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The Development of English Reading Comprehension Skills Using the KWL Plus Technique of Grade 4 Students at Demonstration School Suan Sunandha Rajabhat University

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Abstract

The purposes of this research were to study and compare the English reading comprehension achievement of Grade 4 students before and after the implementation of the KWL Plus teaching technique. The sample group consisted of 35 Grade 4 students. The research instruments included: 1) lesson plans based on the KWL Plus technique and 2) a 30-item multiple-choice English reading comprehension test with four options per item. The data were analyzed using mean (\bar{x}), standard deviation (S.D.), and t-test for dependent samples.

The research findings revealed that the English reading comprehension achievement of Grade 4 students after learning through the KWL Plus technique was significantly higher than before the intervention at the .05 level, which is consistent with the established hypothesis.

Keywords: KWL Plus Technique, English Reading Comprehension

Introduction

Technological advancements across various fields, particularly in education and communication, have significantly increased the accessibility, convenience, and speed of information exchange. Consequently, English has become an indispensable tool in the modern world, serving as a primary medium for global knowledge acquisition. Proficiency in English enables students to access a broad range of academic resources and facilitates a deeper understanding of linguistic and cultural diversity (Bureau of Academic Affairs and Educational Standards, 2008). In the context of Thailand, the promotion of academic excellence to drive national development is fundamentally aligned with the National Education Act B.E. 2542 (1999) and its subsequent amendments. Specifically, Chapter 4, Sections 22–26, emphasizes learner-centered instruction, urging educators to employ proactive instructional strategies while receiving governmental support to foster lifelong learning and the development of modern learning resources (Ministry of Education, 2020).

The development of students' ability to use English as a tool for communication requires a strong foundation in reading skills. Reading is considered a receptive skill that is crucial for academic success and for navigating global information networks (Grabe & Stoller, 2011). It serves as a vital precursor to future educational advancement, as English reading comprehension is intrinsically interconnected with listening, speaking, and writing skills.

Therefore, reading comprehension should be promoted systematically from an early age. Despite its significance, many students continue to encounter substantial challenges in identifying main ideas and comprehending complex texts, often leading to inaccurate interpretations of information (Department of Curriculum and Instruction Development, 2003). This issue is further corroborated by Saengboon (2012), who noted that Thai students' reading achievement remains relatively low due to inadequate cognitive strategies and a lack of engagement in the reading process.

To address these pedagogical challenges, the researcher has identified the KWL Plus instructional technique as a high-potential intervention. Originally proposed as an extension of the KWL strategy by Carr and Ogle (1987), KWL Plus is a metacognitive framework that activates learners' prior knowledge while promoting analytical thinking and summarization through graphic organizers. The technique follows a structured four-stage process: (1) K (What I know), which assesses background knowledge; (2) W (What I want to know), which helps students set specific learning objectives; (3) L (What I learned), which facilitates reflection on newly acquired information; and (4) Plus, which involves synthesizing the content into concept maps and summaries. The integration of the "Plus" stage is particularly effective for young learners, as it encourages them to organize information visually and express ideas through collaborative mapping, thereby enhancing both critical thinking and cooperative learning (Conner, 2006).

Given the critical need to improve literacy outcomes in the digital age, this study aimed to investigate the effects of the KWL Plus technique on the English reading comprehension ability of Grade 4 students at the Demonstration School of Suan Sunandha Rajabhat University. This research seeks to provide an empirical basis for using structured metacognitive strategies to bridge the gap in primary-level English reading achievement.

Research Objective

To study the learning achievement of grade 4 students in English reading comprehension using the KWL plus teaching technique during the first semester of the 2025 academic year.

Research Hypothesis

The academic achievement of grade 4 students who learned English reading comprehension using the KWL plus technique after the intervention will be significantly higher than before the intervention at the .05 statistical significance level.

Literature Review

This research involves a comprehensive review of relevant literature and theoretical frameworks to establish a foundation for the study. The key areas of focus are as follows:

1. The Basic Education Core Curriculum

The Basic Education Core Curriculum B.E. 2551 (A.D. 2008) designates Foreign Languages as a core learning area, emphasizing the development of English literacy from an early age. For Grade 4 students, the curriculum specifically aims to enhance English reading proficiency, enabling learners to comprehend and apply English in daily life. This includes the ability to read simple texts and accurately correlate textual information with visual aids or familiar environmental contexts (Ministry of Education, 2008).

2. English Reading Comprehension

Reading comprehension is a complex cognitive process involving the interaction between the reader and the text. Grellet (1981) defines reading comprehension as the ability to extract required information from a written text as efficiently as possible. This process is inherently purposeful; therefore, readers must identify their objectives and select appropriate strategies—such as skimming or scanning—based on the nature of the material.

Furthermore, Tasanee Sathaphong, Wipawan Eakwannang and Thapakorn Yoosanthia. (2021) emphasize that reading should be viewed as an intensive and strategic learning process designed to foster authentic proficiency. It transcends basic phonetic decoding, focusing instead on reading as a critical tool for comprehending the world and acquiring global knowledge.

3. Instructional Management Using the KWL Plus Technique

The KWL Plus technique is an evolution of the original KWL model, developed by Carr and Ogle (1987) to enhance students' metacognitive engagement during reading. This model integrates two additional cognitive tools: semantic mapping and summarization.

The KWL Plus process follows a structured sequence:

1. **K (What I Know):** A collaborative brainstorming session where the teacher and students activate prior knowledge about a topic.
2. **W (What I Want to Know):** Students formulate specific questions to guide their reading purpose.
3. **L (What I Learned):** After reading, students record the new information acquired and verify if their questions were answered.
4. **Plus:** The critical final stage where students synthesize the information into a concept map (mind map) and draft a summary. This step helps students visualize the relationship between ideas and reinforces long-term retention of the content (Ogle, 1986; Carr & Ogle, 1987).

Methodology

In this study, the researcher employed Quasi - Experimental Research design using a one-group pretest-posttest design.

Population and Sample

The population for this research consisted of Grade 4 students at Demonstration School Suan Sunandha Rajabhat University during the first semester of the 2025 academic year. The total population included 100 students from three classrooms.

Research Sample

The sample consisted of 35 students from Grade 4/1 at Demonstration School Suan Sunandha Rajabhat University, enrolled in the English for Information Literacy course during the first semester of the 2025 academic year. The sample was obtained through cluster random sampling.

Research Variables

The independent variable of this study is the implementation of the KWL-Plus instructional technique.

The dependent variable is the students' reading comprehension skills.

Research Duration

The research was conducted during the first semester of the 2025 academic year, from July to September 2025. The experiment was implemented using five KWL-Plus instructional plans over a period of 10 weeks. The sessions were held once a week, with each session lasting 60 minutes, totaling 10 sessions.

The research instruments

The research instruments used in this study consisted of:

1. The KWL-Plus instructional plans

The study utilizes five lesson plans based on the KWL Plus technique, designed to enhance the reading comprehension abilities of Grade 4 students. These plans were reviewed and evaluated for quality by three experts, achieving an Index of Item-Objective Congruence (IOC) of 1.00.

Lesson plan 1: Mouse and the lion

Lesson plan 2: Family night

Lesson plan 3: The class trip

Lesson plan 4: The camera

Lesson plan 5: The honest waiter

2. A reading comprehension test

The research instrument is a 30-item English reading comprehension test, featuring a 4-option multiple-choice format. It is used to measure students' reading abilities before and after the KWL Plus instructional management. The test was validated and evaluated by three experts, yielding a difficulty index (p) ranging from 0.20 to 0.80, a discrimination index (r) from 0.20 to 1.00, and a total test reliability of 0.71.

Data Collection

1. The researcher proceeded with the data collection and analysis according to the following steps:

2. **Pretest:** A test measuring English reading comprehension was administered to the experimental group students before the experiment began, in order to establish baseline knowledge.

3. **Instructional Implementation:** The researcher implemented five lesson plans created using the KWL Plus technique, totaling **10** instructional hours.

4. **Posttest:** An English reading comprehension test was administered to the same experimental group again, after the completion of the designated curriculum.

5. **Statistical Analysis:** The scores obtained from the English language academic achievement test (both pretest and posttest) were subjected to statistical analysis using a software package to test the research hypotheses.

Data Analysis

The researcher performed the data analysis as follows:

1. **Determining the Instructional Efficiency:** To determine the efficiency of the lesson plans utilizing the KWL Plus technique, the researcher employed descriptive statistics, namely the mean score (\bar{x}) and percentage.
2. **Comparison of Pretest and Posttest Scores:** The differences between the pretest and posttest scores of the experimental group, which received instruction using the KWL Plus technique, were analyzed using a dependent samples t-test.

Conclusion

Based on the research objective to study the English reading comprehension achievement of Grade 4 students using the KWL Plus teaching technique during the first semester of the 2025 academic year, the researcher conducted the study as follows:

The sample group took a 30-item multiple-choice pre-test and post-test to evaluate their English reading comprehension achievement via the KWL Plus technique. The assessment consisted of four-option items with a total score of 30, administered over a one-hour period. The comparison of the students' reading comprehension performance is illustrated in Table 1 below:

Table 1: Comparison of English Reading Comprehension Achievement of Grade 4 Students Before and After Implementing the KWL Plus Teaching Technique

Test	N	Score	\bar{x}	S.D.	t-test	sig
Pre-test	35	30	13.11	1.93		
Post-test	35		25.62	1.57		

*p < .05

From Table 1, it was found that the English reading comprehension achievement of Grade 4 students after using the KWL Plus technique was significantly higher than before at the .05 level.

Discussion

The English reading comprehension achievement of Grade 4 students following the implementation of the KWL Plus technique was significantly higher than the pre-test scores at the .05 level, confirming the research hypothesis. This outcome aligns with the findings of Wattanachai (2023), whose study on Grade 8 students demonstrated that the KWL Plus technique led to significantly improved reading comprehension at the .05 level. Additionally, these results are consistent with the research conducted by Songsiri et al. (2020), which indicated that Grade 6 students utilizing KWL Plus-based activity kits achieved significantly higher post-test scores at the .01 level.

The KWL Plus technique helps foster systematic reading planning for students, starting with activating prior knowledge (**K** - What I Know) and setting reading goals (**W** - What I Want to know). This process aligns with **Constructivism Theory**, which emphasizes integrating new information with existing experiences, thereby allowing students to gain a deeper understanding of the reading material. This is consistent with Nunan's assertion (1999, p. 201) that prior experiences are essential for text comprehension because they form a conceptual foundation rooted in past events that lead to new insights and enhanced understanding.

Furthermore, this process is in line with Ogle's concept (1986) that leveraging prior knowledge effectively establishes the purpose for reading. Most importantly, the 'Plus' stage involves reorganizing information gained from reading (**L** - What I Learned) into various formats, such as mind mapping or summarization, in accordance with Carr and Ogle's approach (1987). This method assists Grade 4 students—who are in a developmental stage for logical thinking—in organizing their thoughts and visualizing the structure of the text more clearly than through conventional reading methods. These findings are consistent with research in the Thai context by Patthawan Wattanachai (2023) and Siwaphat Songsiri et al. (2020), which confirms the effectiveness of this technique for foundational learners.

Suggestions

Future research should investigate the integration of the KWL Plus technique with digital innovations, such as interactive mind-mapping applications or digital reading platforms. Such approaches could foster student engagement and enhance learning outcomes, effectively aligning with the essential digital literacy skills required for learners in 2026

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