

THE DEVELOPMENT OF ENGLISH VOCABULARY PRONUNCIATION SKILLS USING  
BRAIN-BASED LEARNING FOR GRADE 7 STUDENTS  
AT WAT WIWEKWANARAM SCHOOL

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## ABSTRACT

The objective of this research article is as follows: 1) To test the effectiveness of an English vocabulary pronunciation practice for Grade 7 students at Wat Wiwekwanaram School according to the 70/70 standard; 2) To compare the achievement in English vocabulary pronunciation skills using Brain-Based Learning (BBL) for Grade 7 students at Wat Wiwekwanaram School before and after the lesson; and 3) To examine the satisfaction of Grade 7 students with Brain-Based Learning (BBL). The sample group consisted of Grade 7 students from Wat Wiwekwanaram School, selected through purposive sampling. The research design was a quasi-experimental design using a one-group pre-test and post-test method to measure the results before and after the experiment. The research instruments included a lesson plan, a pre-test and post-test, and a student satisfaction questionnaire. Data were analyzed using basic statistics, including mean, standard deviation, percentage, and t-test.

The research findings are as follows:

1) The effectiveness of the English vocabulary pronunciation practice for Grade 7 students at Wat Wiwekwanaram School was 70.83/73.33, which is higher than the established standard of 70/70.

2) The achievement in English vocabulary pronunciation, using brain-based learning management, of Grade 7 students at Wat Wiwekwanaram School after the lesson was significantly higher than before the lesson at the .05 level of statistical significance.

3) The students' satisfaction with the brain-based learning management was at the highest level ( $\bar{x}$  = 4.65, S.D. = 0.88).

**Keywords:** English vocabulary, pronunciation skill, Brain-based learning.

## Introduction

21st Century Learning Skills (3R8C) include reading skills, which allow students to communicate, learn, and express satisfaction. This aligns with the National Education Act of

1999, which defines "education" as the creation of progress in academics, learning, and supporting factors that enable individuals to learn throughout their lives. According to Section 22 of the National Education Act, the educational system must adhere to the principle that every learner has the ability to learn and develop themselves, with a focus on the learner as the most important aspect. The educational process must encourage learners to develop according to their natural abilities and potential. This is also in accordance with the Core Curriculum of Basic Education at the Grade 7 level, which specifies that by the end of Grade 7, students should be able to engage in conversations and write to exchange information about themselves, personal matters, experiences, situations, news, and current issues. They should be able to communicate continuously and appropriately, select and use polite requests, explanations, advice, and suggestions, and express desires, offer help, accept or refuse help in simulated or real-life situations appropriately. Additionally, they should be able to speak and write to request and provide information, describe, explain, compare, and express satisfaction regarding news issues and events they listen to or read. Lastly, students should be able to express their feelings and satisfaction regarding various topics, activities, experiences, and events in a reasonable manner.

From the study, pronunciation is defined as the process of decoding words and articulating them clearly, or producing sounds according to words and symbols to convey meaning accurately. English pronunciation instruction should include knowledge of phonemes, consonant sounds, and vowel sounds to aid in correct and precise pronunciation. Observations of Grade 7 students at Wat Wiwekwanararm School, along with inquiries from teachers, revealed that students were unable to read English vocabulary correctly according to reading principles. They lacked confidence and were hesitant to pronounce words aloud in front of others. Additionally, they lacked a positive attitude toward learning foreign languages. This aligns with the findings from the national assessment of student quality (O-NET) in English for Grade 9 students, which showed that in the 2022 academic year, the average score was 32.05% (The National Institute of Educational Testing Service, 2022). This is in line with the research of Lalida Thongrat (2020), on the development of English reading aloud skill through the use of phonics based on the Davies instructional model of grade 11 students. The study found that students had difficulties with pronouncing English vocabulary, which is a basic skill for reading and correctly pronouncing words for communication. This was due to a lack of fundamental knowledge about the phonetic system of letters, including both vowels and consonants, leading to an inability to spell words correctly and frequent mispronunciations. As a result, students lacked confidence in reading and pronouncing words, had difficulty remembering vocabulary, were unsuccessful in communication, and showed a lack of interest in learning English. Similarly, the research of Atchima Chaichit (2020) on Developing the skill of reading and pronouncing English words (Phonics) using practice exercises for second-grade students at Srinakharinwirot University revealed that students had

low learning outcomes in English. This was because they lacked pronunciation skills and resorted to memorizing vocabulary as individual words, writing the Thai phonetic transcription alongside them. Consequently, they were unable to correctly pronounce unfamiliar vocabulary from the lessons. Additionally, the research by Ratchadakan Yaidee (2022) on the reading aloud skill development by using phonics exercises of grade 4 students at Bannontarod school, Kamphaengphet province found that most students could not pronounce English vocabulary correctly. While students could speak and understand the meaning of words when heard, they struggled to pronounce them correctly and understand their meaning when presented in written form.

Brain-based learning management refers to organizing learning activities in alignment with the functioning of the brain. This includes teacher-student interactions, creating a learning environment full of experiences, designing tools to enhance self-directed knowledge acquisition, and applying principles of brain function in learning. This approach helps improve learning effectiveness and yields the best results by focusing on reflective thinking, critical thinking, and artistic expression. This is consistent with the research by Ratwisan Ngamsom (2017), who studied a study of learning management using brain-based learning to develop English speaking skill for Prathomsuksa three students. The study found that students had a high level of satisfaction with brain-based learning activities (BBL). Similarly, the research by Saipraew Chaimatchim (2020) on the development of scientific learning activities based on brain-based learning concept integrated with inquiry teaching method (5es) on the topic of water for life and air surrounded us of science learning area for Pratomsuksa 3 students showed that students' satisfaction with the developed activities was at the highest level ( $\bar{x}$  = 4.68, S.D. = 0.51). Furthermore, the research by Jariya Sukkeaw (2022) on a development of reading ability on learning activities with based brain learning according to skills practice forms of grade 1 students revealed that students' overall satisfaction with the activities was high ( $\bar{x}$  = 4.48, S.D. = 0.15).

Therefore, the researcher is interested in studying the development of English vocabulary pronunciation skills using brain-based learning for grade 7 students at Wat Wiwekwanaram school. This study introduces the innovation of brain-based learning management to create a more effective learning atmosphere in the classroom. Brain-Based Learning (BBL) consists of five main steps as follows: 1) Preparation of knowledge, 2) Knowledge adjustment, 3) Practice, 4) Discussion, conversation, and summarizing knowledge together, and 5) Applying the knowledge to solve students' problems and help develop their skills. This approach aims to enhance the quality of the learners and align with the desired learner characteristics.

## Objective

- 1) To test the effectiveness of the English vocabulary pronunciation practice for Grade 7 students at Wat Wiwekwanarm School according to the 70/70 standard.
- 2) To compare the achievement in English vocabulary pronunciation skills using Brain-Based Learning (BBL) for Grade 7 students at Wat Wiwekwanarm School before and after the lesson.
- 3) To examine the satisfaction of Grade 7 students with Brain-Based Learning (BBL).

## Research Methodology

This research is a quasi-experimental research design using a one-group pretest-posttest design method

### 1. Scope of the Research

1.1 Population: The population of this study includes students in Grades 7 to 9 at Wat Wiwekwanarm School, located in Nong Han Subdistrict, San Sai District, Chiang Mai Province, under the jurisdiction of the Office of the Ecclesiastical Area, Division of General Education, Area 5, Region 1, for the first semester of the 2024 academic year, totaling 57 students. Specifically, the sample group consists of 12 Grade 7 students from the same school, selected through purposive sampling, as this school is part of a network and the class has been granted

1.2 Content Area: The content used in this study is based on the Foreign Language Learning area as outlined in the 2008 Basic Education Core Curriculum, specifically the Foreign Language Group, Section 1: Language for Communication. The performance indicator is M.1/1, which focuses on reading aloud short texts, stories, and poems correctly according to reading principles. The topic of the study is English pronunciation practice.

1.3 Research Implementation: The researcher conducted the study during the first semester of the 2024 academic year, from June to September 2024, for a total of 6 weeks. The sessions were held once a week, each lasting 1 hour. The total duration for pre- and post-test assessments was 8 sessions.

1.4 Study Variables Independent Variable: The learning activities based on Brain-Based Learning (BBL). Dependent Variables: 1) Achievement in English vocabulary pronunciation. 2) Satisfaction of Grade 7 students with Brain-Based Learning (BBL).

### 2. Development and Quality Verification of Instruments

The instruments used in this research include 3 sets:

2.1 Lesson Plans: A total of 3 lesson plans, each lasting 2 hours, for a total of 6 hours. The effectiveness value of the lesson plans is 3.60.

2.2 Pre-test and Post-test: A 30-item multiple-choice test with three options per item. The overall reliability coefficient of the test is 0.59.

2.3 Student Opinion Questionnaire: A questionnaire to assess students' opinions on the learning activities, using a 5-point Likert scale for evaluation. The average score is 5.00.

### **3. Research Procedure**

3.1 Orientation for Students: Provide students with the knowledge and understanding of the learning activities so that they are aware of the objectives, preparation, and how to properly participate in the activities according to the correct steps.

3.2. Conducting the Learning Activities Implement the learning activities following the steps outlined in the innovation, summarizing the key activities of each lesson plan.

3.3 Data Collection The researcher collects data from the performance scores, specifically from English vocabulary pronunciation, to be used for further data analysis.

### **4. Data Collection and Analysis Procedures**

4.1 Collecting Scores The researcher collects the basic word pronunciation scores from all the students in the sample group and analyzes the data using basic statistics, including the mean, standard deviation, and t-test.

4.2 Collecting Opinion Levels The researcher collects the levels of students' opinions from the student opinion questionnaires regarding the learning activities and analyzes the data using basic statistical methods.

### **5. Statistical Methods**

5.1 Used in the Research The statistical methods applied include the mean, standard deviation, and t-test.

## **Research Findings**

**Objective 1:** The results of testing the effectiveness of the English vocabulary pronunciation practice for Grade 7 students at Wat Wiwekwanararm School, based on the 70/70 standard, revealed the following: the average score from the in-class pronunciation practice was 42.50 out of a total of 60 points, with a standard deviation of 1.29. The process efficiency (E1) was 70.83, which is above the set standard. The total score from the post-test was 264 points, with an average score of 22.00 and a standard deviation of 4.05. This indicates that the Grade 7 students at Wat Wiwekwanararm School who learned through the English vocabulary pronunciation practice had a higher average score after the lesson compared to before. Additionally, the effectiveness of the pronunciation practice (E2) was 73.33, which is also above the set standard.

**Objective 2:** The results of comparing the achievement in English vocabulary pronunciation skills using Brain-Based Learning (BBL) for Grade 7 students at Wat Wiwekwanararm School before and after the lesson revealed the following: the achievement in English vocabulary pronunciation after the lesson had an average score of ( $\bar{x}$  = 22.00, S.D. = 4.05), which was higher than before the lesson, where the average score was

( $\bar{x}$  = 13.33, S.D. = 2.19). This difference was statistically significant at the 0.05 level. When dividing the 12 students into 3 groups based on their test scores.

**Objective 3:** The results of the examine satisfaction of Grade 7 students with Brain-Based Learning (BBL) revealed the following: overall, the students expressed the highest level of satisfaction with Brain-Based Learning (BBL), with an average score of ( $\bar{x}$  = 4.51, S.D. = 0.64). When considering specific aspects, the students' satisfaction was highest in the following areas: Knowledge and capability of the teacher: The average score was ( $\bar{x}$  = 4.72, S.D. = 0.45). Support for learning materials: The average score was ( $\bar{x}$  = 4.64, S.D. = 0.59). Integration and learner-centered focus: The average score was ( $\bar{x}$  = 4.44, S.D. = 0.77). Preparation of teaching content: The average score was ( $\bar{x}$  = 4.40, S.D. = 0.69). Methods of knowledge delivery: The average score was ( $\bar{x}$  = 4.36, S.D. = 0.59). These findings indicate a high level of student satisfaction with all aspects of the Brain-Based Learning approach.

## Discussion of Research Findings

1. The effectiveness of the English vocabulary pronunciation practice for Grade 7 students at Wat Wiwekwanarm School was 70.83/73.33. This is because the pronunciation practice aligns appropriately with the content, falling within a moderately high level. This provides students with a challenging and enjoyable learning experience, consistent with the findings of Saipraew Chaimatchim (2020), on the development of scientific learning activities based on brain-based learning concept integrated with inquiry teaching method (5Es) on the topic of water for life and air surrounded us of science learning area for Pratomsuksa 3 students. The study found that science learning activities using the BBL approach combined with inquiry-based learning (5Es) were effective, with an efficiency score of 90.16/82.11, surpassing the predetermined standard. Similarly, Ratchadakan Yaidee (2022) on the reading aloud skill development by using phonics exercises of grade 4 students found that the phonics-based exercises to develop students' English word pronunciation skills had an efficiency score of 80.30/82.00, which was higher than the set standard.

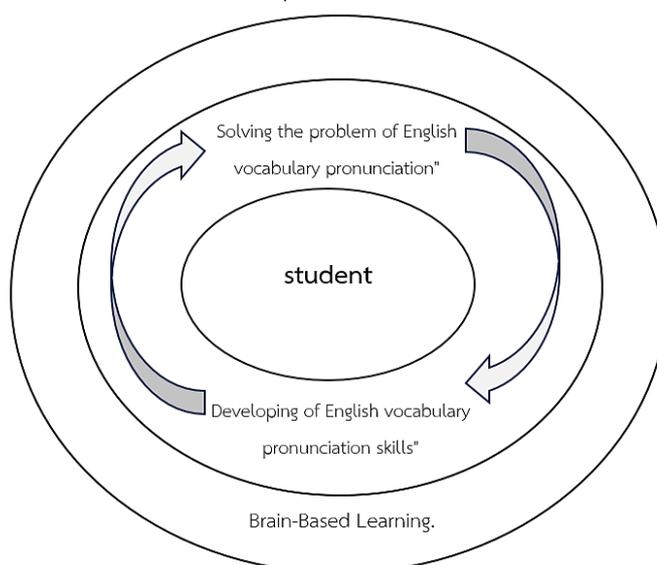
2. The achievement in English vocabulary pronunciation, using brain-based learning management, of Grade 7 students at Wat Wiwekwanarm School after the lesson was significantly higher than before the lesson at the .05 level of statistical significance. This was because the students were well-prepared to learn new things and demonstrated enthusiasm in participating in various activities, as well as excellent cooperation in the teaching and learning process. As a result, their level of feedback in this regard was at the highest level. This finding is consistent with Patcharamon Polpraphrut (2022), who researched management of brain-based learning affecting learning achievement and creativity for primary 4 students studying the concept of goods and services in the economic learning area. The study found that academic achievement scores after the intervention were significantly higher than those

of the regular learning method at the .05 significance level. It is also consistent with Jariya Sukkeaw (2022), who researched on a development of reading ability on learning activities with based brain learning according to skills practice forms of grade 1 students. The results showed that the average scores after learning were significantly higher than before learning at the .05 significance level.

3. The satisfaction of Grade 1 students towards Brain-Based Learning (BBL) revealed an average score and standard deviation at the highest level, with an average of ( $\bar{x}$  = 4.65, S.D. = 0.88). This is because Brain-Based Learning focuses on designing the teaching process according to an understanding of the way the human brain learns, with clear steps in the learning process. This is consistent with Jariya Sukkeaw (2022), who researched on a development of reading ability on learning activities with based brain learning according to skills practice forms of grade 1 students, finding that the overall satisfaction of Grade 1 students with the Brain-Based Learning activities combined with practice exercises was at a high level, with an average of ( $\bar{x}$  = 4.48, S.D. = 0.15). This also aligns with Saipraew Chaimatchim (2020) on The Development of Scientific Learning Activities Based on Brain-Based Learning Concept Integrated with Inquiry Teaching Method (5Es) on the Topic of Water for Life and Air Surrounded Us of Science Learning Area for Pratomsuksa 3 Students. The study found that students' satisfaction with the developed learning activities was at the highest level, with an average of ( $\bar{x}$  = 4.68, S.D. = 0.51).

### New Knowledge Gained from Research

The research on the development of English vocabulary pronunciation skills using brain-based learning for grade 7 students at Wat Wiwekwanaram school focuses on addressing the issue of English vocabulary pronunciation among Grade 7 students and enhancing their ability to pronounce English vocabulary using the Brain-Based Learning (BBL) approach. This aims to improve English learning outcomes by fostering higher achievement levels in accordance with the students' potential. The research follows the following instructional model:



## Conclusion

The research findings are summarized as follows:

1. The results of the effectiveness test for the English vocabulary pronunciation skill exercises of Grade 7 students at Wat Wiwek Wanarama School, based on the 70/70 standard, showed values higher than the set standard, with a result of 70.83/73.33, which exceeds the established benchmark.

2. The comparison of the English vocabulary pronunciation achievement using Brain-Based Learning for Grade 7 students at Wat Wiwek Wanarama School before and after learning revealed that the achievement in pronunciation after learning was significantly higher than before, with a statistically significant difference at the 0.05 level.

3. The study on the satisfaction of Grade 7 students at Wat Wiwek Wanarama School towards the learning management using Brain-Based Learning revealed that the students expressed the highest level of satisfaction with the Brain-Based Learning approach overall, with an average score of ( $\bar{x}$  = 4.51, S.D. = 0.64).

## Recommendations

Based on the research findings, the researcher provides the following recommendations:

### Policy Recommendations

1. Teachers should be able to incorporate the innovative learning management approach into their teaching practices for future implementation.

2. Schools can take the processes and innovative learning management models developed from this research and further improve or develop them.

3. Students show an increased interest in learning through the use of innovative learning management, resulting in better engagement and effectiveness in their education.

### Recommendations for Future Research

1. Teacher education students can apply the learning management methods to enhance students' reading and writing skills.

2. Schools and teachers can continue using the innovative learning management strategies to further develop students' abilities.

3. Teachers can adapt the research model for future applications and improvements in their teaching practices.

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