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The effects of collaborative strategic reading and KWL plus technique on reading comprehension and English learning achievement

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Abstract

The purposes of the research were: (1) To compare the English reading comprehension of 11th grade secondary students before and after studying by using Collaborative Strategic Reading and KWL Plus technique; (2) to compare the English learning achievement of 11th grade secondary students before and after studying by using Collaborative Strategic Reading and KWL Plus technique; and (3) to study the 11th grade secondary students' satisfaction after studying by using Collaborative Strategic Reading and KWL Plus technique. The sample consisted of 44 students of 11th grade secondary students, Woranari Chaloe School, Songkhla province, during the second semester of the 2022 academic year by cluster random sampling method. The research Instruments consisted of lesson plans, English reading comprehension tests, English learning achievement tests and a satisfaction questionnaire of 11th grade secondary students. The results showed that: (1) The English reading comprehension of 11th grade secondary students after studying by using Collaborative Strategic Reading and KWL Plus technique were higher than before studying with a statistical significance $**p < .01$; (2) the English learning achievement of 11th grade secondary students after studying by using Collaborative Strategic Reading and KWL Plus technique were higher than before studying with a statistical significance $**p < .01$; and (3) the overall satisfaction of 11th grade secondary students after studying by using Collaborative Strategic Reading with KWL Plus technique was at the highest level with an average of 4.60.

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Introduction

The Basic Education Core Curriculum 2008 (Ministry of Education, 2008) prescribed goals and learning

standards that students will thus have knowledge, understanding, process skills and a good attitude towards English subjects. They are able to use English language for communicating in various situations,

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pursuing further education at higher levels and for enhancing the quality of life of learners. In addition, in present global society, learning English language is very important and essential to daily life, as English language serves as an important tool for communication, education, seeking knowledge, livelihood and creating understanding of cultures and visions of the world community. English language enables students to be aware of the diversity of cultures and viewpoints in the world community, conducive to friendship and cooperation with various countries. The students are thus able to learn and understand differences of languages and cultures, customs and traditions, thinking, society, economy, politics and administration. They will be able to use English language for communication as well as for easier and wider access to bodies of knowledge, and will have vision in leading their life (Department of Academic Affairs, Ministry of Education, 2009). The main English language skills include: listening, speaking, reading and writing, exchanging data and information or experiences that are beneficial to students' self-development.

Reading skill is essential because it is a tool that helps students to easily and widely access up to date information. Therefore, the promotion of reading skill is necessary. However, what helps successful reading is the ability to understand what is being read. In accordance with Smut Senchaowanich (Senchaowanich, 2002), reading comprehension is the ability to infer desirable information or meaning from what has been read as efficiently as possible. This understanding is relevant to individual education and experiences and is one of the most important elements of reading. If you read it without understanding, it will be limited in its utility. Understanding is what allows us to apply knowledge effectively, make connections between different pieces of information, solve problems, and think critically. Without understanding, knowledge may remain disconnected and lack depth. However, effective reading is not just the readers reading aloud correctly or quickly. It is important that the readers understand the story or the essence of the content that is read. When the readers understand what they have read, they will be able to apply what they read until they understand it in their daily life and develop their own achievements. The researcher found that although the students had already learned various English reading strategies, the main problem was students lack of vocabulary because the teachers used inappropriate teaching methods and they did not enhance students' reading skill.

Woranari Chaloe Songkhla School provides teaching and learning in accordance with the curriculum of educational institutions 2022 that are consistent with

the core curriculum of basic education 2008 (Edited 2018). In the academic year 2022, the results showed that the academic achievement in English courses of Grade 11 secondary students during 4 years from the 2017–2020 academic year, 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, is where the students' learning achievement is at a level that is lower than the target value set in terms of language knowledge, and the students' thinking process is at a low level with an average score of 43.6 points, based on information on foreign language learning subjects, academic year 2018–2021 (Foreign language department, Woranari Chaloe Songkhla School, 2021). The researchers found that the problem came from the students' lack of good reading behavior in class. They lack reading comprehension skills because teachers still lack proper methods or techniques for learners. In addition, the students who were proficient in English tended to work alone. Such makes a competitive learning system.

Collaborative strategic reading is a strategy to develop students' reading comprehension and enhance their language skills through interaction through analytical reading, discussion to exchange knowledge and experiences together, and develop potential of teaching reading. Collaborative strategic reading was developed by Klingner et al. (1998). There are 4 steps of CSR: (1) Preview, (2) Click & Clunk, (3) Get the Gist, (4) Wrap up (Klingner et al., 1998). Collaborative strategic reading came from 2 concepts; Reading strategies and Cooperative learning. This strategic reading focuses on students to develop a wide range of reading skills through the group process as a learning method that focuses on providing a learning environment in which students can learn in groups and promote interdependence positively.

In addition, a great technique which can develop reading comprehension is the KWL-Plus technique. It is developed by Carr and Ogle (1987). The KWL-Plus technique can be used to solve problems and develop students' reading comprehension because it is a reading management technique that encourages students to become thinkers while reading. There are 4 steps of KWL Plus: (1) K (What I Know), (2) W (What I Want to Know), (3) L (What I have Learned), (4) Plus (Making a reading diagram for summarizing after reading). Therefore, the researcher is interested in this technique that will develop thinking, understanding and conclusions for students to organize learning activities in English courses.

Collaborative Strategic Reading and KWL Plus technique is an effective learning activity for enhancing

reading comprehension. This strategy is able to develop English reading comprehension and academic achievement in English subjects and helps the teacher to improve teaching to be more effective.

Finally, the researcher studied information and conducted research on The Effects of Collaborative Strategic Reading and KWL Plus Technique on Reading Comprehension and English Learning Achievement. The researcher gives students the opportunity to develop their English reading comprehension correctly, and for such to be the foundation of English reading skill for further study at a higher level.

Literature Review

Collaborative Strategic Reading was developed by Klingner et al. (1998). There are 4 steps of CSR: (1) Preview, (2) Click & Clunk, (3) Get the Gist, (4) Wrap up (Klingner et al., 1998). Collaborative strategic reading came from 2 concepts; Reading strategies and Cooperative learning. This strategic reading focuses on students to develop a wide range of reading skills through the group process as a learning method that focuses on providing a learning environment in which students can learn in groups and promote interdependence positively.

KWL-Plus technique was developed by Carr and Ogle (1987). The KWL-Plus technique can be used to solve problems and develop students' reading comprehension because it is a reading management technique that encourages students to become thinkers while reading. There are 4 steps of KWL Plus: (1) K (What I Know), (2) W (What I Want to Know), (3) L (What I have Learned), and (4) Plus (Making a reading diagram for summarizing after reading). This technique is able to develop thinking, understanding and conclusions for students to organize learning activities in English courses.

Collaborative Strategic Reading and KWL Plus Technique is learning activities that rely on intra-group interaction to develop English reading comprehension by allowing students to learn in groups. There is an internal discussion. The teacher is a mentor and encourages students to be thinkers. Students guess what they are reading about. They find information from the passages, analyze and summarize together.

Step 1: Preview (KWL Plus: K) students briefly survey the text by looking at the title or illustration to connect prior knowledge to the content that is about to be read. Students will use the KWL Plus table: K (What I know) to write about what they are reading about or how the proceedings should be.

Step 2: Click & Clunk (KWL Plus: W) students read a text briefly and take note of what they don't understand or want to know in the text through using the KWL Plus table: W (What I want to know). The students ask questions about what they would like to know about the topic or difficult words that they do not know the meaning of and exchange knowledge with fellow group members.

Step 3 : Get the Gist (KWL Plus: L) students carefully read the passage to find the main idea of the passage and write such in their own language, and then discuss in the group to find the main points that then form the group's conclusions through using the KWL Plus table: L (What I have learned)

Step 4: Wrap up (KWL Plus: Plus) students summarize the main idea of what they have read in the form of a graphic diagram through using the KWL Plus: Plus.

English Reading Comprehension refers to a student's ability to read English at the literal comprehension level, reorganization level and the summation level from reading. They are able to answer the question correctly using the ability to interpret the information available from what is read into the details of the story order of events, convey information, summaries, plots, as well as text analysis. According to Barrett (Barrett, 1972) this taxonomy of reading comprehension is divided in five different categories. They are: (1) literal comprehension, (2) reorganization, (3) inferential comprehension, (4) evaluation and (5) appreciation. In this taxonomy, categories are ordered from easy to difficult according to each category contained and covered based on the difficulty of competence.

Learning achievement is the level of student success in learning the subject matter in schools that are expressed in the form of scores obtained from the results of tests on a particular subject matter. Bloom's Taxonomy is one of the most recognized learning theories in the field of education. Educators often use Bloom's Taxonomy to create learning outcomes that target not only subject matter but also the depth of learning they want students to achieve, and to then create assessments that accurately report on students' progress towards these outcomes (Anderson & Krathwohl, 2001).

1. Remember: This stage of learning is about memorizing basic facts, dates, events, persons, places, concepts, and patterns.

2. Understand: At this point, learners might be asked to explain a concept in their own words, describe a mathematical graph or clarify a metaphor.

3. Apply: Learners might be asked to discuss phenomena described in one scientific paper using terms and concepts of another paper.

4. Analyze: At this level, learners are supposed to break down concepts and examine their relationships.

Methodology

Participants

The population consists of 11th grade secondary students at Woranari Chaloe Songkhla School during the second semester of the 2022 academic year, a total of 546 students. The sample group of this research is a group of 44 students from 11th grade, class 2 in academic year 2022 of Woranari Chaloe Songkhla School, Muang district, Songkhla province selected by cluster random sampling. The classroom was also used as a random sampling unit.

Data Collection

Before data collection, the researchers obtained research ethical approval issued by Research and Development Institute, Thaksin University. The data collection for this research was conducted as follows: (1) pre-test in English Reading Comprehension test was conducted with 30 items and a time limit of 60 minutes to assess comprehension before the lesson. The scores obtained from the pretest were compared with those obtained from the posttest. The pre-test and posttest are parallel; (2) pretest in English achievement test (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) was conducted with 30 items and a time limit of 60 minutes to assess English achievement before the lesson. The scores obtained from the pretest were compared with those obtained from the posttest. The pre-test and posttest are parallel; (3) managing learning with the researcher-created lesson plans, a total of 8 plans, each lasting for 2 hours, for a total of 16 hours. The researcher also served as the teacher; (4) posttest with 30 items English reading comprehension test for understanding, lasting 60 minutes; (5) posttest with 30 items English achievement test with a total time limit of 60 minutes, and (6) to survey satisfaction with using Collaborative Strategic Reading combined with KWL Plus technique, 20 questions using Likert scale within 60 minutes.

Data Analysis

The data analysis conducted for this research is as follows: (1) to compare English reading comprehension before and after the experiment of the sample group, a dependent *t*-test can be used to test for significant differences in the mean scores between before and after the experiment; (2) to compare the learning achievement in English subjects before and after the experiment of the sample group, a dependent *t*-test can be used to test for significant differences in the mean scores before and after the experiment; and (3) to compare the students' satisfaction after studying using Collaborative Strategic Reading combined with KWL Plus technique compared against a criterion.

Results and Discussion

The three major themes found in this study were to compare English reading comprehension before and after studying of 11th grade secondary students by using Collaborative Strategic Reading combined with the KWL Plus Technique, to compare the learning achievement in English subjects before and after studying of 11th grade secondary students by using Collaborative Strategic Reading combined with the KWL Plus Technique, and to study the satisfaction of 11th grade secondary students toward the learning management by using Collaborative Strategic Reading combined with the KWL Plus Technique. The results are presented in Table 1 to Table 3.

As seen from Table 1, the English reading comprehension of 11th grade secondary students after studying using Collaborative Strategic Reading and KWL Plus technique was higher than before studying with a statistical significance $**p < .01$.

As seen from Table 2, the English learning achievement of 11th grade secondary students after studying using Collaborative Strategic Reading and KWL Plus technique was higher than before studying with a statistical significance $**p < .01$.

Table 1 Result of English reading comprehension before and after studying of 11th grade secondary students using Collaborative strategic reading combined with the KWL Plus technique

The level of English reading comprehension	Full score	Pretest score		Posttest score		<i>t</i>
		\bar{x}	<i>SD</i>	\bar{x}	<i>SD</i>	
Literal Comprehension	10	6.34	1.73	6.93	1.62	4.13**
Reorganization	10	5.66	2.02	6.27	1.77	3.62**
Inference	10	4.86	1.49	5.91	1.44	8.32**
Total	30	16.86	4.45	19.11	4.13	5.98**

Table 2 Result of learning achievement in English subjects before and after studying of 11th grade secondary students using Collaborative strategic reading combined with the KWL Plus technique

The level of Learning achievement in English subject	Full score	Pretest score		Posttest score		<i>t</i>
		\bar{x}	<i>SD</i>	\bar{x}	<i>SD</i>	
Remember	6	4.43	1.09	4.93	0.97	4.99**
Understand	7	4.30	1.41	4.80	1.11	5.62**
Apply	7	4.07	1.17	4.41	1.09	3.98**
Analyse	10	4.41	1.42	4.93	1.45	6.31**
Total	30	17.21	3.76	19.07	3.43	9.48**

As seen from Table 3, the overall satisfaction of 11th grade secondary students after studying using Collaborative Strategic Reading with KWL Plus technique was at the highest level with an average of 4.60.

Table 3 Result of the satisfaction of 11th grade secondary students toward the learning management using Collaborative strategic reading combined with the KWL Plus technique

Assessment list	\bar{x}	<i>SD</i>	Interpreting the results
Learning outcomes	4.57	0.51	the highest
Learning management	4.57	0.43	the highest
Instructional materials	4.68	0.45	the highest
Assessment and Evaluation	4.59	0.51	the highest
Total	4.60	0.48	the highest

Discussion

Collaborative Strategic Reading combined with KWL Plus Technique to develop reading comprehension of 11th grade secondary students was appropriate at the highest level. It is appropriate and consistent with the learning of the students. The learning management plan has all the components: (1) Content standards and indicators, (2) Content, (3) Concept, (4) Key competencies of learners and desired characteristics, (5) Learning objectives, (6) Learning content, (7) Learning activities, (8) Learning media, (9) Assessment. The quality of the learning management plan was at the highest level because each component had corresponding content. In learning management, there are 4 steps of Collaborative Strategic Reading as follows: (1) Preview, (2) Click and Clunk, (3) Get the gist, (4) Wrap up. Each step is KWL Plus Technique combined to design learning activities for students to learn and have the most reading comprehension. The results of the above research are consistent with the research by Samarnpan and Tiya Wong (2018) titled the development of reading comprehension by using collaborative strategic reading for 12th Grade Secondary Students. The results of the research revealed that reading comprehension of students after using collaborative strategic reading was statistically significantly higher than before learning

management at the .01 level, and it was found that the Index of Item Objective Congruence (IOC) was between 0.67–1.00. Reading comprehension in English of 11th grade secondary students after using Collaborative Strategic Reading combined with KWL Plus Technique is statistically significantly higher than before learning management at the .01 level because Collaborative Strategic Reading combined with KWL Plus Technique is a process which enables students to understand and learn meaningfully. Students can build knowledge on their own and store information for a long time. Collaborative Strategic Reading consists of 4 steps, each step resulting in reading comprehension as follows: (1) Preview: Previewing the text activates prior knowledge, stimulates students' interest about the topic, and facilitates making predictions. During this step, students look at headings, key words, pictures, and charts. The teacher facilitates questions and predictions from students; (2) Click and Clunk: In this step, students monitor their understanding of the text. Clicking and clunking is designed to teach students to be aware of when they understand the text, and when they do not understand. Students self-monitor their understanding (the “clicks”) as they are reading. When students find a word or concept that they find difficult to understand, it is a “clunk.” Students identify the clunks and then figure them out as a group using “fix-up strategies” such as partner retelling and determining meaning using affixes, roots, and vocabulary or sentence context clues; (3) Get the gist: Students identify the “who” or “what” of the text and the most important ideas. Students explain the main idea of pre-determined two- to four-paragraph portions of text. Students share their “gist” statements in their own words within cooperative groups as a check for understanding; (4) Wrap up: There are two parts to Wrap Up. First, the students identify the important concepts from the text they read. Second, students develop different types of questions and answers about that information. With teacher scaffolding, students develop literal questions, within-text inference questions, and higher-order thinking questions regarding the author's intent or purpose. Students then ask and answer the questions developed by using

KWL Plus Technique to help motivate students to learn. Implementing KWL Plus Technique with Collaborative Strategic Reading 4 Steps in Knowledge Synthesis Stage Learners can synthesize the knowledge gained from their studies as a way to develop reading comprehension. In addition, Nirongboot, C (2016) titled using SQ4R and KWL Plus Technique to develop reading comprehension and satisfaction for 11th grade secondary students. The results of the research revealed that reading comprehension of 11th grade secondary students after learning SQ4R and KWL Plus technique was statistically significantly higher than before learning management at the .01 level.

Conclusion and Recommendation

From the information mentioned above, it can be seen that the students have good understanding of the basic level of literal reading comprehension because they can understand the meaning and facts of the content as stated, and can use this information to answer questions directly. Meanwhile, level of inference has the lowest average score. Students have to guess or form an opinion based on the information that they have to use in answering questions. In this case, students have to use the process of thinking to sequence the events that occur. If students miss important points, it may lead to a lack of understanding of the content they read, and therefore, they cannot answer questions accurately.

In addition, the students have a good level of remembering because they can remember and understand the meaning and facts of the content as stated, and can use this information to answer questions directly. Meanwhile, level of apply has the lowest average score. Students are able to solve problems to new situations by applying the acquired knowledge, facts, techniques and rules in a different way that they have to use in answering questions.

The satisfaction of 11th grade secondary students towards learning organized under Collaborative Strategic Reading combined with KWL Plus Technique reveals that students are most satisfied with the instructional materials, as the teachers have designed them to be interesting and diverse. Furthermore, satisfaction in terms of learning outcomes, learning management, and assessment and evaluation is also the highest.

However, the researchers have some suggestions that are seen as beneficial for learning and education management as follows: (1) teachers should study the concept of Collaborative Strategic Reading combined

with the KWL Plus Technique thoroughly before implementing such in the classroom. This will ensure the highest level of effectiveness in learning management; (2) Collaborative strategic reading combined with the KWL-Plus technique should contain interesting content for students. There are various activities to attract interest, prior knowledge, and practice using English language and learning processes to become more proficient; and (3) teachers should explore and implement by using a variety of teaching strategies and methods, so they can help students improve their efficient English reading comprehension.

Conflict of Interest

The authors declare that there is no conflict of interest.

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