THE DEVELOPMENT OF ENGLISH READING ALOUD SKILLS USING BRAIN-BASED LEARNING FOR SECOND-YEAR SECONDARY SCHOOL STUDENTS AT WAT PHUTTHANIMIT WITTHAYA SCHOOL

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ABSTRACT

This research article aims to: 1) To evaluate the effectiveness of English reading-aloud practice exercises for Second-year students at Wat Phuttha Nimit Witthaya School according to the 70/70 standard. 2) To compare the learning achievement in reading-aloud skills using the Brain-Based Learning (BBL) approach among Second-year students at Wat Phuttha Nimit Witthaya School before and after learning. and 3) To assess the satisfaction of Second-year students at Wat Phuttha Nimit Witthaya School with the Brain-Based Learning (BBL) approach. The sample consisted of Second-year students selected through simple random sampling. The research design was a quasi-experimental one-group pretest-posttest design. Research instruments included instructional lesson plans, pretest and posttest evaluations, and a student satisfaction questionnaire. Data were analyzed using basic statistics, including mean, standard deviation, percentage, and a t-test.

The research findings revealed that:

1) The effectiveness of English reading-aloud practice exercises for Second-year students was 72.26/75.24, exceeding the predetermined 70/70 standard criteria.

2) The learning achievement in English reading-aloud using brain-based learning for Second-year students after learning was significantly higher than before learning at the 0.05 significance level.

3) The satisfaction of Second-year students with the brain-based learning approach was at the highest level.

Keywords: Reading Aloud, Brain-Based Learning, Student Satisfaction

INTRODUCTION

The 21st-century learning skills framework (3R8C) emphasizes reading as a crucial skill for enabling students to communicate, learn, and express themselves effectively. This aligns with the National Education Act of 1999, which defines "education" as the creation and promotion of academic advancement, learning, and the development of supportive factors that enable individuals to pursue lifelong learning. Furthermore, this corresponds with

Section 22 of the Act, which states that educational provision must adhere to the principle that all learners possess the potential to learn and develop themselves, with learners being the focal point of the educational process. This process must promote appropriate development in accordance with the learners' natural abilities and potential to their fullest extent. Additionally, the English language curriculum for Second-year under the Basic Education Core Curriculum aims for students, upon completing Second-year, to be able to: engage in conversations and write responses on topics related to themselves, familiar subjects, experiences, situations, current events, and social interests; communicate fluently and appropriately by selecting and using requests, explanations, instructions, and suggestions; express needs, offer and provide assistance, accept or refuse help in simulated or real-life situations appropriately; and convey information by describing, explaining, comparing, and expressing satisfaction regarding topics, news, and events they listen to and read. Students are also expected to describe feelings and express satisfaction about various topics, activities, experiences, and events reasonably through spoken and written communication.

Reading skills refer to the ability to pronounce words correctly, following the phonetic patterns of a particular language. This includes pronouncing words and sentences with appropriate stress, intonation, rhythm, and flow, along with gestures and expression. In the context of English, it entails the ability to decode English words and articulate them clearly, accurately, and fluently, resulting from consistent practice until the process becomes natural. From observations and discussions with teachers, it was found that students struggle with reading English texts and words correctly according to standard principles. They lack confidence, the courage to read aloud in front of others, and a positive attitude toward learning foreign languages. These issues align with national evaluations of student performance, such as The National Institute of Educational Testing Service (O-NET) for Grade 9 students. In the 2022 academic year, the average English proficiency score was 25.49%, which is lower than the national average of 32.05% (National Institute of Educational Testing Service, 2022). This challenge corresponds to the findings of Ratchadakan Yaidee (2022) The reading aloud skill development by using phonics exercises of grade 4 students at Bannontarod school, Kamphaengphet province. The study revealed that while students could recognize and understand spoken vocabulary, they often failed to read and interpret the same vocabulary when presented in written form. During class activities involving reading aloud, students frequently displayed anxiety, resulting in poor performance compared to other skill areas. Similarly, Tuangrut Saejong (2021) Developing English spelling pronunciation skills by using phonics reading exercises book of grade 3 student Songvithaya Theparak. The study found that five students lacked proficiency in pronouncing English words. They relied on memorizing vocabulary from pictures or adding Thai phonetic notations above the English

text, which hindered their ability to effectively learn English and negatively impacted their overall learning experience.

Brain-based learning refers to an educational approach that leverages the structure and functions of the brain as tools for learning. This method does not inhibit the brain's natural operations but instead enhances its ability to function optimally. It is founded on the premise that everyone can learn, as every individual is born with a brain ready for learning. The goal is to promote learners' full potential by utilizing the brain's capabilities. This approach is grounded in three fundamental aspects: emotional readiness, cognitive stimulation, and meaningful engagement, ensuring learners are prepared before the learning process begins. Brain-based learning incorporates knowledge about the brain and its natural learning tendencies into the design of instructional activities and experiences. It seeks to engage students' interest, foster understanding, and facilitate long-term memory retention. This learner-centered approach respects the brain's structure and developmental processes, guiding learners to acquire knowledge suited to their developmental stage. Consistent with these principles, Rutwisan Ngarmsom (2017) researched on a study of learning management using brain-based learning to develop English speaking skill for prathomsuksa three students. The findings indicated a high level of student satisfaction with BBL at a statistically significant level of 0.05. Similarly, Patcharin Sinjapo and Chetsada Kittisuntorn (2019) researched on a Study of English Communicative Ability of Prathomsuksa 6 Students by Brain Based Learning. Their results showed high student satisfaction with BBL, also at a statistically significant level of 0.05. Further, Phraita Garaparp (2021) The development of learning activities based on brain-based learning management with usage motion graphic media to enhance reading and spelling of students in primary education (grade 2). The study demonstrated a high level of student satisfaction with the activities at a statistically significant level of 0.01. These findings underline the effectiveness of brain-based learning in promoting student engagement, satisfaction, and skill development across various educational contexts.

Therefore, the researcher became interested in studying the development of English reading aloud skills using brain-based learning for second-year secondary school students at Wat Phutthanimit Witthaya school. The study aimed to utilize innovative teaching methods to enhance the classroom learning environment and increase its effectiveness. The Brain-Based Learning (BBL) approach comprises five stages: 1) Warm Up – Prepare learners for the lesson. 2) Present – Introduce and present knowledge or content. 3) Learn-Practice–Engage learners in active learning, practice, and reinforcement. 4) Summary – Summarize the knowledge gained. 5) Apply – Encourage the application of knowledge in practical or real-life contexts. This structured approach was adopted to improve the students' reading aloud skills, address existing learning challenges, and promote skill development that aligns with desired learner attributes, ultimately enhancing the overall quality of their learning experience.

OBJECTIVES

1) To evaluate the effectiveness of English reading-aloud practice exercises for Second-year students at Wat Phuttha Nimit Witthaya School according to the 70/70 standard.

2) To compare the learning achievement in reading-aloud skills using the Brain-Based Learning (BBL) approach among Second-year students at Wat Phuttha Nimit Witthaya School before and after learning.

3) To assess the satisfaction of Second-year students at Wat Phuttha Nimit Witthaya School with the Brain-Based Learning (BBL) approach.

RESEARCH METHODOLOGY

This study employed a quasi-experimental research design using a one-group pretest-posttest design. The research involved a single experimental group, with data collected through pretest and posttest assessments to evaluate the effects of the intervention.

1. Scope of the Research

1.1 Population and Sample Group The population for this study consisted of Second-year students at Wat Phuttha Nimit Witthaya School, located in Sop Tia Subdistrict, Chom Thong District, Chiang Mai Province, under the Office of the Ecclesiastical Education Department, General Education Division, Region 5. The sample group consisted of 14 students selected through simple random sampling. The selection was made because the school is part of a network and the class was authorized for research purposes.

1.2 Content Unit 1: Principles of reading English words, phrases, sentences, and news. Unit 2: Advertisements and articles. Unit 3: Fables and short stories for Second-year students.

1.3 Duration The research was conducted during the first semester of the 2024 academic year, from June to September 2024, spanning 6 weeks. Each week, one lesson was taught, lasting 1 hour per session. The total number of sessions, including pretests and posttests, was 6.

1.4 Study Variables Independent Variables: 1) The competency-based learning plan 2) Brain-Based Learning (BBL) approach 3) The satisfaction survey Dependent Variables 1) Achievement in English reading-aloud skills 2) The satisfaction of Second-year students with the Brain-Based Learning (BBL) approach.

2. Development and Quality Validation of Research Instruments

The research instruments were tested for their effectiveness across three sets: 1) Learning Plan: The average suitability rating was 3.59, indicating a high level of appropriateness. 2) Pretest/Posttest: The overall reliability coefficient was 0.81. 3) Student Opinion Survey: The average suitability rating was 4.34.

3. Research Procedure

3.1 Orientation: Students were provided with a briefing to understand the learning activity process, including the objectives, preparation, and steps for participation in the activities properly.

3.2 Conducting Learning Activities: The learning activities were carried out according to the innovation steps, summarizing key activities for each learning plan.

3.3 Data Collection: The researcher collected data based on the reading-aloud scores of the English text assignments for further analysis.

4. Data Collection and Analysis

4.1 Reading Scores Collection: Scores for the student assignments in reading basic English words were analyzed using basic statistical methods, including mean, standard deviation, and t-test.

4.2 Student Opinion Analysis: The feedback on learning from the student survey was collected and analyzed using basic statistical methods.

5. Statistical Analysis Used

The following statistical tools were used for the research: - Mean - Standard deviation - t-test

RESEARCH RESULTS

Objective 1: To evaluate the effectiveness of English reading-aloud practice exercises for Second-year students at Wat Phuttha Nimit Witthaya School according to the 70/70 standard. The results of testing the effectiveness of the reading-aloud English reading-aloud practice exercises for Second-year students at Wat Phutthanimit Wittaya School, following the 70/70 standard, showed the following: The average score from the skill practice activities during the learning process was 43.36 out of a total of 60 points, with a standard deviation of 0.88. The efficiency of the process (E1) was calculated at 72.26, which exceeded the set standard. The total score after the lessons was 316, with an overall average score of 22.57 and a standard deviation of 3.94. This indicates that the students in Second-year of Wat Phutthanimit Wittaya School who participated in the English reading-aloud practice showed a significant improvement in their average scores after the lessons. The efficiency of the practice (E2) was calculated to be 75.24, which was also above the set standard.

Objective 2: To compare the learning achievement in reading-aloud skills using the Brain-Based Learning (BBL) approach among Second-year students at Wat Phuttha Nimit Witthaya School before and after learning. The results comparing the English reading-aloud achievement of Second-year students at Wat Phutthanimit Wittaya School before and after

the Brain-Based Learning method revealed that: The post-test results showed an average score of $\bar{x} = 22.57$ with a standard deviation of $S.D. = 3.94$, which was higher than the pre-test results, which had an average score of $\bar{x} = 11.57$ and a standard deviation of $S.D. = 2.85$. The difference in scores between the pre-test and post-test was statistically significant at the 0.05 level, indicating that the students' reading-aloud skills improved significantly after learning using the Brain-Based Learning approach.

Objective 3: To assess the satisfaction of Second-year students at Wat Phuttha Nimit Witthaya School with the Brain-Based Learning (BBL) approach. The study on the satisfaction of Second-year students at Wat Phutthanimit Wittaya School regarding the Brain-Based Learning approach revealed that: The students had a high level of satisfaction with the Brain-Based Learning method. The average satisfaction score was $\bar{x}$ = 3.83, with a standard deviation of S.D. =0.65, indicating that the students were highly satisfied with the learning process.

DISCUSSION ON THE RESEARCH

1. The effectiveness of English reading-aloud practice exercises for Second-year students at Wat Phuttha Nimit Witthaya School exceeded the set standards of 72.26/75.24. This can be attributed to the use of the Brain-Based Learning (BBL) approach, which is aligned appropriately with the content at a moderate to high level. This methodology encourages students to engage with challenges during exercises and adds an element of fun to the learning process. The findings are consistent with those of Ajjima Chaiyachit (2020), whose researched on Development of English Phonics Spelling Skills Using Exercises for Grade 2 Primary School Students reported an effectiveness of 80.00/81.00, which surpasses the standard criteria of 80/80. Similarly, Ratchadakan Yaidee (2022) who researched on The reading aloud skill development by using phonics exercises of grade 4 students at Bannontarod school, Kamphaengphet province also resulted in an effectiveness score of 80.30/82.00, higher than the standard set at 80/80. These results indicate that when using Brain-Based Learning combined with phonetic exercises, students experience improved engagement and performance.

2. The learning achievement in reading-aloud skills using the Brain-Based Learning (BBL) approach among Second-year students at Wat Phuttha Nimit Witthaya School after learning showed significant statistical improvement, with post-test scores being significantly higher than pre-test scores at the .05 level. This result is consistent with the study conducted by Phattiya Choosakul (2020) who researched on The Development of English Reading Comprehension Skill by Using Communicative Language Teaching (CLT) for Grade 6 Students. The study found that after the intervention, the students' achievement in reading comprehension surpassed 80% with significant improvement in post-test scores. Similarly,

Ratchadakan Yaidee (2022), in her study on the reading aloud skill development by using phonics exercises of grade 4 students at Bannontarod school, Kamphaengphet province., reported that after participating in phonics exercises, students' reading skills improved significantly at the .05 level. The results from both studies indicate that using Brain-Based Learning can significantly enhance students' English reading and pronunciation abilities, confirming its effectiveness for improving pronunciation skills.

3. The satisfaction of Second-year students at Wat Phuttha Nimit Witthaya School with the Brain-Based Learning (BBL) approach was extremely high, with an average score of 4.65 and a standard deviation of 0.88. The high satisfaction level is attributed to the well-structured reading practice steps embedded within the BBL framework, which allows students to practice reading skills in a systematic manner according to the designed innovation model. This finding aligns with the study by Phraita Garaparp (2021), which investigated the development of learning activities based on brain-based learning management with usage motion graphic media to enhance reading and spelling of students in primary education (grade 2). The study found that the satisfaction of students using this approach was very high ($\bar{x}$ = 4.49, S.D. = 0.23). Furthermore, it is consistent with Rutwisan Ngarmsom (2017), who explored a study of learning management using brain-based learning to develop English speaking skill for Prathomsuksa three students. The study reported high satisfaction with the BBL approach, demonstrating its positive influence on students' learning experiences and the development of specific skills such as speaking and reading. This indicates that students not only found BBL to be an effective learning approach but also expressed great satisfaction with the teaching model, supporting the view that the BBL method is highly engaging and beneficial in enhancing various aspects of students' English proficiency.

NEW KNOLEDGE GAINED FROM THE RESEARCH

The research on the development of English reading aloud skills using brain-based learning for second-year secondary school students at Wat Phutthanimit Witthaya school focused on addressing the problem of pronunciation in English reading among these students and aimed to enhance their ability to pronounce English reading aloud effectively. The use of the Brain-Based Learning model in this research proved to be an effective strategy for improving English reading aloud skills. It not only helped in achieving better pronunciation but also contributed to higher learning outcomes in English. The structured approach to teaching in BBL, which involves steps aligned with brain function, such as warm-up activities, knowledge presentation, active learning, summary, and application, was found to enhance students' abilities in a way that fits their cognitive development stages. The findings indicate that by following this systematic learning process, students were able to improve their English

reading aloud skills. The approach encouraged active participation and motivation among students, allowing them to practice and consolidate their learning, which is aligned with the brain's natural learning processes. The research also highlights the importance of brain-compatible teaching strategies for enhancing various language learning skills, specifically reading and pronunciation. This knowledge can guide future educational practices, ensuring that instructional methods not only consider subject content but also accommodate the students' cognitive needs and developmental stages to maximize learning effectiveness.
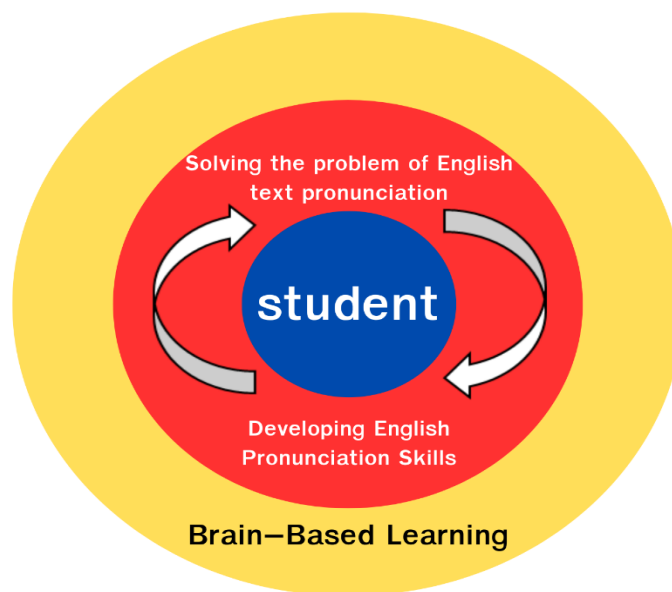
SUMMARY

1. The effectiveness of the English reading-aloud practice exercises development exercises for Second-year students at Wat Phutthanimit Witthaya School, based on the 70/70 standard criteria, revealed that the efficiency was higher than the standard, with scores of 72.26/75.24, surpassing the established criteria.

2. The learning achievement in English reading-aloud practice exercises using Brain-Based Learning among Second-year students at Wat Phutthanimit Witthaya School, before and after the lessons, showed that the post-learning performance was significantly higher than the pre-learning performance at the 0.05 statistical significance level.

3. The satisfaction of Second-year students at Wat Phutthanimit Witthaya School regarding Brain-Based Learning indicated that students had a very high level of satisfaction with this learning approach overall, with a mean score of ($\bar{x}$= 3.83, S.D. = 0.65).

SUGGESTIONS

Policy Recommendations

1. Teachers can adapt and implement the innovative learning management process in their teaching practices.

2. Schools can further develop the prototype learning process and innovation for broader application.

3. Students show increased interest in learning through the application of innovative learning management methods.

Recommendations for Utilizing Research Findings

1. Students can use the learning management methods to enhance their reading and writing skills.

2. Schools and teachers gain access to innovative learning tools to support students' skill development further.

3. Teachers can adapt this research model for future studies or practical applications.

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