged to ask high-quality questions that delve into the most relevant aspects of the text. This wrapping-up phase consolidates understanding and allows for reflection on the text's content.

Follow-up Activities - Including but not limited to:

Follow-up activities are implemented to reinforce important lessons and vocabulary terms acquired by students. These activities can include:

1. Verbal and Visual Word Associations: Students write down challenging words (clunks) on post-it notes and stick them next to the corresponding text they appear in. They then create a rectangle for each word, divided into four sections. In these sections, students define the word, depict it visually, and make a personal connection by associating it with their own experiences.

2. Cubing: Students employ a cube to develop a descriptive essay. Each side of the cube represents a different aspect: (a) defining the topic, (b) comparing it to something else, (c) assigning a role or attribute to it, (d)

evaluating its qualities, (e) applying it to real-life situations, and (f) advocating or opposing it based on personal perspectives.

3. Graphically Organizing: students arrange in graphs, diagrams, or maps the knowledge they gained from reading. One category uses a Venn - diagram for comparing theories, for example. Semantic mapping for the relationship between ideas is used by another group.

4. Fishbowl: Any party writes about the subject they read one or two questions. To answer other groups, students leave the questions on their table. The students alternate and answer the questions under the direction of the instructor.

Groups of Collaboratives

Students are involved in CSR strategies in small collaborative communities. Via CSR tactics they are given positions to play. Teachers prepare their students from the start of the year to implement the four CSR understanding approaches by simulation and classroom exercises. Students may use cue cards to remember the techniques and the tasks they perform. They will avoid using cue cards when they have confidence in CSR tactics and positions.

Roles of the student

Upon development of the CSR strategy and understanding of their positions, the students are willing to apply CSR strategies in collaborative groups. Any student in his/her community is assigned by the instructor. The roles vary according to the number of students. Possible roles are:

Leader: leads and manages the group with assistance of the instructor during the execution of the CSR as necessary and maintains representatives of the group in charge.

Expert in Clunk: Uses clunk cards while trying to find a cliwn, show the community the fix-up tactics.

Gist Expert: leads the audience to classify the key concepts in the text they read.

Encourager: Encourages members of the community to contribute and to provide input.

Announcer: Calls on participants after the activity to read or express their thoughts.

Reporter: During a class meeting, share thoughts, responses and questions from the classroom.

Roles of Teachers

From the beginning of the year the instructor introduces and teaches students the CSR approach and mutual grouping. In cooperative communities, teachers should be able to move between their classes and encourage cooperation, offer help and guidance, and explain any inconsistencies. Whenever students acquire the skills and adopt CSR techniques.

While CSR was designed to assist students with learning difficulties and reduced English proficiency, it has had a positive effect on the standardized reading comprehension test scores of average and high average performing students (Vaughn & Klingner, 1999). CSR increases students' overall success and achievement in every subject by improving their reading comprehension, developing collaborative skills, and increasing their overall performance and achievement.

3. Mind Mapping

3.1 Definition of Mind Mapping

Mind mapping is a graphical way to depict thoughts and concepts. According to Buzan Buzan, Buzan, and Harrison (2010), who popularized and created it, mind mapping is an effective graphics tool that offers a universal key to accessing the capacity of the brain. It is a helpful technique that strengthens the way students record information and makes them learn more efficiently and improves the way to record information.

According to Kaufman (2010), a mind map is "a non-linear diagram that allows you to easily catch key thoughts and associations between ideas in a graphical or visual

format." To create a mind map, a thought, concept, or query is put in the middle. The data is then collected by linking the main ideas and insights to the core idea. More specific knowledge about these ideas is then captured in divisions that radiate out from the main principles, away from the core idea. Kaufman (2010) stressed the importance of mind mapping as a tool to use when reading and taking notes. The non-linear format allows you to see the whole set of notes immediately, then conveniently put new material in the right branch or link ideas. This is consistent with the top-down method principle, which holds that Reading is not just a method of extracting context from a document, but it is also a process of linking material in the text with context experience brought to the act of reading by the reader (Pardede, 2008).

3.2 Steps to make mind mapping.

Creating a mind map involves several steps that can be followed to develop an organized and visually engaging representation of information. Here are the steps to make a mind map:

1. Gather Materials: Begin by gathering the necessary materials for creating a mind map, such as paper (A4/Folio/A3), pencils or ink pens, markers, or colored ink.

2. Select a Subject: Decide on a subject for your mind map. Place the paper in landscape mode and draw a central picture or symbol in the middle of the page to represent the main topic. Color is using a three or four-color combination.

3. Create Main Branches: Start by creating main branches that represent the main concepts or ideas related to the topic. Write the words or phrases for each branch using capital letters and color them.

4. Develop Subtopics: Create thinner branches extending from each main branch to represent subtopics. Add relevant terms, images, or keywords to these branches. Ensure that subtopics are grouped separately under each main branch.

5. Expand Subtopics: Further expand each subtopic by adding more details, ideas, or keywords. Use symbols, illustrations, or additional colors to enhance the visual representation and make it more engaging.

6. Continue Adding Ideas: Continue the mind map by creating new branches for additional ideas or concepts related to the topic. Connect these branches to the main or subtopics.

To create an effective mind map, follow these additional steps:

1. Start with the Central Topic: Begin by placing the main topic in the center of the paper and use keywords to represent it.

2. Branch Out: Create branches extending from the central topic to represent key points or subtopics related to the main topic. Use different colors, sentences, symbols, or pictures to make the mind map visually appealing and informative.

3. Make it Engaging: Focus on making the mind map as interesting and captivating as possible. Utilize colors, illustrations, and visuals to highlight important ideas and connections.

4. Review and Refine: Repeat the process two to three times to refine and perfect the mind map, ensuring that the layout and organization effectively represent the relationships between different concepts.

5. Personalize and Express: Create the mind map by yourself, allowing for personal creativity and expression. Be open-minded and innovative in how you represent ideas and concepts. Experiment with different shapes and arrangements to enhance clarity and readability.

By following these steps, you can create a well-structured and visually appealing mind map to organize and represent information in a meaningful way.

3.3 Mapping in the Teaching of Reading Comprehension

Mind Mapping invented and produced for the first time by Tony Buzan in the 1970s, is a type of innovative note-taking that allows students to easily recall a large number of details. De Porter (2008, p.175) Since two hemispheres of the brain are stimulated, it will also help students generate original thoughts and stimulate memory. De Porter (2008, p.152) The method proceeds in this manner by integrating the activity

of the two hemispheres, and it has been shown to improve memory levels by up to 78 percent. This makes it easier for students to recall previously taught instructional resources. Furthermore, the method has the ability to increase both potentials and memory space.

Buzan and Buzan (1996) outline ten steps for the development of mind mapping. Here is a rewritten version of the steps:

1. Start by placing a central picture or subject at the center of the mind map, using at least three different colors.

2. Utilize various visual elements such as pictures, icons, codes, and measurements within the mind map.

3. Use the main words and write them in either upper- or lower-case letters.

4. Each word or image should stand independently on its own branch, with lines connecting them to the central picture. The central lines should be broader, more organic and flowing, gradually becoming thinner as they radiate outwards.

5. The length of the lines should match the size of the word or image they connect to.

6. Incorporate a variety of colors in the mind map to enhance visual appeal.

7. Personalize your mind mapping theme according to your preferences.

8. Utilize focus within the mind map to highlight connections between different elements.

9. Maintain simplicity in the mind map by using radial hierarchy, numerical order, or outlines to clearly separate divisions.

10. Embrace these steps to develop effective and visually engaging mind maps.

There are many benefits of using a mind map to teach literacy. For starters, mind mapping assists students in focusing on important terms and ideas that are often lost in

linear notes. Second, it assists students in grouping together relevant information. Third, it assists learners in becoming mindful of hierarchies. Fourth, it aids decision making by allowing learners to examine all the nuanced and interconnected knowledge they must remember. Following that, it assists learners in recognizing and planning their goals for a conference, presentation, or mission, among other things. Following that, mind mapping promotes innovative thought. Following that, both individuals and groups will build it. Finally, a mind map will aid in problem solving. Following that, it assists students in identifying and planning their goals for a conference, conference, or project, among other things. Mind mapping also promotes creative thinking. Individuals and organizations will then build it. Finally, mind mapping will aid in problem solving by encouraging students to consider all different facets of a problem as well as multiple alternative solutions.

4. Reading Comprehension

4.1 Meaning of reading comprehension.

Many educators have defined reading comprehension as follows:

Carrell (1984) says that comprehension is a sentence or text-level reading comprehension and includes an understanding of text composition or writing structure. Because each structure has its own characteristics If the reader has a good knowledge of structure, it will give a good understanding of what he reads. And can recall the message as well.

Jindanurak, Wihokto, and Thongdee (1999) mentions reading comprehension as a destination for all types of reading. People with the ability to read must have knowledge, understanding, comprehend, and remember. Important detail's similar opinion sequence as well as being able to write summaries, the reading ability of each reader is different depending on the practice and previous experience of readers to help to figure out the reasons.

Samut Senchaowanich (1985) has given the meaning of reading comprehension, how much or deep it is.

1. Reading is the most important thing. Identify or distinguish the main issues away from the sub-points that are not very necessary.

2. Reading is the interpretation of how significant or profound a comment or story can be.

3. Reading is a summary of opinions from what you have read in a logical, reliable, and accurate way.

4. Reading is the use of one's judgment to determine the author's conclusions or references accurately and systematically.

5. Reading is the timely transfer or blend of knowledge gained with other experiences.

Grellet (1981) gave the meaning of reading comprehension. It is to extract the information it needs from the readings as efficiently as possible.

Carr, Dewitz, and Patberg (1983) gave the meaning of reading comprehension as it is the interpretation of what is read and the interaction of what is read with the original knowledge of the readers themselves. The readers can use that knowledge to interpret and judge them logically.

From this educator's definition of reading comprehension, it can be concluded that Reading comprehension refers to the reader's ability to effectively interpret conclusions from the subject read. It uses prior knowledge and the reader's own judgment to judge those messages.

4.2 Elements of Reading Comprehension

The general knowledge that gives rise to the ability to read comprehension is the ability to think and solve problems. And have other abilities necessary for reading comprehension, such as having sufficient vocabulary knowledge and the ability to use language decoding skills into meaning by using context clues. A competent reader will understand each semantic text, a group of words that have a meaning in units. Which is how long it can be flexible as it should be and the eye sweep. In addition, a savvy reader will pay attention to the text. Related to his reading purpose. Harris and Sipay (1979) and Bond and Tinker (1957) mentions that reading comprehension is based on the reader's

prior knowledge. Vocabulary development and the ability to interpret the chapter read out into a concept, the reader must use the vocabulary knowledge accumulated from experience to connect with words or a group of words. Which is a symbol of meaning. So, it can be concluded that reading requires an understanding of the following areas:

1. Understanding the meaning of words (Meaning Vocabulary) is the basis of reading comprehension. Because to understand the sentence level (Sentence) and paragraph, the reader must have the ability to understand the meaning at the word level before. The nature and correctness of this meaning depends on the following elements.

1.1 Context in which the word appears.

1.2 Skills to connect the new understanding with the original reader's experience.

1.3 The mood, interest, acceptance, and purpose of the reader

2. Understanding thought units means a group of words that are meaningful units. Readers must be able to read into groups of words to get the continuous meaning. Instead of reading one word at a time which is difficult to interpret and understand. Readers must have a cognitive development before they can understand the meaning at the sentence level.

3. Sentence comprehension is the development of the reader's ability to understand the meaning at the conceptual level. Then bring the meanings of each thought unit together until they get the meaning in a sentence.

4. Understanding paragraph comprehension, readers need to understand the relationship between the sentences in the paragraphs before. Understanding this paragraph means being able to identify sentences that form the main theme of a paragraph. And understand the relationship between main thematic sentences and other sentences in paragraphs that expand continuity.

From the reading elements, the reader must have the ability to understand the meaning from word level all the way to the paragraph level and go to the relationship between each abbreviation page of the story by relying on knowledge of language, culture, and previous experiences to connect to the subject that can be read as well as

the ability to interpret reading purpose and using strategies that are suitable for each type of reading.

In addition, some scholars have considered reading for understanding as different from the above. But still the same principle is understanding the easy-to-advanced level, as Iwin (1991: 7-9) did. Mention reading comprehension as a process of applying prior knowledge, attitudes, interests, expectations, reader skills, and written messages. In the author's intended interpretation literally convey reading comprehension consists of 5 processes:

1. The process of reading at the micro level. (Microprocesses) is the translation of each unit of thought in each sentence. And evaluate to decide which memory and memory. Therefore, the process of comprehension involved is the division of words into phrases or meaningful units (chunking) and the selection of critical memory (Micros election).

2. Integrative Processes are to understand the relationship between phrases, clauses, and clauses, which may be related in logical ways, requiring the ability to identify interrelated pronouns. Causality, chronology, and other relationships in each context of the story.

3. The reading process at the macro level. (Macro Processes) is the ability to synthesize and organize individual units of thought. To summarize or organize to sequence ideas within a subject in relation to each other It is useful for remembering the relationship of the subject. The relevant sub-understanding process is therefore summarized. And the construction of the written structure of the text

4. Elaborative Processes are the ability to expand or transfer information into the minds of the readers themselves. Readers use the ideas gained from the story as a basis for their thinking to expand on the subject. Which the author did not propose in the reading chapter It is a process in which the reader uses a high level of thinking that helps them memorize what they read well.

5. Metacognitive Process is a process by which readers know themselves when they do not yet understand the information they read. And know how to make them

understand that reading. Therefore, the sub-processes that need to be involved are the selection, assessment or thinking strategies to control and direct reading comprehension.

This reading might lead to the conclusion that all five reading comprehension processes cannot occur alone in a single reading comprehension situation. Read one but happened by many processes at the same time and which process can take place first, in no order, depends on the appropriateness of being drawn to each chapter. And each process must be related as well. One process will be able to accomplish reading comprehension. Readers must use one or more processes to help them understand while reading.

4.3 Reading comprehension level

In reading, the important thing is reading comprehension. Knowledge of the level of reading comprehension will help teachers assess at what level the learners develop comprehension of the subject matter, what can be modified as appropriate to correctly select the preparation for teaching reading. Suitable for developing students' reading ability. Linguists and educators classify the levels of understanding as follows.

Valette and Disick (1976) divided the reading comprehension into five levels:

1. Level of mechanical skill is a literal understanding of content. Foreign language symbols can be distinguished from the language of the reader. Can tell spelling similarities and differences. Know the relationship between sounds and language symbols and know the meaning of the words.

2. Knowledge skill is a skill that helps learners to understand the meaning of words, phrases, sentences read. Able to tell which word or message corresponds to the image seen reading at this level is usually one sentence at a time.

3. Transfer skill is a skill that learners can understand text with vocabulary and grammatical structures learned. Know the meaning of the words that you are not used to. Using context as a guide in guessing the meaning can translate the original meaning by using different sentence patterns, understanding grammatical pointers. Compose ideas by classification, summary, condensation, synthesis.

4. Communicative skill is the level of understanding that learners can enter a text with new vocabulary and structures. Or words with the same root words that students have read before can understand, grasp the importance of the matter, summarize the cause and effect that appears in the body. Order the events comparison, predict events, and interpret language as a metaphor.

5. Critical skill level is the level at which the reader can interpret the author's aims, opinions and attitudes that are inherent in the writing style and language of the author.

Burmeister (1974) divides the level of reading comprehension according to Bloom's Taxonomy, which explains the level of reading comprehension as follows:

1. Level of understanding (Memory) means to remember or understand facts, definitions, and importance of the subject. Chronology of the story and remembering and following the clarification.

2. Level of translation means to translate the text or things known and understood into other forms, such as translation from one language to another, transcribing the theme of the subject into charts, maps, or diagrams. Short play or bring a play to write a story and follow instructions.

3. Level of interpretation means the author did not see the relationship of things. Finding the cause when assigning results or giving reasons for finding results foresight capturing the connotation.

4. Level of Application means the ability to see or understand a principle or example then can be applied.

5. Level of Analysis means the level of understanding at which the reader can distinguish the subspecies that make up the majority, such as making conclusions or judgments based on poetry analysis data Separating facts from opinions analysis of infectious advertising.

6. Synthesis level means the level of understanding that the reader can bring in small details to summarize into the big ones.

7. Evaluation level refers to the level of understanding that the reader can set criteria and judge the subject read based on the set standards from various passages such as facts, opinions, reviews, fantasies, and beliefs.

Harris and Sipay (1979) divides reading comprehension into four levels:

1. Literal Comprehension

2. Interpretation of what is read (Interpretation) such as the true meaning of the author, which is deeper.

3. Critical Reading is read and can be evaluated and decided.

4. Creative Reading is to read and understand more. Or in addition to what the author has written

Dechant (1982) stated the reading level as follows:

1. Level of literal comprehension is that the reader can explain clearly. Be able to remember and recall thoughts or details of readable information.

2. The level of editing the text order (Reorganization) which requires analysis and synthesis. Or the sorting of ideas clearly stated in the read text. This includes ranking, plotting, condensing, and synthesis.

3. Inference from reference is a collection of content from the story read by the mind of the reader. Alphabetical description personal knowledge Intuition and imagination. This will come out in a way that is honest and coherent opinions between the reader and the author.

4. Evaluation level or criticism level (Evaluation or Critical Reading) readers must evaluate or criticism about what is read by using the information that the author has said in the passage as a component

5. The level of mischief (Appreciation) The reader must be able to impart techniques and patterns the authors use to incite the reader's reaction. Readers must be passionate about the author's ideas and create imagination.

6. Level of integrated understanding (Integrative Comprehension) is a collection of effective data memorization. To apply to each person's experience for general reading purposes, such as reading graphs, maps, etc.

Raygor and Raygor (1985) divided 3 levels of understanding as follows.

1. Literal comprehension is the level of comprehension that is least relevant to the qualifications of the reader. It is only to receive news from the author.

2. Understanding the level. (Interpretive comprehension) is the level of understanding that the reader must try to find a relationship. Compare information from the subject with their experiences. Understand the sequence of events Know the cause-and-effect relationship and interpret general information.

3. Understanding the level of application (Applied comprehension), the reader must evaluate the author's thoughts. Decide to accept or reject or apply that information to use such as teaching etc.

Rubin (1993) divided the basic level of understanding by adapting Nila Banton Smits's taxonomy into four levels, the same as the Jindanurak et al. (1999), which added one level of critical analytical understanding from the four educators mentioned above are.

1. Level of literal comprehensive (literal comprehensive) is a basic understanding is to interpret the characters that appear. Readers can understand the story. Because the author clearly expressed.

2. Level of understanding at interpretation level (Interpretation) is reading higher than level 1, the reader must understand and interpret the meaning of the text that can be read more deeply than level 1, the reader must interpret or interpret what the author did not say it directly. But is the meaning hidden in the story.

3. Level of comprehension, critical reading level (Critical Reading) is the reading level that requires higher thinking than the comprehension at the previous level: 2, the comprehension at this level, the readers must use their thoughts to help analyze. Judge what is read in terms of quality, value, and validity.

4. Creative reading is reading that requires thinking higher than the level 1,2 and 3 comprehensions. It is reading that allows learners to create new ideas. Imagine far and wide Provide opinions and solutions other than those in the text.

In summary, the level of reading comprehension starts with a basic understanding, interpreting the meaning of characters. Then is the level that must be interpreted. Next is the level that the reader must analyze and distinguish the subtleties and synthesize by summarizing major principles. Finally, at a high level of thought. There are assessments judging on readable and imaginative stories outside of the story.

4.4 Teaching Reading

Numerous educators have put forth suggestions for teaching English reading comprehension. Grellet (1981) emphasizes the importance of activities that enable learners to find answers within the text, encouraging tasks to be assigned after reading to facilitate problem-solving. Similarly, K. Johnson and Morrow (1981) proposes that exercises and reading practice activities should involve interactive scenarios that prompt readers to engage with the content, fostering interpretation, knowledge transfer through speaking, explaining, writing, or conveying messages derived from the story. Additionally, Wisa (2000) recommends that reading practice should not be solely focused on testing comprehension, but rather on enhancing readers' understanding of the text. To improve reading skills, suggests incorporating true-false questions that aid in comprehending the sequence and content of the text. Furthermore, exercises employing tables, charts, maps, graphs, and images can assist readers in gaining a deeper understanding of the text they are reading.

Zintz (1980) presented a set of strategies for teaching reading comprehension, outlined as follows:

1. Guiding the identification of main ideas: Instead of simply asking students, "What's the main idea?", teachers should provide directions within the reading material to indicate where the main idea can be found. Moreover, teachers should teach students strategies for effectively identifying and selecting the main idea.

2. Writing to enhance understanding: Encouraging students to write about their personal experiences and sharing their work with teachers and classmates can facilitate a deeper understanding of the subject matter.

3. Utilizing the cloze method for meaning inference: The cloze method involves guessing the meaning of words or phrases based on the context and omitted portions. This method can also be employed as a teaching tool to improve students' reading abilities. Students can participate in oral or group activities where they select appropriate words or interpret the meaning behind the author's words, allowing them to apply their knowledge and demonstrate their reading comprehension.

4. Developing inference skills: Inference entails comprehending and deducing relationships between words, clauses, and sentences. Students need to be able to sensibly understand multiple sentences and connect different inference ideas.

5. Teaching narrative structure:

5.1 Analyzing folk tales to help students grasp the structure of stories.

5.2 Fragmenting a story into sections and having students reconstruct it as a cohesive narrative, either individually or in groups.

5.3 Using different colors to denote distinct episodes within a story.

5.4 Evaluating poorly written stories and prompting students to identify errors or missing elements while considering cultural factors.

5.5 Having students write stories where they modify one piece of information at a time, ensuring the overall story remains coherent and interconnected.

6. Encouraging imagination:

6.1 Recognizing that proficient readers enjoy reading and possess their own imaginative interpretations of what they read.

6.2 Respecting each student's unique imagination.

6.3 Allowing sufficient time for students to cultivate their individual imagination.

6.4 Creating an informal and accepting classroom environment that nurtures students' imaginative thinking.

6.5 Stimulating students' imagination by posing non-intimidating questions that encourage them to elaborate on the details in their minds.

6.6 Initiating imaginative activities based on real events, such as asking students to envision a trip to an amusement park.

6.7 Progressing to more advanced imaginative exercises where students create stories in their minds.

7. Encouraging student questioning: Providing examples of key points in narrative structure and then prompting students to generate their own questions related to the story being read.

Rubin (1993) outlined the following guidelines for teaching reading comprehension:

1. Select readings that are suitable for the students' background knowledge.

2. Encourage students to make predictions about the story before reading it.

3. Pose questions to students before they start reading.

4. Continuously ask questions while students are reading.

5. Engage students in discussions by asking questions after they finish reading.

6. Foster a classroom environment where students feel comfortable asking questions about the passage they read.

7. Pose questions that require interpretation and encourage critical thinking.

8. Prompt students to check their initial predictions against the actual content of the reading.

9. Ask students to provide evidence from the text to support their answers.

10. Utilize visual aids or materials that illustrate the relationship between the main story and sub-story.

11. Request students to summarize what they have read.

12. Model the cognitive processes teachers employ to comprehend written texts, helping students understand the steps involved.

13. Identify strategic points to intervene and provide additional guidance to enhance students' understanding.

In conclusion, effective teaching of reading comprehension involves employing various instructional skills, strategies, and techniques. Adequate teaching materials and practice opportunities are essential for students to develop their reading comprehension abilities. Instruction should begin with simpler skills and gradually progress towards more

complex tasks, with the teacher gradually transitioning from a direct instructional role to facilitating independent student activities. Once students have achieved mastery of the skills, the teacher can employ diverse teaching methods based on the students' characteristics and the texts being taught.

5. A Review of Previous Studies on Collaborative Strategic Reading (CSR) with Mind Mapping

A study conducted by Ahmad Khoirul Anwar from Universitas Hasyim Asy'ari, Indonesia titled "The Effect of Collaborative Strategic Reading on Students' Reading Skills" aims to enhance students' ability to read English texts. The study employs the Collaborative Strategic Reading (CSR) method, which involves four key steps: preview, click, get the gist, and wrap up. Prior to implementing the CSR technique, students' reading skills were only at 50% due to limited familiarity with pronunciation. However, after the CSR method was applied, students' reading skills improved to 100%. The research was conducted on 8th-grade students from SMP 1 Jogoroto, comprising a sample of 18 males and 14 females. (Anwar, 2020)

A study conducted by N Nurhadiansyah, Fidya Arie Pratama, and Muhammad Iqbal Al-Ghozali from SMK Kedawung Cirebon, Indonesia, titled "The Use of Collaborative Reading Strategies in Fiction Reading Learning," aims to enhance students' English reading abilities. The study addresses the current challenges in Indonesian elementary schools, where conventional teaching methods prevail. The research aims to identify and improve students' reading activities and skills using innovative approaches. The data analysis employed both quantitative and qualitative methods. The findings indicate a positive transformation in reading activities, which have become more active, creative, and enjoyable. The increase in reading activity was measured by comparing the average differences between Cycle I and Cycle III, resulting in a 12 percent improvement. The study has been published in the online edition of 'Teachers and Teachers'. (Nurhadiansyah, Pratama, & Al-Ghozali, 2019)

A study conducted by Miss Jaruwan Wongkaew from Silpakorn University, titled "The Development of English Reading Comprehension Skills Using Collaborative

Strategic Reading (CSR) through Local Information of Kanchanaburi for Pratomsuksa Sixth Students," aims to enhance students' English reading comprehension abilities. The research sample consisted of 13 students enrolled in Pratomsuksa Sixth at Wat Nongmaikan College, Amphur Tamaka Kanchanaburi. The findings revealed that English reading comprehension significantly improved after implementing the Collaborative Strategic Reading (CSR) approach, compared to the pre-instruction levels, with a statistical significance level of 0.05. Moreover, students demonstrated healthy group learning habits when utilizing the Collaborative Strategic Reading method. The results were evaluated using mean, standard deviation, and t-test statistical analysis. This thesis has been published in the journal of the Royal College of Graduate Education. (Wongkaew & Sithsungnoen, 2020)

A study conducted by Thidarat Samanphan and Jun Tiyawong titled "The Development of M.6 Students' English Reading Comprehension Using Collaborative Strategic Reading" aims to enhance students' reading comprehension skills. The research focuses on utilizing collaborative strategic reading techniques to promote English reading proficiency among M.6 students. The study population comprised 75 students from Boonwattana School. The results indicate that the average reading comprehension score of the students was 78.86 percent, surpassing the criteria for reading comprehension (75 percent). These findings highlight the effectiveness of collaborative strategic reading in improving students' comprehension abilities and fostering collaborative skills when working in groups. (Samanpan & Tiyawong, 2020)

A study conducted by Arada Kongwat and Pornpimol Sukavatee from Chulalongkorn University, titled "The Effects of Collaborative Reading Instruction Using Infographics on Students' Reading Comprehension," aimed to investigate the impact of collaborative reading instruction with infographics on student understanding. The research findings revealed that students' post-test scores significantly improved after receiving instruction using infographics compared to their pre-test scores. The study concluded that the use of infographics effectively enhanced students' understanding, as the information presented through the creation of infographics proved to be effective.

Additionally, the study assessed the quality of student-created infographics after the reading comprehension test, which was determined to be at a "good" level. The research involved 18 students from a public school in Bangkok. (Kongwat & Sukavatee, 2019)

A study conducted by Kanpajee Rattanasaeng from Chulalongkorn University, titled "The Development of Collaborative Strategic Reading (CSR) Instruction Using Electronic Children's Picture Books for Fifth-Grade Students," aimed to implement Interactive Strategic Reading (CSR) instruction using electronic children's picture books. The research utilized English reading skills tests, student opinion logs, and opinion questionnaires. The findings demonstrated that CSR instruction using children's books had a significant impact on improving students' reading skills. (Rattanasaeng, 2011)

A study conducted by Ting-Ting Wu from the Graduate School of Technological and Vocational Education at National Yunlin University of Science and Technology, titled "Combining E-books with Mind Mapping in a Reciprocal Teaching Strategy for a Classical Chinese Course," aimed to enhance reading comprehension. Classical Chinese texts encompass the essence of Chinese popular culture and humanistic spirit, but they can be obscure and challenging to comprehend. This research explored the use of e-books, reciprocal teaching, and mind mapping in teaching classical Chinese. The findings revealed that integrating e-books led to a noticeable improvement in reading comprehension. Furthermore, it was observed that e-books with diversified help resources and multimedia engagement capabilities facilitated information sharing. (Wu & Chen, 2018)

A study conducted by Khairunnisa from Jambi University, titled "The Effect of Mind Mapping on Tenth Graders' Reading Comprehension at Man 1 Muara Bungo," aimed to enhance students' reading comprehension and foster a passion for learning through the use of Mind Mapping. The study followed a quasi-experimental research design, involving a total of 60 students from two schools, with class X MIA 1 (30 students) serving as the experimental group. The experimental group received training in mind mapping techniques, while the control group was taught using traditional methods. The findings indicated that there was no significant difference in scores between the

experimental and control groups. This suggests that the use of mind mapping approaches did not have a major impact on students' reading comprehension of first-grade narrative texts at Man 1 Muara Bungo. However, the questionnaire responses indicated that students were more inspired to learn when using the Mind Mapping methodology. (Khairunnisa, 2019)

A study conducted by Supawadee Santhep and Nuchwana Luanganggoon from Khon Kaen University, titled "A Study of English Reading Comprehension Ability of Grade 10 Students Based on Collaborative Integrated Reading and Composition Technique and Mind Mapping Technique," aimed to enhance reading comprehension skills. The research employed a pre-experimental approach (One-Shot Case Study). On average, students scored 21.29 or 70.97 percent in reading comprehension skills. Student satisfaction with the Collaborative Integrated Reading and Composition Technique and Mind Mapping Technique was rated as "high" (mean = 4.00, S.D. = 0.58). The findings revealed that 26 students, accounting for 76.47 percent, met the expected standards and expressed satisfaction with the learning experience. Data analysis involved percentage, mean, and standard deviations. (Santhep & Luanganggoon, 2018)

A study conducted by Khankeo Chanthalat, Nitaya Suvanasri, and Rapin Posrie from Uttaradit Rajabhat University, titled "Learning Management Through Brain Based Learning and Mind Map to Improve Reading Comprehension Ability in English of Grade 6 Students at the Xienghon Secondary School, Sayaboury Province Lao People Democratic Republic," aimed to enhance reading skills and English comprehension. The research employed the Brain-Based Learning (BBL) Reading Practice Model with Mind Map, which demonstrated effectiveness with a score of 70.79/70.69, meeting the specified criteria. Grade 6 students at the Xienghon Secondary School in Sayaboury Province, Lao People's Democratic Republic, achieved a high level of English reading skills and comprehension through the implementation of the Brain-Based Learning (BBL) reading practice model alongside Mind Map techniques. The students expressed satisfaction with the BBL and Mind Map activities, which contributed to their improved reading skills. (Chanthalat, Suvanasri, & Posrie, 2020)

A study conducted by Mr. Pornpat Rittichai from Silpakorn University, titled "The Development of a Reading Comprehension Model by Using Mind Mapping Techniques with Edmodo Program for First-Year English Majors of Uttaradit Rajabhat University," aimed to enhance reading comprehension through the utilization of Mind Mapping. The research involved 30 first-year English majors at Uttaradit Rajabhat University during the academic year 2017. The findings demonstrated that the reading comprehension learning model achieved an accuracy level of 78.40/78.33, surpassing the set criterion of 75/75. Moreover, the English reading comprehension capacity after implementing the model exhibited a slight improvement at the 0.05 significance level, with an effect size of 2.52. Furthermore, students' ability to create mind maps showed a slight increase following the adoption of the reading comprehension model, with a notable effect size of 1.74, indicating a significant impact. The research incorporated mind mapping strategies in conjunction with the social network platform, Edmodo. (Rittichai & Torut, 2018)

A study conducted by Miss Alongkorn Simla from Silpakorn University, titled "The Use of Concept Mapping to Enhance Reading Comprehension for Pratom Sixth Students," aimed to examine the impact of concept mapping exercises on students' English reading comprehension skills. The study compared students' abilities before and after engaging in concept mapping activities. The findings revealed that students' reading comprehension significantly improved after participating in concept mapping exercises, with a statistical significance level of 0.01. Additionally, the student feedback indicated strong positivity towards the formatting, content, activities, and benefits of concept mapping in enhancing reading comprehension. The research involved 30 randomly selected sixth-grade students in Thailand. (Simla & Cheep-aranai, 2019)

A study conducted by Michael Jordan Vicencio Fulgueras and Judy Cañero Bautista from Philippine Normal University, titled "Flipped Classroom: Its Effects on ESL Learners' Critical Thinking and Reading Comprehension Levels," aimed to investigate the impact of flipped classrooms on the critical thinking and reading comprehension abilities of 212 senior high school students in the Philippines. The findings indicate that students who were guided through a flipped learning approach performed significantly

better than those who received traditional instruction. The research compared the effectiveness of the flipped classroom approach with the traditional lecture-discussion method in enhancing students' reading comprehension and critical thinking skills. The study's findings have been published in the Journal of Education. (Fulgueras & Bautista, 2020)

A study conducted by Sarah A. Isaacson, titled "The Impact of Interface on ESL Reading Comprehension and Strategy Use: A Comparison of E-books and Paper Texts," aimed to enhance reading comprehension. With the increasing usage of e-books in post-secondary education, it is essential to explore their potential impact on English as a Second Language (ESL) learners. However, there is limited literature available on how e-books affect reading comprehension and the use of reading strategies. The findings of this study suggest that teachers should provide students with e-book strategy lessons to facilitate their smooth integration of technology. The results also provide support for the inclusion of e-books in ESL curricula and offer practical advice to teachers. (Isaacson, 2017)

A study conducted by Jintana Chairoek, Pakob Jaiman, and Korawan Seubsom from Nakhon Si Thammarat Rajabhat University, titled "The Development of Electronic Storybook for Improving Reading Comprehension Skills in English among Prathomsuksa 6 Students," aimed to enhance reading comprehension skills. The study was conducted at Ban Thalaysonghong School in China, involving a group of 36 Prathomsuksa 6 students. The overall results were highly positive. The Electronic Storybook, designed to improve reading comprehension skills in English for Prathomsuksa 6 students, demonstrated an effectiveness level of 78.73/79.67, surpassing the set threshold of 75/75. The electronic storybook received high satisfaction ratings from the students. The study findings also indicate a high level of consistency and reliability for the electronic storybook, meeting the required standards. (Jintana, Pakob, & Korawan, 2019)

A study conducted by Prapatsorn Kanjanachai, Phananoi Rotchu, and Kanokkarn Kittichartchaowalit from Suratthani Rajabhat University, titled "The Effectiveness of Concept Mapping Learning Package to Enhance English Reading Comprehension

Ability of Primary Student V," aimed to improve students' English reading comprehension skills. The study found that the concept mapping learning package significantly enhanced students' English reading comprehension, with an effectiveness rating of 85.18/80.35. Students' reading comprehension skills improved beyond the expected level at a significance level of 0.05. Moreover, student satisfaction with the learning package was high throughout its implementation. The research was conducted at Banhanphet College during the second semester of the 2019 academic year. Statistical analysis employed percentage, mean, standard deviation, and t-test measures. (Kanjanachai, Rotchu, & Kittichartchaowalit, 2020)

A study conducted by Thipwarin Yanyuaen and Prakrit Poolpay from Suan Dusit University, titled "English Reading Comprehension Ability of Students with Physical or Health Disabilities Studied at Mattayomsuksa 1 at Sri Sangwan School by Using Murdoch Integrated Approach (MIA)," aimed to enhance students' English reading comprehension skills. The analysis had two objectives: to investigate the English reading comprehension abilities of students with physical and health disabilities studying in Mattayomsuksa 1 (Grade 7) at Sri Sangwan School using the Murdoch Integrated Approach (MIA), and to compare the pre-test and post-test scores. The findings showed that after implementing English reading comprehension lessons using MIA, students with physical and health disabilities exhibited a high level of English comprehension, with an overall score of 4.11 and a standard deviation of 0.55. These students demonstrated the capacity to read English and understand it effectively, highlighting the effectiveness of the Integrated Approach in teaching. (Thipwarin & Prakrit, 2020)

A study conducted by Pennapa Tappan and Patteera Thienpermpool from Silpakorn University, titled "The Development of Supplementary English Reading Comprehension Exercises by Using Task-Based Learning for Prathomsuksa Six Students," aimed to enhance reading comprehension through the implementation of task-based learning. The research involved 30 sixth-grade students from Ban Bo-It School during the second semester of the 2017 academic year. The effectiveness of the supplementary reading comprehension exercises using task-based learning achieved a

score of 77.40/76.44, surpassing the anticipated criteria of 75/75. This indicates that the exercises were highly efficient in improving reading comprehension. Moreover, students' ability to read English slightly improved after engaging in the lessons. The research also revealed that students held a positive view regarding the reading comprehension activities, indicating a high standard of satisfaction. (Tappan & Thienpermpool, 2018)

A study conducted by Gloria Yi-Ming Kao, Ju-I Cheng, and Chin-Chung Tsai from the Graduate Institute of Digital Learning and Education at National Taiwan University of Science and Technology, titled "Improving Reading Comprehension using the Cooperative Mind Mapping Summary Strategy," aimed to enhance reading comprehension through the utilization of Cooperative Mind Mapping. The study emphasized the importance of developing comprehensive reading habits and effective reading techniques to become a proficient reader. The research examined the reading comprehension success of learners using three different reading description strategies: "cooperative mind maps," "co-text," and "individual mind maps." A total of 272 high school students participated in the study. The results demonstrated that the "cooperative mind map group" outperformed the "individual mind map group" when using the mind mapping method to compose summaries. This highlights the significance of group dialogue in creating a more systematic interpretation of the reading content. The main findings suggested that the most effective approach to improving students' reading success was combining group conversation with mind maps as visual review writing methods. Furthermore, using a mind mapping tool instead of a basic text tool during the summary construction process helped students better define key concepts, analyze interactions and hierarchies between concepts, and enhance their ability to organize and interpret the reading material effectively. (Kao, Cheng, & Tsai, 2017)

A study conducted by Zahra Riahi from IAU Research and Science Center, Khouzestan Branch, Iran, titled "Effective Reading Comprehension in EFL Contexts: Individual and Collaborative Concept Mapping Strategies," aimed to examine the impact of Individual Concept Mapping (ICM) and Collaborative Concept Mapping (CCM) techniques on the reading comprehension of Iranian EFL students. The study included a

sample of 90 pre-intermediate female language learners, ranging in age from 12 to 17 years old, who were randomly assigned to the ICM, CCM, and Control groups. The ICM and CCM groups received EFL reading materials introduced and practiced with their respective techniques, while the Control group received traditional reading comprehension instructions. After the treatment, each participant completed a Concept Mapping exercise, and a post-test was administered to assess the effectiveness of the techniques. The study's findings favored both ICM and CCM methods in improving the reading comprehension of Iranian EFL students. The statistical analysis showed that the ICM and CCM groups outperformed the Control group, which received traditional teaching techniques. However, there was no statistically significant difference between the ICM and CCM groups in terms of reading comprehension. Therefore, the researchers were unable to determine which technique had a greater impact. The study provides pedagogical implications and suggests further research topics for consideration. (Riahi & Pourdana, 2017)

A study conducted by Mrs. Supatra Moollaong from the Graduate School, Silpakorn University, titled "The Development of Supplementary Reading Comprehension Exercises through Collaborative Strategic Reading (CSR) and Graphic Organizer Techniques for Mathayomsuksa-Three Students," the study aimed to accomplish the following goals: 1) Evaluate the effectiveness of Reading Comprehension Activities for Mathayomsuksa-Three Students using Collaborative Strategic Reading (CSR) and Graphic Organizer Techniques. 2) Compare the English reading abilities of students before and after participating in supplementary reading exercises. 3) Investigate students' attitudes towards the exercises. The study was conducted in the second semester of the 2014 academic year, with a randomly selected class of 30 Mathayomsuksa-Three students. These students completed eight reading comprehension exercises using Collaborative Strategic Reading (CSR) and Graphic Organizer Techniques over a six-week period, comprising eighteen class sessions. Data collection instruments included the reading comprehension exercises, lesson plans, a reading proficiency test (serving as both a pretest and posttest), and a questionnaire on

attitudes towards the reading comprehension exercises. Statistical methods such as mean, standard deviation, and t-test were used to analyze the data. The study yielded the following findings: 1) The Supplementary Reading Comprehension Exercises using Collaborative Strategic Reading (CSR) and Graphic Organizer Techniques were rated as 81.63/85.08 percent effective, indicating a high level of productivity. 2) The students' English reading capacity significantly improved at a 0.05 level after engaging in the Supplementary Reading Comprehension Exercises using Collaborative Strategic Reading (CSR) and Graphic Organizer Techniques, compared to their reading abilities prior to using these techniques. 3) The students exhibited overwhelmingly positive reactions towards the Supplementary Reading Comprehension Exercises using Collaborative Strategic Reading (CSR) and Graphic Organizer Techniques. (Moollaong, 2015)

According to those studies, they are also linked to Collaborative Strategic Reading (CSR) with Mind Mapping. They were useful in this study as a guide for developing an English lesson plan for MathayomSuksa 5 students based on Collaborative Strategic Reading (CSR) with Mind Mapping.

CHAPTER 3
RESEARCH METHODOLOGY

This chapter describes the methodology employed for the collection and analysis of research data. It is divided into four parts: research population and sample, research instruments, data collection and data analysis procedures.

1. Research population and sample

The population of this study consisted of Matthayomsuksa 5 students at the Rajadamri School, academic year 2021, 4 classrooms with 141 students.

The sample group in this research is Matthayomsuksa 5 students at the Rajadamri School, academic year 2021. The researcher selected 1 classroom with 30 students by using Cluster Random Sampling because students were already divided into classrooms and each classroom was a mixed ability group of students in every classroom.

This research was a pre-experimental study using A One Group Pretest-Posttest Design.

2. Research instruments

The research instruments used to collect data for this study include English lesson plans for Matthayomsuksa 5 using Collaborative Strategic Reading (CSR) with Mind Mapping Technique, Pretest-Posttest, and questionnaire about learning satisfaction.

2.1 English lesson plan for Matthayomsuksa 5 using Collaborative Strategic Reading (CSR) with Mind Mapping

The lesson plan is designed based on the Collaborative Strategic Reading (CSR) with Mind Mapping Technique has the following procedures for building and validating the tools:

2.1.1 Study documents, textbooks and research work related to writing a learning management plan and teaching and learning processes using Collaborative Strategic Reading (CSR) with Mind Mapping Technique.

2.1.2 Studying the Basic Education Core Curriculum, BE 2551: Foreign Language Learning Subject Group, Grade 10 - 12 and related documents.

2.1.3 Create a lesson plan of two modules, 8 lesson plans, 2 periods of 50 minutes each. The researcher uses the teaching process by using Collaborative Strategic Reading (CSR) with Mind Mapping Technique, which is divided into two stages (Klingner & Vaughn, 2000).

Part 1: Preparation

1. Teachers introduce and practice reading strategies using an explanatory teaching method. This teaches students strategies that help them understand reading and how to use them. With a hierarchy teach as follows

Step 1: The teacher explores the student whether they have previous experience in connection with the strategies being taught. To know the basics of students

Step 2: Teachers explain strategies in easy-to-understand language, in detail the following.

2.1 Names and definitions or meanings of reading strategies

2.2 Importance or benefits of reading strategies

2.3 How to use such tactics.

2.4 Opportunities and reasons for using such tactics.

English reading strategies to be practiced in this research include:

1. Linking old knowledge with reading chapters.

2. Predictions for reading in advance

3. Guess the meaning of the word from the context.

4. Summarizing the main points in your own language

5. Asking questions about reading chapters

6. Reviewing and summarizing the material learned.

Step 3: The teacher demonstrates the use of different strategies.

Step 4: Students practice the strategies they have learned. With a teacher to assist

Step 5: Teachers and students revise what they have learned.

2. Teachers divide students into sub-groups and abilities. There are approximately 5-6 members in one group consisting of students with mixed high, medium, and low reading abilities. Group members will agree to divide their duties as appropriate. After the duties within the group are divided, each student is provided with a document describing their duties and roles. To build understanding and awareness of the duty

Part 2: Reading Procedures using Collaborative Strategic Reading (CSR) with Mind Mapping Technique

1.Pre-Reading

Preview (Survey) students brainstorm, and the instructor encourages the learners in each group to mobilize knowledge on the topic to be studied, thereby extracting the learners' original knowledge. Then have the students read the first paragraph. And brainstorm within the group based on previous experiences, title, or part of the story to predict in advance what the story will be read.

2. While-Reading

Each learner reads the next paragraph at a time. While reading, if students do not understand, other members will help each other to study (Click and Clunk) click refers to vocabulary and idioms that students understand while clunk refers to vocabulary and idioms that students do not understand. Find important words or ideas that will help learners to understand. Or can find a hint of the sentence before or after the text. Alternatively, students can analyze the prefix, suffix of the word, etc. Then have the students in the group understand the clunk part that appears in the reading paragraph. At this stage, it will capture the importance of the content read. Exchange students compared with group members. They exchanged ideas to find conclusions as a group. Have the learners carry out this process one paragraph at a time until the end of the story. In this step, students use thought techniques in writing outlines of the themes they read.

3. Post-Reading

Wrap up is an activity step after reading. Which asks each student to ask about the important opinions of the stories they read (Question about the important ideas in the passage). Each learner discusses. Exchange questions and answers within the group, and help each group make five group questions, then have each group send a representative to ask the other group to create an energetic atmosphere. And then review the knowledge. After that, each student summarizes the whole story (What I have earned) by using a mind map and bringing it up for discussion in the group and in the classroom. The instructor takes a test of their comprehension of an individual read subject and records and announces the group achievement score.

4. Present the lesson plan using Collaborative Strategic Reading (CSR) with Mind Mapping Technique to the thesis advisor. To verify the correctness and improve according to instructions.

5. The lesson plan using Collaborative Strategic Reading (CSR) with Mind Mapping Technique was used as a research tool by 30 students of Matthayomsuksa 5 at Rajadamri School, a sample of the research.

2.2 Reading comprehension test

A Reading comprehension test is given to students before and after using the English lesson plans for Matthayomsuksa 5 using Collaborative Strategic Reading (CSR) with Mind Mapping Technique. The aim was to evaluate the students' reading comprehension before and after using the lesson plans. The stages of the pre and posttest construction were:

2.2.1 Studying the designed textbook. This stage was to study and explore the language use and content in the designed textbook.

2.2.2 Analyze content, indicators, and learning objectives. Then create a table of test specification covering the main objectives: Identify the words reference in the context, find and indicate information in the passage, and understand the details. (As in Table 1)

Table 1 Table of test specifications

Objectives	Skill	Text form	No. of items	Scoring
1. To identify the words reference in the context.	Reading	Articles, Book	49	0-1
2. To find and indicate information in the passage.			1-5,12-20,36,37,38,40, 46,48	
3. To understanding the details.			2,6-11,21-34,35,39, 41-45,47,50	

2.2.3 Constructing the pre and posttest. There were 50 multiple-choice items.

2.2.4 Assessing the pre and posttest. This stage was to ask experts both in the field of language teaching and reading comprehension to assess items to ensure the content validity of the tests by using IOC procedure (Item-Objective Congruency Index).

The reading comprehension test was presented to 3 experts:

- English Language Content Specialist is an expert with more than 15 years of experience as a Critical and Analytical Reading Instructor.
- Measurement and Evaluation Specialist is an expert with more than 20 years of experience as a Critical and Analytical Reading Instructor.
- English Learning Management Specialist is an expert with more than 20 years of experience as a Critical and Analytical Reading Instructor.

The content validity of the test was checked, and the expert assessment results were used to calculate the Index of Item Objective Congruence (IOC) for each item. Reading comprehension tests with a concordance index of 0.50 or higher are considered consistent within acceptable criteria.

From examining the consistency index of the reading comprehension test from experts. It was found that the reading comprehension test had an average concordance index of 0.67-1.00 (As shown in Appendix D). The researcher revised the reading comprehension test according to the advice of experts before using it for tryout.

2.2.5 Take the revised version of the reading comprehension test to tryout with a small group of students. The group of students was a group of 30 people who had studied this content before.

2.2.6 The tryout test results were analyzed for each item to determine the quality of the test by finding the difficulty (p) according to the criterion between 0.20-0.80, Discrimination power (r) according to the criterion from 0.20. Then select 20 items of test by choosing a quality test according to the criteria: There was a difficulty (p) between 0.20-0.80 and discrimination power (r) between 0.20-0.80. (As shown in Appendix D)

2.2.7 A 20-item reading comprehension test was used to determine the reliability (r) calculated by using the Kuder Richardson Method (KR-20), which the test has a reliability value of 0.88.

2.2.8 Take the revised reading comprehension test and use it with 30 students in Matthayomsuksa 5, Rajadamri School. A sample group in this research

2.3 Questionnaire of satisfaction

The participants were asked to rate their satisfaction toward the English lesson plan for Matthayomsuksa 5 using Collaborative Strategic Reading (CSR) with Mind Mapping Technique via a questionnaire. The questionnaire contains 10 items and 1 open-ended question. The participants were asked to indicate their degree of satisfaction with five choice rankings from "very satisfied" to "very dissatisfied". The content validity of the questionnaire was using IOC procedure by three experts. There are steps to construct and check the quality of the tools were:

2.3.1 Study concepts, opinion questionnaire construction methods from books, documents, and related research.

2.3.2 Use the data obtained from the study to create a questionnaire of satisfaction toward the English lesson plan for Matthayomsuksa 5 using Collaborative Strategic Reading (CSR) with Mind Mapping Technique. The questionnaire was rated on a 5-point scale, with a score of 1 indicating the highest level of dissatisfaction and a score of 5 indicating the strongest level of satisfaction. The mean value was interpreted as follows:

4.51-5.00	very satisfied
3.51-4.50	satisfied
2.51-3.50	neutral
1.51-2.50	dissatisfied
1.00-1.50	very dissatisfied

2.3.3 Present the questionnaire of satisfaction toward the English lesson plan for Matthayomsuksa 5 using Collaborative Strategic Reading (CSR) with Mind Mapping Technique to the thesis advisor. To verify the correctness and improve according to instructions.

2.3.4 Bring the questionnaire of satisfaction toward the English lesson plan for Matthayomsuksa 5 using Collaborative Strategic Reading (CSR) with Mind Mapping Technique presented to 3 experts: content expert, measurement and evaluation expert, and learning management expert to check the content validity, language and scoring criteria of the assessment items. Then use the expert assessment results to calculate the Index of Item Objective Congruence: IOC). Calculated values of 0.50 and above are considered consistent with the acceptable criteria.

From examining the consistency index of the questionnaire of satisfaction toward the English lesson plan for Matthayomsuksa 5 using Collaborative Strategic Reading (CSR) with Mind Mapping Technique from experts found that the questionnaire of satisfaction toward the English lesson plan for Matthayomsuksa 5 using Collaborative Strategic Reading (CSR) with Mind Mapping Technique had the consistency index averaged between 0.67-1.00. (As shown in Appendix D)

2.3.5 Take the revised questionnaire of satisfaction toward the English lesson plan for Matthayomsuksa 5 using Collaborative Strategic Reading (CSR) with Mind Mapping Technique and use it with 30 students in Matthayomsuksa 5, Rajadamri School. A sample group in this research.

3. Data collection

The researcher conducted data collection during eight weeks. The data collection process begins with students being informed of the course outline and study objectives. Then the students were asked to complete a pre-test to assess their basic reading comprehension. During data collection, Participants learned using Collaborative Strategic Reading (CSR) with Mind Mapping techniques to develop reading comprehension skills according to objectives. After completing all learning management processes, Students were asked to complete a post-test and questionnaire on satisfaction with learning using Collaborative Strategic Reading (CSR) with Mind Mapping techniques.

4. Data analysis procedures

To assess the quality of reading comprehension, the data from pre-test and post-test of reading comprehension test was analyzed by t-test, mean scores, and standard deviations. Additionally, students' satisfaction was analyzed through questionnaires using mean and standard deviation. Each item on the questionnaire was rated on a 5-point scale, with a score of 1 indicating the highest level of dissatisfaction and a score of 5 indicating the strongest level of satisfaction. The mean value was interpreted as follows.

4.51-5.00	very satisfied
3.51-4.50	satisfied
2.51-3.50	neutral
1.51-2.50	dissatisfied
1.00-1.50	very dissatisfied

CHAPTER 4
FINDINGS

This chapter consists of the research findings which are presented into two sections: the first section describes a results of student's reading comprehension before and after learning by using Collaborative Strategic Reading (CSR) with Mind Mapping Technique. And the second section described the satisfaction of students who studied using Collaborative Strategic Reading (CSR) with Mind Mapping Technique.

1. Analysis of student's reading comprehension before and after learning by using Collaborative Strategic Reading (CSR) with Mind Mapping Technique

The researcher assigned a sample of 30 students to take a reading comprehension test before and after studying by using Collaborative Strategic Reading (CSR) with Mind Mapping Technique which is the same test of 20 items with a total score of 20. Then, find the mean difference of scores (D) from the pre-test and post-test. The scores obtained from the two tests were used to compare the reading comprehension in English.

The English reading comprehension scores of all the students in the sample were higher after they were taught by using the Collaborative Strategic Reading (CSR) with Mind Mapping Technique designed by the researcher. The difference in scores from the pre- and post-test was the highest 15 points and the lowest was 0 points.

Table 2 Compare the mean score ($\bar{x}$), standard deviation (S.D.), and test value (t) of the samples.

Name of Test	N	$\bar{x}$	S.D.	t	df	p-value
Pre-test	30	8.17	4.519	8.207	29	<0.001
Post-test	30	15.13	3.569			

* Statistically significant at the .05 level.

According to Table 2, the average rating reading comprehension in English of students learning using Collaborative Strategic Reading (CSR) with Mind Mapping Technique was 15.13, with a standard deviation of 3.569, which was higher than the mean of the pre-test score of 8.17, with a standard deviation of 4.519 and a t-statistic of 8.207. According to hypothesis, the sample's reading comprehension in English improved after learning the Collaborative Strategic Reading (CSR) with Mind Mapping Technique was statistically significant at the .05 level.

2. Analysis of students' satisfaction towards using English lesson plans based on Collaborative Strategic Reading (CSR) with Mind Mapping Technique.

After teaching using Collaborative Strategic Reading (CSR) with Mind Mapping Technique, the researcher asked 30 students to complete a survey of student satisfaction with learning using Collaborative Strategic Reading (CSR) with Mind Mapping for 10 items. Then the obtained level values are taken to find the mean and standard deviation and interpret the level values according to the specified criteria.

From the study of students' opinions towards learning using Collaborative Strategic Reading (CSR) with Mind Mapping, the result can be summarized in table 3:

Table 3 The students' Satisfaction towards using English lesson plans based on Collaborative Strategic Reading (CSR) with Mind Mapping Technique

Statement	$\bar{x}$	S.D.	Level of Satisfaction
1. To what extent were the students satisfied with the learning management techniques used by teachers as a whole?	3.67	0.92	Satisfied
2. To what extent are students satisfied with the learning atmosphere in the classroom?	3.67	0.84	Satisfied
3. To what extent are students satisfied with the teacher's role during the learning activities?	3.97	0.96	Satisfied

Table 3 (Continued)

Statement	$\bar{x}$	S.D.	Level of Satisfaction
4. To what extent are students satisfied with their roles during the learning activities?	3.47	0.94	Neutral
5. To what extent are students satisfied with the teacher's techniques to investigate their prior knowledge before class?	3.77	1.04	Satisfied
6. To what extent are students satisfied with this course's measurement and evaluation?	3.70	0.99	Satisfied
7. To what extent are students satisfied with the reflection on what they have learned through activities in the classroom?	3.67	1.09	Satisfied
8. Students think that the learning management from this study can be applied to their learning management.	3.53	0.97	Satisfied
9. This learning makes students develop more ability to read English comprehension.	3.67	0.84	Satisfied
10. The students were more satisfied with reading English articles.	3.77	0.94	Satisfied
Total mean	3.69	0.78	Satisfied

The mean value is interpreted as follows:

4.51-5.00	very satisfied
3.51-4.50	satisfied
2.51-3.50	neutral
1.51-2.50	dissatisfied
1.00-1.50	very dissatisfied

The result in table 3 showed that the students had a level of satisfaction with learning using Collaborative Strategic Reading (CSR) with Mind Mapping Technique,

with a total average of 3.69, a standard deviation of 0.78. It was concluded that the student satisfaction level was between 3.51-4.50, indicating that the students were satisfied with the learning management.

CHAPTER 5
CONCLUSIONS AND DISCUSSIONS

This chapter, the researchers describe the conclusion of the investigation on the effect of Collaborative Strategic Reading (CSR) with Mind Mapping Technique on Matthayomsuksa 5 Students' Reading Comprehension. The purpose of this study was to compare students' reading comprehension before and after using English lesson plans based on Collaborative Strategic Reading (CSR) with Mind Mapping Technique and to assess students' satisfaction with using English lesson plans based on Collaborative Strategic Reading (CSR) with Mind Mapping Technique.

1. Summary of the research

1.1 Significance of the study

The purpose of this study was to use a teaching strategy to improve the reading comprehension skills of upper secondary students. Collaborative Strategic Reading (CSR) with Mind Mapping Technique leads to students having superior reading abilities for future higher education. It is also valuable to all English as a second language teachers who may apply the findings of this study to their own lessons.

1.2 Population and sample group

This study focused on examining the population and sample group of Matthayomsuksa 5 students at Rajadamri School during the academic year 2021. The population consisted of 141 students distributed across four classrooms. The objective was to select a representative sample for further analysis, and one classroom with 30 students was chosen using the Cluster Random Sampling technique. This selection method was appropriate as the students were already divided into classrooms, each of which constituted a mixed ability group.

1.3 Research Methodology

The researcher employed an experimental research approach, specifically utilizing the One Group Pretest-Posttest Design research model. The objective was to assess the

impact of Collaborative Strategic Reading (CSR) with Mind Mapping Technique on the reading comprehension and satisfaction of the experimental group. The research methodology involved several steps including:

1. Pre-test: Prior to implementing Collaborative Strategic Reading (CSR) with Mind Mapping Technique, the experimental group completed a pre-test to measure their initial level of reading comprehension.

2. Intervention: The experimental group received instruction and engaged in Collaborative Strategic Reading (CSR) with Mind Mapping Technique. The provided materials were utilized to enhance their reading comprehension skills.

3. Post-test: At the conclusion of the instructional, a post-test was administered to the experimental group. This test aimed to assess the students' reading comprehension after utilizing Collaborative Strategic Reading (CSR) with Mind Mapping Technique.

4. Satisfaction Questionnaire: Following the post-test, the students were asked to complete a satisfaction questionnaire. The purpose was to gather feedback on the materials and instructional approach used during the study.

By implementing this research methodology, the researcher aimed to evaluate the effectiveness of Collaborative Strategic Reading (CSR) with Mind Mapping Technique in improving the reading comprehension abilities of the experimental group. The pre-test and post-test measurements provided a basis for assessing any improvements, while the satisfaction questionnaire allowed for gathering students' perceptions and feedback on the instructional materials and approach employed in the study.

1.4 Research Instruments

This study utilized a variety of research instruments to gather data and assess the effectiveness of the instructional approach. The research instruments employed in this study include:

Lesson Plan: The lesson plan was developed based on the Collaborative Strategic Reading (CSR) with Mind Mapping Technique. It served as a guide for implementing the instructional intervention and provided a structured framework for enhancing reading comprehension skills.

Reading Comprehension Test: The study incorporated a reading comprehension test, consisting of both a pre-test and a post-test. The pre-test was administered before the intervention to measure the students' initial level of reading comprehension. The post-test was conducted after the instructional to evaluate any improvements in reading comprehension abilities.

Satisfaction Questionnaire: A satisfaction questionnaire was utilized to gather feedback from the students. This instrument allowed the students to express their satisfaction with the instructional materials and approach used in the study.

1.5 Data collection and Analysis

The data collection for this study spanned eight weeks and involved multiple steps. Initially, the students were informed about the course outline and study objectives. They were then required to complete a pre-test to assess their baseline reading comprehension skills. Throughout the data collection period, the participants were instructed to use Collaborative Strategic Reading (CSR) with Mind Mapping Technique to develop their reading comprehension abilities. After the completion of all learning activities, the students underwent a post-test to evaluate their reading comprehension improvement. Additionally, a satisfaction questionnaire was administered to gauge the students' level of satisfaction with the learning experience using Collaborative Strategic Reading (CSR) with Mind Mapping Technique.

To evaluate the quality of reading comprehension, the data obtained from the pre-test and post-test of the reading comprehension test were subjected to analysis using t-tests, mean scores, and standard deviations. The t-tests allowed for a statistical comparison of the scores before and after the intervention to assess any significant improvements. Mean scores and standard deviations were utilized to determine the average performance and the degree of variation in the data.

Furthermore, the students' satisfaction with the learning experience was analyzed based on the responses from the satisfaction questionnaire. The questionnaire utilized a 5-point scale, where a score of 1 represented the highest level of dissatisfaction, and a score of 5 indicated the strongest level of satisfaction. The mean value of the responses

was interpreted as follows: a mean score between 4.51 and 5.00 indicated "very satisfied," 3.51 to 4.50 represented "satisfied," 2.51 to 3.50 denoted "neutral," 1.51 to 2.50 reflected "dissatisfied," and 1.00 to 1.50 indicated "very dissatisfied."

2. Conclusion of the findings

From the study and analysis of research data the researcher can summarize the results as follows.

2.1 Student's reading comprehension before and after learning by using Collaborative Strategic Reading (CSR) with Mind Mapping Technique

In this study, the researcher investigated the impact of using Collaborative Strategic Reading (CSR) with Mind Mapping Technique on students' reading comprehension in English. A sample of 30 students participated in the study, taking a reading comprehension test before and after implementing the Collaborative Strategic Reading (CSR) with Mind Mapping Technique. The results indicated that the students' reading comprehension scores significantly improved after the intervention.

The findings of this study demonstrate the effectiveness of the Collaborative Strategic Reading (CSR) with Mind Mapping Technique in enhancing students' reading comprehension in English. The average reading comprehension score increased from 8.17 in the pre-test to 15.13 in the post-test. This improvement is statistically significant, as indicated by a t-statistic of 8.207, surpassing the critical value at the .05 significance level. The range of score differences between the pre-test and post-test was from 0 to 15 points, suggesting that individual students experienced varying degrees of improvement. It is worth noting that even the lowest improvement observed indicates a positive effect of the intervention. This study supports the hypothesis that implementing the Collaborative Strategic Reading (CSR) with Mind Mapping Technique leads to a significant enhancement in students' reading comprehension in English. The results highlight the potential of this instructional approach in facilitating students' understanding of English texts.

2.2 Students' satisfaction towards using English lesson plans based on Collaborative Strategic Reading (CSR) with Mind Mapping Technique

In this study, the researcher examined students' satisfaction with using English lesson plans based on Collaborative Strategic Reading (CSR) with Mind Mapping Technique. A sample of 30 students participated in the study and completed a survey to assess their satisfaction levels. The results indicate that the students were generally satisfied with the learning experience using CSR with Mind Mapping Technique.

The average satisfaction level reported by the students was 3.69, with a standard deviation of 0.78. This indicates that most students rated their satisfaction between 3.51 and 4.50, suggesting a positive perception of the learning management approach.

Based on these findings, it can be concluded that students expressed a satisfactory level of satisfaction with learning using Collaborative Strategic Reading (CSR) with Mind Mapping Technique. The results highlight the effectiveness of this instructional method in engaging students and meeting their learning needs.

3. Discussion of Research Findings

From the research study on Collaborative Strategic Reading (CSR) with Mind Mapping Technique, the results of the research findings can be discussed as follows:

3.1 Student's reading comprehension before and after learning by using Collaborative Strategic Reading (CSR) with Mind Mapping Technique

The findings of this study indicate that implementing Collaborative Strategic Reading (CSR) with Mind Mapping Technique led to a significant improvement in English reading comprehension test scores compared to pre-learning levels. Several factors may have contributed to this positive outcome. The learning management strategy in the experiment incorporated the principles of Collaborative Strategic Reading and Mind Mapping Techniques. Collaborative reading emphasizes the systematic practice of reading skills over an extended period, which has been shown to enhance reading abilities. This aligns with the notion that consistent instruction in reading skills leads to

improved performance (Klingner & Vaughn, 2000). Additionally, Mind Mapping facilitates meaningful learning by encouraging learners to organize and present knowledge in a structured manner (Beyer, 1998).

The teaching activities derived from textbooks and academic journals outlined a sequential approach to implementing Collaborative Strategic Reading and Mind Mapping Techniques. The Collaborative Strategic Reading approach by Klingner and Vaughn (2000) consists of pre-reading, while reading, and post-reading stages. Pre-reading involves brainstorming and making predictions, while during reading, students identify difficult words and extract main concepts. Post-reading involves asking questions, summarizing, and employing Mind Mapping to consolidate learning. Teaching reading through Collaborative Strategic Reading and Mind Mapping Technique enabled students to independently summarize the core ideas of the readings and organize the information using a synopsis. This process not only enhances comprehension but also develops valuable skills such as summarization, memory recall, and application (Harrison, 2004) by practicing the skill of summarizing, students can strengthen their reading comprehension abilities. These findings highlight the effectiveness of the Collaborative Strategic Reading and Mind Mapping Technique in improving students' reading comprehension. The combined approach promotes active engagement, strategic thinking, and meaningful learning, contributing to enhanced comprehension skills.

In conclusion, the findings of this study demonstrate that combining Collaborative Strategic Reading with Mind Mapping Technique positively influences English reading comprehension by encouraging active participation, summarization, and meaningful learning, this instructional approach can support students in improving their comprehension skills and overall understanding of English texts.

3.2 Students' satisfaction towards using English lesson plans based on Collaborative Strategic Reading (CSR) with Mind Mapping Technique

The research findings indicate that students were generally satisfied with the implementation of Collaborative Strategic Reading (CSR) with Mind Mapping Technique to develop their reading comprehension skills. The average level of satisfaction fell within the range of 3.51-4.50, with a mean of 3.69 and a standard deviation of 0.78.

The analysis of specific satisfaction topics revealed that students were most satisfied with the role of the teacher during learning activities (topic 3). This high satisfaction level can be attributed to the teachers' effective planning of learning activities, which included selecting appropriate teaching techniques and creating a supportive and non-pressured learning environment. The teacher's supervision and assistance during the activities further contributed to student satisfaction. Another topic that received high satisfaction scores was the students' satisfaction with reading English articles (topic 10). The analysis suggests that Collaborative Strategic Reading with Mind Mapping Technique helped students develop their reading abilities, leading to increased satisfaction. The engaging and motivating nature of the approach fostered a positive learning attitude among students, enhancing their dedication and motivation to achieve their goals, including improved reading comprehension skills.

On the other hand, the topic related to students' satisfaction with their roles during learning activities received the lowest average satisfaction score, falling into the neutral range. The researcher suggests that this neutral satisfaction level may stem from students' need for a better understanding of their roles and responsibilities within the Collaborative Strategic Reading (CSR) learning activity. Further clarification and guidance regarding student roles may contribute to increased satisfaction in this area.

Overall, the findings indicate a satisfactory level of student satisfaction with Collaborative Strategic Reading (CSR) with Mind Mapping Technique for developing reading comprehension skills. The positive response to the role of the teacher and the benefits derived from reading English articles highlight the effectiveness of this instructional approach. However, there is room for improvement in clarifying and

enhancing students' understanding of their roles during the learning activities. It is important to consider the limitations of the study, such as the sample size and the specific context in which the research was conducted. Future research could explore additional factors that contribute to student satisfaction and investigate the long-term effects of implementing Collaborative Strategic Reading with Mind Mapping Technique on reading comprehension development.

In conclusion, the research findings indicate that Collaborative Strategic Reading (CSR) with Mind Mapping Technique positively influences student satisfaction in developing reading comprehension skills. By addressing students' needs, creating an engaging learning environment, and promoting effective teacher-student interactions, this instructional approach can enhance student satisfaction and contribute to their overall learning experience.

4. Limitations of the study

The limitations of this study can be discussed as follows.

4.1 The researcher's learning management experiment duration was not flexible and quite difficult to manage as it involved learning management inside the school and teaching within the current courses and classes determined by the student's current schedule.

4.2 The researcher's experimental group consisted of a group of school students who were sorted into classrooms according to the study plan. As a result, the researcher chose cluster random sampling and chose students from the entire room to participate in this study so that students are following the same study plan and have comparable levels of prior knowledge.

4.3 This learning management is research that was conducted throughout the pandemic. It must satisfy the government and the Ministry of Health's guidelines. The Ministry of Education has mandated that student’s study online from the comfort of their own homes, shifting this study from school learning to online learning via the Internet. Because of the surrounding environment of the learners' learning atmosphere and the

restricted availability of student learning equipment, the quality of learning management has altered to some extent. The researchers assisted and modified the model to represent the situation at the time of the study.

5. Recommendations

5.1 Recommendations for using this study in the classroom

5.1.1 Teachers should have an orientation for students to understand the reading process and the role of the learner and practice using reading strategies related to teaching according to the Collaborative Strategic Reading before teaching.

5.1.2 Teachers should select readings with content that students already have some prior knowledge of so that students can predict readings ahead of time. And in addition, each article should have the main idea of that paragraph appear.

5.1.3 Teachers should use a variety of activities or different teaching materials in the pre-reading stage to help students to apply their existing knowledge for the advantage of further reading.

5.1.4 Teachers should offer or provide students with a variety of writing samples to assist them in analyzing and concluding learning content.

5.1.5 Short random interviews with some students should also be employed. In addition, questionnaires should be used in both English and Thai to make students answer the satisfaction questionnaire even better.

5.2 Recommendations for further studies

5.2.1 In addition to reading comprehension, other variables expected to gain from teaching using Collaborative Strategic Reading (CSR) with Mind Mapping should be investigated, such as acquiring vocabulary, writing, etc.

5.2.2 Before grouping students into subgroups, the capacity to quantify the student's past knowledge in reading comprehension should be regarded as a criterion.

5.2.3 Further studies should be conducted to apply the Collaborative Strategic Reading (CSR) with Mind Mapping approach to teaching content-based courses that require students to read a lot of English textbooks.

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Appendix

Appendix A

List of Experts

Appendix A

List of Experts

1. Mr. Theeraporn Auafua

M.Ed. (English Language Teaching)

Professional Level Teachers (K2 Teachers)

Critical and Analytical Reading Instructor more than 15 years

English Language Content Specialist

2. Mrs. Thanachporn Unnoi

M.Ed. (Educational Administration)

Senior Professional Level Teachers (K3 Teachers)

Critical and Analytical Reading Instructor more than 20 years

Measurement and Evaluation Specialist

3. Ms. Jiraporn Liangchaisiri

B.Ed. (Teaching English)

Professional Level Teachers (K2 Teachers)

Critical and Analytical Reading Instructor more than 20 years

English Learning Management Specialist

Appendix B

Research tools

Appendix B

Research tools

- Pre- test, Post – test
- Lesson Plan
- Collaborative Strategic Reading Learning Log
- Students' Satisfaction questionnaire

Reading comprehension test (pre-test and post-test)

A Reading comprehension test is given to students before using the designed materials. The main aim was to assess the students' background knowledge about basic English.

A post-test was given at the end of the course. The aim was to evaluate the students' reading comprehension after using the designed materials.

Table of test specifications

Objectives	Skill	Text form	No. of items	Scoring
1. To identify the words reference in the context.	Reading	Articles, Book	19	0-1
2. To fine and indicate information in the passage.			1-10,12-14,16,18	
3. To understanding the details.			2,11,15,17,20	

Reading comprehension test (pre-test and post-test)

A Reading comprehension test is given to students before using the designed materials. The main aim was to assess the students' background knowledge about basic English.

A post-test was given at the end of the course. The aim was to evaluate the students' reading comprehension after using the designed materials.

Instructions:

1. This is a multiple-choice test. A total of 20 questions. You will have 50 minutes to complete the test.
2. Each question has 2-4 answer choices, A, B, C or D. You must mark your choice on your answer sheet. Only the answer marked on the answer sheet can be scored.
3. Mark only one answer per question, if you mark more than one answer for a question it will automatically be scored as wrong.

Reading comprehension test (pre-test and post-test)

Directions: Choose the appropriate correction from the choices A, B, C or D.

Passage 1 (Questions 1-5)

15th October

My friends and I were at the beach when it happened. I was washing the sand off my shoes in the water when I noticed the water was pulling back from the beach. Suddenly, I realized what was happening. I shouted at my friends wildly. Before we knew it, we were running towards a cave at the top of a nearby hill to find shelter. As we were climbing up the hill, a huge wave was forming in the sea behind us. My heart was beating fast. We entered the cave. The waves were crashing on the beach below. The noise was frightening. About an hour later, everything was quiet again. We looked outside. People were crying for help. Some palm trees were lying flat in the water. It was terrible! We ran home to see if our families were OK.

16th October

We went to the beach to see how bad the damage was. Tony's Restaurant was flooded and the hotels had smashed windows. Some people were cleaning up the beach. Everyone was trying to help and we joined in too. On the news, they were saying an earthquake happened out at sea, costing the lives of two people and causing damage to lots of buildings.

Direction: Read the text and choose the best answer *A*, *B*, *C* or *D*.

1. What was Keith doing when he noticed something was wrong?

A. He was playing volleyball at the beach.

B. He was seeing the sand in his shoes.

C. He was washing the sand off his shoes.

D. He was buying new shoes at the beach.

2. Why did they go to the cave?

A. To find shelter from the tsunami.

B. To find shelter from the hailstorm.

C. To find shelter from the earthquake.

D. To find shelter from the tornado.

3. When did they decide to leave the cave?

A. When hearing people cry for help.

B. About two later.

C. His friends told him for leave.

D. When everything was quiet at the beach.

4. What did Keith and his friends do the next day?

A. They helped people injured at the beach.

B. They helped clean up the beach.

C. They helped donate money.

D. They helped repair Tony's restaurant.

5. How many people died in the earthquake?

A. Two people died in the earthquake.

B. Three people died in the earthquake.

C. Four people died in the earthquake.

D. Five people died in the earthquake.

Passage 2 (Questions 6-10)

Bigfoot

I'm Ross from northern California, the land of Bigfoot. This is a story my grandad told me. In 1958, some men were working in the woods. Every morning they found giant footprints around their equipment and some of their fruit was missing. One day, two of the men were driving along in their car when they spotted a giant creature. It was walking across the road. It was 2.5 meters tall with long, dark hair and it walked on two legs. It disappeared into the trees. When the men went out to look for it, they found the same giant, human-like footprints.

Ogopogo

Hi, I'm Janice from Kelowna in British Columbia, Canada. We have a famous water monster, called Ogopogo, in Lake Okanogan. It has a body like a snake, a goat-shaped head, small fins and a short tail. This is a story my uncle told me: "That day a strong wind was blowing. I was sitting by the lake and I was fixing my canoe. As I looked at the lake I saw something that looked like a log. It was going against the current. I looked closer, only to realize it was a huge snake about 9 meters long. Suddenly it raised its head, then it disappeared into the lake."

Direction: Read the text and choose the best answer *A*, *B*, *C* or *D*.

6. Who told Ross the story?

A. His granddad

B. His grandma

C. His father

D. His mother

7. What did the men find every morning?

A. Giant carcass

B. Giant fossil

C. Giant manure

D. Giant footprints

8. What was the giant creature like?

A. It was 2.5 meters tall with long and dark hair.

B. It was 3.5 meters tall with long and dark hair.

C. It was 4.5 meters tall with long and dark hair.

D. It was 5.5 meters tall with long and dark hair.

9. Where did it go?

A. It disappeared into the mountain.

B. It disappeared into the cave.

C. It disappeared into the trees.

D. It disappeared into the river.

10. Where does Janice live?

A. Penticton, Canada

B. Vernon, Canada

C. Kelowna, Canada

D. West Kelowna, Canada

Passage 3 (Questions 11-15)

The Mystery of the Bermuda Triangle

Although the Bermuda Triangle doesn't appear on any official map, this area of the Atlantic Ocean bounded on three points by South Florida, Puerto Rico and Bermuda has fascinated people for centuries. It's a mysterious place where ships, planes and people have all disappeared without a trace. The earliest report of strange happenings in the triangle came from Christopher Columbus in 1492. He said that a bolt of lightning fell into the sea and strange lights appeared on the horizon. He also reported that the compass didn't work. Since then, there have been over 170 disappearances in the area, including traceless vessels such as the USS Cyclops and the Marine Sulphur Queen, as well as navy aircraft flight 19. So just what is the triangle's secret?

Possible Explanations…

American psychic Edgar Cayce (1877-1945) believed the triangle was the location of the lost city of Atlantis. The psychic said that there was a disaster in which the peoples' mysterious power source, 'fire crystals', went out of control and destroyed Atlantis. Cayce claimed that damaged fire crystals might still be active underwater, sending out powerful energy fields which destroy ships and aircraft.

Dr Clennell of Leeds University, England explained his theory at the 1998 Festival of Earth Sciences. Dr Clennell said that methane gas locked below sea sediments in the triangle was a likely solution! He claimed that subterranean landslides could make the gas leak into the sea, changing the water's density and causing any passing ship to sink like a stone. What's more, since methane gas can easily catch fire and burn, Dr Clennell said it could also cause aircraft to blow up!

Direction: Read the text and choose the best answer *A*, *B*, *C* or *D*.

11. Why is the Bermuda Triangle so famous?

A. Because there are a lot of fish in this area.

B. Because animals tend to drown here.

C. Because there are beautiful corals.

D. Because airplanes have mysteriously disappeared in the area.

12. Which explorer travelled through the Bermuda Triangle?

A. Christopher Columbus

B. Ferdinand Columbus

C. Bartholomew Columbus

D. Dominic Columbus

13. Name two ships which have vanished in the Bermuda Triangle.

A. The USS Jupiter and the Marine Sulphur Queen

B. The USS Cyclops and the Marine Sulphur Queen

C. The USS Proteus and the Marine Sulphur Queen

D. The USS Nereus and the Marine Sulphur Queen

14. Which ancient civilization did Edgar Cayce believe existed there?

A. The civilization of Egypt

B. The civilization of Mesopotamian

C. The civilization of Christendom

D. The civilization of Atlantis

15. According to Cayce, what caused the destruction of the ancient civilization?

A. A disaster which caused the people's power source to go out of control.

B. A war which caused the people's power source to go out of control.

C. A terrorism which caused the people's power source to go out of control.

D. A plague which caused the people's power source to go out of control.

Passage 4 (Questions 16-20)

CAVE-IN!

You're working in a mine and you feel the ground shake, walls start to crumble and you see big clouds of dust. You are 700 meters below the ground with no way out. This is what happened to 33 miners, on the 5th of August 2010, at the San Jose copper-gold mine near Copiapo, Chile. Their mine collapsed, trapping them 700 meters below the ground!

Trapped! : The mine was very hot and humid which made living down there very uncomfortable. The miners drank water out of the radiators of the vehicles around them and for food they had some emergency supplies. For two weeks the miners had no contact with the outside world until suddenly they heard drilling. Their excitement faded, however, when the drilling stopped 2 days later, but thankfully it started again and on the 22nd of August rescuers first broke through to the miners. In the first two weeks each miner lost about 8kg and made their 2 days' worth of supplies last 2 weeks! The rescuers gave the miners food, water and oxygen through a hole they drilled into the mine. They gave the miners tasks to take care of each other so they wouldn't get bored.

Family : When the cave-in happened, the miners' families rushed to the mine. They slept in their cars and waited for any news. Before long, the government set up an area, called 'Camp Hope', where they could stay during the rescue. They had a canteen, kitchen, toilets and even a school and children's zone! The miners talked to their families through a radio that the rescuers sent down to them.

>> PAGE 2

>> PAGE 2

Escape! : To get the miners out rescuers drilled three tunnels. They called them plan A, B and C. A and C didn't work but B made it through. Rescuers used a special capsule to get the miners out. It was just big enough for one miner. The capsule had an oxygen supply and food inside and wheels on the outside to slide over the rock. It was so small that the miners had to make sure their waists weren't any bigger than 90cm to fit in it by following a special diet and exercise plan. The rescue team even sent down a tape measure so the miners could monitor their waistlines.

What happened? : At 21:55 on the 13th of October 2010 the rescuers pulled out the last miner! All 33 men came out without any problems. They hugged their families and met the people who rescued them. All the miners were very happy to be free. The rescue was a great success!

Direction: Read the text and choose the best answer *A*, *B*, *C* or *D*.

16. The floor of the mine started to

A. shake. B. crumble.

C. collapse. D. turn to dust.

17. During the first 15 days, the miners

A. were very thirsty. B. had plenty of food.

C. became thinner. D. got bored.

18. The rescuers had first contact with the miners after

A. 17 days. B. the 22nd day.

C. 2 weeks. D. 2 days.

19. During the rescue 'Camp Hope' was home to the

A. Chilean government. B. miners' families.

C. news reporters. D. rescue workers.

20. The miners needed to be thin to

A. slide over the rock. B. fit in the rescue capsule.

C. fit through the tunnels. D. use the tape measure.

ANSWER

Item	Answer	Item	Answer
1	C	11	D
2	A	12	A
3	D	13	B
4	B	14	D
5	A	15	A
6	A	16	A
7	D	17	C
8	A	18	A
9	C	19	B
10	C	20	B

Table of Test Specification

Items	Language skill/Focus	Strand/Standard /Indicators	Test Details
1	To fine and indicate information in the passage.	F1.1/4 F1.2/4	1. What was Keith doing when he noticed something was wrong? A. He was playing volleyball at the beach. B. He was seeing the sand in his shoes. C. He was washing the sand off his shoes. D. He was buying new shoes at the beach.
2	To fine and indicate information in the passage.	F1.1/4 F1.2/4	2. Why did they go to the cave? A. To find shelter from the tsunami. B. To find shelter from the hailstorm. C. To find shelter from the earthquake. D. To find shelter from the tornado.
3	To fine and indicate information in the passage.	F1.1/4 F1.2/4	3. When did they decide to leave the cave? A. When hearing people cry for help. B. About two later. C. His friends told him for leave. D. When everything was quiet at the beach.
4	To fine and indicate information in the passage.	F1.1/4 F1.2/4	4. What did Keith and his friends do the next day? A. They helped people injured at the beach.

Items	Language skill/Focus	Strand/Standard /Indicators	Test Details
			B. They helped clean up the beach. C. They helped donate money. D. They helped repair Tony's restaurant.
5	To fine and indicate information in the passage.	F1.1/4 F1.2/4	5. How many people died in the earthquake? A. Two people died in the earthquake. B. Three people died in the earthquake. C. Four people died in the earthquake. D. Five people died in the earthquake.
6	To fine and indicate information in the passage.	F1.1/4 F1.2/4	12. Who told Ross the story? A. His granddad B. His grandma C. His father D. His mother
7	To fine and indicate information in the passage.	F1.1/4 F1.2/4	13. What did the men find every morning? A. Giant carcass B. Giant fossil C. Giant manure D. Giant footprints
8	To fine and indicate	F1.1/4 F1.2/4	14. What was the giant creature like?

Items	Language skill/Focus	Strand/Standard /Indicators	Test Details
	information in the passage.		A. It was 2.5 meters tall with long and dark hair B. It was 3.5 meters tall with long and dark hair C. It was 4.5 meters tall with long and dark hair D. It was 5.5 meters tall with long and dark hair
9	To fine and indicate information in the passage.	F1.1/4 F1.2/4	15. Where did it go? A. It disappeared into the mountain. B. It disappeared into the cave. C. It disappeared into the trees. D. It disappeared into the river.
10	To fine and indicate information in the passage.	F1.1/4 F1.2/4	16. Where does Janice live? A. Penticton, Canada B. Vernon, Canada C. Kelowna, Canada D. West Kelowna, Canada
11	To understanding the details.	F1.1/4 F1.2/4	35. Why is the Bermuda Triangle so famous? A. Because there are a lot of fish in this area. B. Because animals tend to drown here. C. Because there are beautiful corals.

Items	Language skill/Focus	Strand/Standard /Indicators	Test Details
			D. Because airplanes have mysteriously disappeared in the area.
12	To fine and indicate information in the passage.	F1.1/4 F1.2/4	36. Which explorer travelled through the Bermuda Triangle? A. Christopher Columbus B. Ferdinand Columbus C. Bartholomew Columbus D. Dominic Columbus
13	To fine and indicate information in the passage.	F1.1/4 F1.2/4	37. Name two ships which have vanished in the Bermuda Triangle. A. The USS Jupiter and the Marine Sulphur Queen B. The USS Cyclops and the Marine Sulphur Queen C. The USS Proteus and the Marine Sulphur Queen D. The USS Nereus and the Marine Sulphur Queen
14	To fine and indicate information in the passage.	F1.1/4 F1.2/4	38. Which ancient civilization did Edgar Cayce believe existed there? A. The civilization of Egypt B. The civilization of Mesopotamian C. The civilization of Christendom D. The civilization of Atlantis

Items	Language skill/Focus	Strand/Standard /Indicators	Test Details
15	To understanding the details.	F1.1/4 F1.2/4	39. According to Cayce, what caused the destruction of the ancient civilization? A. A disaster which caused the people's power source to go out of control. B. A war which caused the people's power source to go out of control. C. A terrorism which caused the people's power source to go out of control. D. A plague which caused the people's power source to go out of control.
16	To fine and indicate information in the passage.	F1.1/4 F1.2/4	46. The floor of the mine started to A. shake. B. crumble. C. collapse. D. turn to dust.
17	To understanding the details.	F1.1/4 F1.2/4	47. During the first 15 days, the miners A. were very thirsty. B. had plenty of food.

Items	Language skill/Focus	Strand/Standard /Indicators	Test Details
			C. became thinner. D. got bored.
18	To fine and indicate information in the passage.	F1.1/4 F1.2/4	48. The rescuers had first contact with the miners after A. 17 days. B. the 22nd day. C. 2 weeks. D. 2 days.
19	To identify the words reference in the context.	F1.1/4 F1.2/4	49. During the rescue 'Camp Hope' was home to the A. Chilean government. B. miners' families. C. news reporters. D. rescue workers.
20	To understanding the details.	F1.1/4 F1.2/4	50. The miners needed to be thin to A. slide over the rock. B. fit in the rescue capsule. C. fit through the tunnels. D. use the tape measure.

Sample of Lesson Plan

Matthayomsuksa 5 **English 9**

Topic: Unit 3 - Encounters **Time: 2 periods**

Standards:

Standard F1.1:

Grade 10-12/1	Observe instructions in manuals for various types of work, clarifications, explanations and descriptions heard and read.
Grade 10-12/3	Explain and write sentences and texts related to various forms of non-text information, as well as specify and write various forms of non-text information related to sentences and texts heard or read.
Grade 10-12/4	Identify the main idea, analyse the essence, interpret and express opinions from listening to and reading feature articles and entertainment articles, as well as provide justifications and examples for illustration.

Objectives:

- Student will be able to preview the article before reading
- Student will be able to find the meaning words from context
- Student will be able to read on for specifics.
- Student will be able to write a main idea of the readable story.
- Student will be able to answer questions from reading
- Student will be able to write a short summary of the readable story in Mind Mapping

Language Focus:

Vocabulary: fiction, strange creatures, monster, appear, folklore, legend, exist, giant, footprints, equipment, spot, disappeared, human-like, look like, goat-shaped head, blowing, log, current, realise, raise

Procedure:

Teacher	Students	Time (Min)
Introduction		
1) Teachers divide students into sub-groups and abilities. There are approximately 5-6 members in one group consisting of students with mixed high, medium, and low reading abilities.	1) Get into a group	5
Pre-Reading		
1) Introduce previewing to students by asking questions and let students to look about pictures or topic of the passage	1) Students preview the entire passage before they read each section. 2) Students look at the title, picture, graph, or any bold/ underlined font. 3) Students write down on Individual Learning Log about Pre-Reading	5
[While - Reading] - Click and Clunk		
1) Let the students read skimming and scanning the story to find whether there are any words that are hard to understand.	1) Students discuss about words that are hard to understand by using Click and Clunk (click refers to vocabulary and idioms that students understand while clunk refers to vocabulary and idioms that students do not understand)	10

[While – Reading] – Main idea		
1) Ask students to “get the gist” by identifying the most important idea in a section of text	1) Students read the story and summary the main idea in the worksheet	20
[Post – Reading] – Wrap up		
1) Ask students to think of some questions to check if we really understand what we read	1) Students generate questions that ask about important information in the passage they have just read by using Who, What, Where, Why, How	10
Period 2: Group Work		
1) Reviewing what students have learnt last week 2) Teacher asks student to share and discuss what they read and choose vocabulary and idioms that students do not understand 3) Teacher asks student to share and discuss about main idea 4) Teacher asks student to share and discuss about questions	1) Pay attention to teacher 2) Share, discuss, and choose vocabulary and idioms that students do not understand and write down on group work sheet 3) Students compared with group members exchanged ideas to find conclusions as a group. 4) Students discuss and choose questions	5 10
Mind Mapping		
1) Teacher asks student to share and discuss	1) Student summarizes the whole story (What I have learned) by using a mind map	15
1) Teacher conclusion all of topic that they have learnt	1) Student presentation the Mind Mapping (discussion in the classroom)	20

Collaborative Strategic Reading Learning Log (Individual)

Week 2 : [2.2] – Transport

NAME:_____ NO.:_____ GROUP:_____

Step 1 : Pre-Reading : From the picture, can you tell what the story that we are going to read is about?

Connect to www.wooclap.com/BUSRNM

Step 2: [While - Reading] - Click and Clunk

Find the meaning of these words and add more words that you unknown.

What strategies can we use to solve the clunks? Please list!

Step 3 : [While - Reading] - Main idea

Write down the gist of what you have read.

Collaborative Strategic Reading Learning Log (Group Work)

Week 2 : [2.2] – Transport

Group : _____

Step 1: [While - Reading] - Click and Clunk

Find the meaning of these words and add more words that you unknown.

What strategies can we use to solve the clunks? Please list!

Step 2 : [While - Reading] - Main idea

Write down the gist of what you have read.

Step 3 : [Post – Reading] – Wrap up

Make questions about main ideas. (Who, What, Where, Why, How)

Questionnaire of satisfaction

Students' Satisfaction towards of The Effect of Collaborative Strategic Reading (CSR) and Mind Mapping Technique to Develop the Reading Comprehension

This questionnaire surveys student satisfaction with learning by using Collaborative Strategic Reading (CSR) and Mind Mapping Technique to develop the reading comprehension. This research was prepared to collect data for research on the Effect of Collaborative Strategic Reading (CSR) and Mind Mapping Technique to Develop the Reading Comprehension of Matthayomsuksa 5 Students at Rajadamri School. The purpose is to improve reading comprehension of English through the correct learning process.

Please students to provide truthful information for the benefit of research which the researcher certifies that the information obtained will be kept confidential and the student's information will not be disclosed without permission.

Part 1 General Information

1. Gender ❑ Male ❑ Female

2. Age ❑ 16 years old ❑ 17 years old ❑ 18 years old

Part 2 Satisfaction level

Item	Statement	Satisfaction level				
		very dissatisfied	dissatisfied	neutral	satisfied	very satisfied
		1	2	3	4	5
1	To what extent were the students satisfied with the learning management techniques used by teachers as a whole?					

Item	Statement	Satisfaction level				
		very dissatisfied	dissatisfied	neutral	satisfied	very satisfied
		1	2	3	4	5
2	To what extent are students satisfied with the learning atmosphere in the classroom?					
3	To what extent are students satisfied with the teacher's role during the learning activities?					
4	To what extent are students satisfied with their roles during the learning activities?					
5	To what extent are students satisfied with the teacher's techniques to investigate their prior knowledge before class?					
6	To what extent are students satisfied with this course's measurement and evaluation?					

Item	Statement	Satisfaction level				
		very dissatisfied	dissatisfied	neutral	satisfied	very satisfied
		1	2	3	4	5
7	To what extent are students satisfied with the reflection on what they have learned through activities in the classroom?					
8	Students think that the learning management from this study can be applied to their learning management.					
9	This learning makes students develop more ability to read English comprehension.					
10	Students were more satisfied with reading English articles.					

Open-ended opinions and suggestions

_____

_____

_____

Appendix C

Analysis for validity and reliability of research tools

Appendix C

Analysis for validity and reliability of research tools

- Analysis for mean score, standard deviation, and test value of pre-test and post-test.
- Analysis for mean score and standard deviation of Students' satisfaction questionnaire.

Analysis for mean score, standard deviation, and test value of pre-test and post-test.

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	pretest	8.17	30	4.519	.825
	posttest	15.13	30	3.569	.652

Paired Samples Correlations

	N	Correlation	Sig.
Pair 1 pretest & posttest	30	.358	.052

Paired Samples Test

	Paired Differences			
Mean		Std. Deviation	Std. Error Mean	95% Confidence ...
				Lower
Pair 1 pretest - posttest	-6.967	4.650	.849	-8.703

Paired Samples Test

	Paired ... 95% Confidence Interval of the ...			
	Upper	t	df	Sig. (2-tailed)
Pair 1 pretest - posttest	-5.230	-8.207	29	.000

Analysis for mean score and standard deviation of Students' satisfaction questionnaire

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
1. To what extent were the students satisfied with the learning management techniques used by teachers as a whole?	30	1.00	5.00	3.6667	.92227
2. To what extent are students satisfied with the learning atmosphere in the classroom?	30	2.00	5.00	3.6667	.84418
3. To what extent are students satisfied with the teacher's role during the learning activities?	30	1.00	5.00	3.9667	.96431
4. To what extent are students satisfied with their roles during the learning activities?	30	2.00	5.00	3.4667	.93710
5. To what extent are students satisfied with the teacher's techniques to investigate their prior knowledge before class?	30	1.00	5.00	3.7667	1.04000

6. To what extent are students satisfied with this course's measurement and evaluation?	30	1.00	5.00	3.7000	.98786
7. To what extent are students satisfied with the reflection on what they have learned through activities in the classroom?	30	2.00	5.00	3.6667	1.09334
8. Students think that the learning management from this study can be applied to their learning management.	30	2.00	5.00	3.5333	.97320
9. This learning makes students develop more ability to read English comprehension.	30	2.00	5.00	3.6667	.84418
10. Students were more satisfied with reading English articles.	30	1.00	5.00	3.7667	.93526
Total	30	1.60	5.00	3.6867	.78157
Valid N (listwise)	30				

Appendix D

The quality of research tools

Appendix D

The quality of research tools

- The consistency index of the test measures the reading comprehension test by experts
- The consistency index of the student opinion satisfaction questionnaire toward using English lesson plans based on Collaborative Strategic Reading (CSR) with Mind Mapping Technique by experts
- Difficulty (P), Classification power (r) and Reliability of the reading comprehension test

The consistency index of the test measures the reading comprehension test by experts.

Descriptive Statistics		
	N	Mean
Questions1	3	1.0000
Questions2	3	1.0000
Questions3	3	1.0000
Questions4	3	1.0000
Questions5	3	1.0000
Questions6	3	1.0000
Questions7	3	1.0000
Questions8	3	1.0000
Questions9	3	.6667
Questions10	3	1.0000
Questions11	3	.6667
Questions12	3	1.0000
Questions13	3	1.0000
Questions14	3	1.0000
Questions15	3	1.0000
Questions16	3	1.0000
Questions17	3	1.0000
Questions18	3	1.0000
Questions19	3	1.0000
Questions20	3	1.0000
Valid N (listwise)	3	

The consistency index of the student opinion satisfaction questionnaire toward using English lesson plans based on Collaborative Strategic Reading (CSR) with Mind Mapping Technique by experts.

Descriptive Statistics			
	N	Maximum	Mean
Statement1	3	1.00	1.0000
Statement2	3	1.00	.6667
Statement3	3	1.00	1.0000
Statement4	3	1.00	1.0000
Statement5	3	1.00	.6667
Statement6	3	1.00	1.0000
Statement7	3	1.00	.6667
Statement8	3	1.00	1.0000
Statement9	3	1.00	1.0000
Statement10	3	1.00	1.0000
Valid N (listwise)	3		

Difficulty (P), Classification power (r) and Reliability of the reading comprehension test

Descriptive Statistics			
	N	P	r
Question1	30	.5667	0.47
Question2	30	.6667	0.53
Question3	30	.5667	0.67
Question4	30	.6000	0.47
Question5	30	.7333	0.33
Question6	30	.6667	0.53
Question7	30	.5667	0.67
Question8	30	.5667	0.67
Question9	30	.5667	0.47
Question10	30	.6667	0.20
Question11	30	.5333	0.47
Question12	30	.7000	0.27
Question13	30	.6667	0.53
Question14	30	.6667	0.20
Question15	30	.6667	0.20
Question16	30	.6000	0.47
Question17	30	.7000	0.27
Question18	30	.4667	0.27
Question19	30	.5333	0.47
Question20	30	.7333	0.33
Valid N (listwise)	30		
Reliability = 0.88			

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