การใช้การสอนความรู้เรื่องเสียงตัวอักษรบูรณาการกับการรับรู้เรื่องหน่วยเสียงในการพัฒนาความสามารถด้านการอ่านคำภาษาอังกฤษของนักเรียนประถมศึกษาไทย

The Use of Letter-sound Knowledge integrated with Phonological Awareness Instruction in Improving English Word Reading Ability of Thai Primary Students

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บทคัดย่อ

การรับรู้เรื่องหน่วยเสียงเป็นการเรียนการสอนที่ช่วยผู้เรียนพัฒนาการอ่านคำภาษาอังกฤษ ซึ่งเป็นกระบวนการที่ทำให้รับรู้ความหมายของข้อความ งานวิจัยนี้เป็นการศึกษาผลของการสอนการรับรู้เรื่องหน่วยเสียงบูรณาการกับการสอนความรู้เรื่องเสียงตัวอักษรต่อความสามารถในการอ่านคำศัพท์ภาษาอังกฤษของนักเรียนไทย ชั้นประถมศึกษาปีที่ 2 และศึกษาคุณลักษณะของแบบฝึกการรู้ทันเสียงที่ช่วยพัฒนาความสามารถในการอ่านคำศัพท์ภาษาอังกฤษของนักเรียน ผู้เข้าร่วมวิจัยในครั้งนี้ประกอบด้วยนักเรียนชั้นประถมศึกษาปีที่ 2 จำนวน 12 คน ซึ่งศึกษาอยู่ในโรงเรียนประถมศึกษาขนาดเล็ก ในภาคตะวันออกเฉียงเหนือของประเทศไทย เครื่องมือที่ใช้ในการเก็บรวบรวมข้อมูลคือแบบทดสอบการอ่านคำภาษาอังกฤษก่อนเรียนและหลังเรียนและแบบสัมภาษณ์กึ่งโครงสร้าง จากผลการวิจัยพบว่า ความสามารถในการอ่านคำศัพท์ภาษาอังกฤษของนักเรียน

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หลังจากเรียนผ่านการสอนการรับรู้เรื่องหน่วยเสียงบูรณาการกับการสอนความรู้เรื่องเสียงตัวอักษร พบว่า มีทักษะการอ่านคำภาษาอังกฤษแตกต่างกันอย่างมีนัยสำคัญทางสถิติที่ระดับ 0.05 และจากการสัมภาษณ์นักเรียนแบบกึ่งโครงสร้างพบว่า คุณสมบัติ 2 ประการที่ช่วยให้นักเรียนพัฒนาความสามารถในการอ่านคำศัพท์ได้มากที่สุดคือ ความรู้ด้านเสียงตัวอักษรและการรับรู้หน่วยเสียงย่อย

คำสำคัญ: การอ่านคำ การสอนการรับรู้เรื่องหน่วยเสียง ความรู้เรื่องเสียงตัวอักษร

Abstract

English word reading is the process of understanding the meaning of the written text. Since phonological awareness instruction assists students in word reading, this present study sought to examine the effect of phonological awareness instruction integrated with letter-sound knowledge on the English word reading ability of Thai second grade students. This study also investigated the features of phonological awareness instruction that helped improve students' English word reading ability. The participants consisted of twelve second grade students enrolled in a small primary school located in the Northeastern Region of Thailand. Instruments for collecting data were an English word reading pretest and posttest, and a semi-structured student interview. The findings demonstrated that there was a statistically significant difference at the 0.05 level between students' English word reading ability after learning through phonological awareness instruction integrated with letter-sound knowledge. The semi-structured student interviews showed that the two features of letter-sound knowledge and phoneme awareness, helped students improve word reading ability the most.

Keywords: Word reading, Phonological awareness instruction, Letter-sound knowledge

Introduction

English word reading is a necessary skill for students who learn English as a foreign language. It is the process to obtain the meaning from the written text. To develop English reading skill, fluency in English word reading is required (Gough & Tunmer, 1986). Many scholars had proved the importance of English word reading ability to reading skill. It provides an important basis for reading development. When students become automatic in word reading skills, they will be able to concentrate entirely on the meaning of text. It paves the way to reading comprehension and fluency (Espy et al., 2004; Lane, 2002; Al-Tamimi and Rabab'ah, 2007). Likewise, deficit word reading skill is one of serious barriers in the successful education (Ring, Avrit & Black, 2007).

In the researcher's class, students lack ability to read and recognize English words. From the researcher's observation, this problem encompasses various factors. For example, firstly, the teaching approach is not appropriate. On the early stage of learning, the focus of English teaching is on handwriting practice by tracing on dotted lines but did not teach students which sound each alphabet represents. Hence, students cannot remember all English letters and cannot distinguish the sound that is close to one another. The teacher always teaches new words by asking students to copy the new vocabulary on the board, but did not teach them how to read. Some activities do not promote a literature skill such as drawing or coloring. Therefore, students lack letter knowledge and do not know which sound a letter represents. As a result, students cannot read the new words even they are short or long. However, some students can read the new words but takes a long time because they learn by memorizing not understanding. Rote-learning is not a long-term memory as it has been proved that rote learning style is not effective for learning vocabulary (Safdar, 2013). Another factor is the family background. Most of their parents are farmers and have low economic status. They speak Esan as their mother tongue and do not graduate from the high

level of education. Thus, they do not have much knowledge of English to help their children do an English homework.

Many researchers try to propose teaching approach that can help improving English word reading skill of primary school students. Phonological awareness is one of the instructions that have got attention from several scholars as it significantly improves early literacy (Al-Tamimi & Rabab'ah, 2007; Chien, Kao, & Wei, 2008; Dessemontet & Chambrier, 2015; Fälth, Gustafson, & Svensson, 2017; etc.). Phonological awareness refers to the ability to concentrate on the sounds of a language rather than the meaning. Phonological awareness comprises a variety of skills from basic to more complex (Schuele & Boudrea, 2008; Hismanoglu, 2011; Konza, 2016; Fälth, Gustafson, & Svensson, 2017). The most basic step is word awareness which is the ability to isolate individual words from a sentence. Syllable awareness is the capacity to combine and divide chunks within words. The next level is onset-rime level which is the capability to manipulate intra-syllabic units. The initial consonant blend, digraph, or sound in syllable or a one syllable word is referred to as the onset. The initial vowel phoneme is called the rime, which is followed by all of the other phonemes. The most complex level is phoneme awareness which is the ability to manipulate and identify individual phonemes within spoken words.

Phonological awareness has received exceptional attention as a strong predictor of early literacy success because it can accelerate and enhance learning to read (e.g., Gillon & Macfarlane, 2017; Jamaludin et al., 2015; Milankov & Caravolas, 2021). As Odo (2021) has reviewed research literature about the results of several phonological awareness and phonics instructional interventions on pseudo word and word reading published from 1990 to 2019. It was clear that phonological awareness and phonics-based instruction have upon reading in English as a foreign language.

However, research on phonological awareness training in Thailand context has not been widely popular. To my knowledge, only little research has been studied on phonological awareness training in Thailand for the past decade (Wei & Zhou, 2013; Thajakan & Sucaromana, 2014; Vibulpatanavong & Evans, 2019; Akkradetthanapong, 2020). Although phonological awareness training is significant toward word reading according to many researches, it gets less attention among Thai EFL researchers. Thus, this is one of the reasons to use phonological awareness in improving English word reading of Thai EFL students.

Nevertheless, some researchers argued that phonological awareness cannot stand alone to make a successful reading. Letter-sound knowledge, the knowledge of the letters or groups of letters which represent the individual speech sounds in language is important for complex tasks like onset and rime level and phoneme level. Students are capable of decoding written language and teaching themselves new words because they have a firm basis in letter-sound understanding. Therefore, phonological awareness should be taught along with letter-sound knowledge in learning to read. (Ball & Blachman, 1988; Snowling et al., 2005; Lyster et al., 2012; Dessemontet & Chambrier, 2015; Pfost, 2019) Teaching phonemic awareness and letter-sound correspondences together has more benefits than only teaching either phonemic awareness or phonics alone (Ball & Blachman, 1988).

As previously stated, explicit phonological awareness instruction should be introduced in EFL classrooms as an essential skill for further literacy skills such as decoding and encoding words. When students are fluent in decoding words, it is easier to read written text fluently, recognize vocabulary and comprehend written text. However, letter-sound knowledge should be taught together with phonological awareness in order to contribute word reading success. This study was conducted to examine phonological awareness training and letter-sound knowledge in improving English word

reading ability of Thai small-sized primary school students and to investigate features of the phonological awareness instruction that improve students' English word reading ability.

Purposes of the study

Research questions that guided this study are as follows:

1. Does phonological awareness instruction affect the English word reading ability of Thai small-sized primary students?

2. What features of the phonological awareness instruction help improving students' English word reading ability?

Research methods

Participants and setting

The participants were 12 second grade students with reading difficulties who study in a primary school located in a rural area in the northeast of Thailand. The participants were aged between 8 – 9 years old. Most were underprivileged students who come from low-income families, and their parents are either farmers or factory workers. The students had been studying English at a primary school for the past two years and were considered to be at a beginner's level. The participants took 55 - 60 minutes in each section of English instruction, for an average of five hours per week. All participants speak Thai and Esan as their mother language. Thai was used as the medium of teaching in this study, with English as a school subject. They were selected using a purposive sampling technique. According to Patton (2015), purposive method is suitable for in depth analysis because it is the logic and power of purposeful sampling lie in selecting information-rich cases for in-depth study.

The setting in the present study was a small-type school in the northeastern part of Thailand. The school consists of 56 students with 8

classes and only 6 teachers. As such, the teachers have a heavy workload and must take care of more than one class at one period of teaching. Among the 6 teachers, there is only one English teacher. The English teacher does not have specific training in language teaching and assigns students to complete activities such as drawings, handwriting practice, translating a sentence, and writing in a notebook. As a result, the students suffer difficulties in English language learning and they cannot reach learning standards, nor do they meet any standard indicators according to the national curriculum, which states that second-grade students should be able to spell, read, and write simple sentences.

Research instruments

To answer the research questions, two instruments were used to investigate the development of English word reading ability: word reading tests and a semi-structured interview.

1. Word reading test: In order to investigate the effects of English phonological awareness training on English reading ability among Thai EFL primary students, word reading tests were used to examine the progression of the students' English word reading ability. The test was administered before and after the implementation of the phonological awareness instruction. The pretest and the posttest were presented as a list of thirty words. The participants were asked to read aloud these from the list of words within 30 minutes one by one. The target words were common English words chosen from standard English textbooks for Thai primary students. A hundred words were listed from words frequently appeared in these books. Then, these words were piloted with a different group of 15 participants with a similar background of English proficiency. Sixty words that were rated as unknown vocabulary from the pilot study were evaluated for their validity and reliability. The content validity was also evaluated by three English education experts, who were primary school teachers with more than five years of experience in teaching English. To

analyze the congruency of the test's contents, the Index of Item-Objective-Congruence (IOC) was used to measure the consistency of each item. The items that were rated more than 0.6 were used in the test.

2. Semi-structured interview: Semi-structured interviews were used to describe the students' opinions toward phonological awareness training in improving their English word reading ability. All participants were randomly selected for interviews every week in order to assess their attitude toward the instruction in real-time. During the interview, the students were asked about the activities they like and which activities were the most helpful.

Instructional training

The instructional training was based on Lane (2007) and Jones et al. (2012). The training started with the study of letter-sound knowledge in the first week. Then, the phonological awareness training was taught from the basic level to the complex level, with one skill being taught per day. Pauses were also included during the training to review what the students had learned and to summarize. The participants in this study were trained to understand what each English alphabet's name and sound represents using singing and dancing. They were then taught how to tap syllables inside a word and that one English word can contain many syllables. Phoneme identity (initial and final) and rhyming skills were also taught. Several pictures and games were included in the learning activities to maintain the participants' interest and attention, and no text was used. The majority of the teaching used in this study was auditory training to increase participants' awareness of the sound structures found in English words. Practice time was included at each stage and clear learning outcomes were provided for each learning activity. There were no paper-and-pencil exercises as the program was activity-based. The training session completed in six weeks which was 1 hour per session.

Data collection procedure

The data was collected for six weeks during a regular class. On the first day, the word reading exam was completed, then the phonological awareness training began. After the completion of the training, the word reading posttest was given to all participants. 12 Participants were also asked to participate in interviews throughout the training. Participants were given instructions and a few illustrations of the activities in their native Thai language before the tests. Following the treatment, the posttest was administered to determine the effectiveness of the phonological awareness instruction in improving the participants' English reading ability.

Data analysis

A quantitative statistical analysis was conducted using the data collected from the word reading pretest and posttests. The data was analyzed using inferential statistics (mean and standard deviation) and dependent T-tests were used to compare mean scores of the pretest against the score of the posttest.

Data from the interviews were analyzed using content analysis. The data was classified, or broken down, into manageable code categories for analysis. Once the data had been coded into code categories, the codes were then classified into "themes" to summarize the data.

Results

1. The effect of phonological awareness instruction on the students' English word reading ability

To investigate the effect of phonological awareness instruction on English word reading ability of Thai primary students, the mean scores of the pretest and posttest were compared using a paired t-test. As shown in Table 1, there was a significant difference between the second-grade students' English word reading pretest and posttest mean scores at the .05 level (t =

6.504). This indicates the beneficial effect of phonological awareness instruction on the development of English word reading ability among the participants

Test	Pretest		Posttest		t	Sig.
	Mean	S.D.	Mean	S.D.		
Score	5.08	3.423	6.25	4.003	6.504	.000**

** Significant at the 0.05 level ($p<0.05$)

2. The features of the phonological awareness instruction that help improving students' English word reading ability

This section will discuss the findings that reveal two main themes related to features of the phonological awareness instruction that help improved students' English word reading ability: 1) letter-sound knowledge, and 2) phoneme awareness.

Letter-sound knowledge was shown to be one of the primary features that supports students in improving their ability to read English words. Before the training, the students had learned to remember only the letter name. However, during the treatment period, participants were taught to consider both the letter name and letter sound through various activities. In the interviews, six participants believed that letter-sound knowledge assisted them when reading new words.

As Student G said, letter-sound knowledge helped them to know the sound of each letter. "If I can remembered the sound of each letter, I could blend sounds to a word easily."

As the same as Student L mentioned that "It helped me a lot when I had to blend the new word because I know what sound each letter is"

Student F reflected letter-sound knowledge's advantage to his word reading ability that "I sang a song of letter sound to get how the sound of each letter pronounces. Then, I can blend sounds to a word"

According to the excerpts above, participants agreed that letter-sound knowledge improved their English word reading ability as it acts as both a tool and guide for phoneme blending. For example, Students F, G and L have good literacy development and are fast learners who performed well in the hardest part of the treatment, which reflects phoneme blending. When they can remember and sound, it is easier to blend a new word. That is because they can blend each sound to a word easily.

On the other hand, Students B, C, and D are slower learners and did not perform well in the harder part of the treatment that assessed onset-rime awareness and phonemic awareness. As such, they cannot perform phoneme blending and, instead, read a new word by saying the letter sound quickly, which reflects letter-sound knowledge.

Student B stated that "Singing a letter song helped me a lot. The song tells that a sounds /a/, b sound /b/, etc. I sang when the teacher gave me a new word and tried to say it quickly."

It was the same as Student C and D reading new words by said letter's sound quickly.

Student C said that "I did not know how a word pronounced, so I just said each letter's sound quickly. It became a new word"

Student D mentioned that "I thought about the sound and said it. In the first time, I said in normal speed, then faster and faster. I turned to a word, but I am not sure if it is correct or not."

Another theme identified from the participants' responses is phoneme awareness. Phoneme awareness activities were used in the treatment, including phoneme isolation and phoneme blending. In the phoneme isolation activity, students were asked to listen and recognize sounds in a

word, while in the phoneme blending activity students were required to blend given individual sounds to produce a word. According to the semi-structured interviews, five participants agreed that phoneme awareness was the most useful for improving English word reading ability. Specifically, they reported that the phoneme blending activities helped them to mix each sound into a word when they encountered a new word that they could not read before. The excerpts support these claims:

Student J gave an interview that "Phoneme blending activity helped me read the unknown words. I blended the first letter with the second and then the third. It turned into that word."

Student K discussed the same "I think when I blended the sound. I can read other words too. Even the teacher changed some letter at the beginning, I can read it."

Moreover, Student A stated that it was the same strategy as blending in Thai language

Student A mentioned that "I saw each letter in a word and thought about its sound. Then, I tried to spell letter by letter. It was like how I learned to spell a new word in Thai language."

Finally, even though student H found the strategy difficult, she found that it was the most effective way to help her read unfamiliar words.

Student H pointed out that "It was very hard for me to recognize and blend sounds. However, blending helped me to read the reading test that teacher gave me."

Discussion

1. The Effect of the Phonological Awareness on Students' English Word Reading Ability

The current results suggest that phonological awareness can help students improve their English word reading abilities. The students' English

word reading ability improved significantly after they were taught using phonological awareness instruction, with a mean score of 5.08 for the pretest and 6.25 for the posttest. This demonstrates the benefit of phonological awareness instruction in improving students' word reading ability, particularly at the elementary level. Indeed, this training is likely to improve letter-sound knowledge, word awareness, syllable awareness, onset-rime awareness, and phoneme awareness. The finding is consistent with previous research, which showed that phonological awareness instruction improves students' word reading abilities (Dessemontet & Chambrier, 2015; Fei, 2015; Lin, 2019; Abdel-Maksod, Abdel-Haq & Amin, 2020).

Students were taught five aspects of phonological awareness for over six weeks. The first aspect was letter-sound knowledge. Students learned how to recognize letter names and sounds, as well as how to match letters and build words using magnetic letters. In Thailand, the teaching of letter knowledge primarily focuses on the name therefore students have not been taught the sounds found in English. Even though students could not remember all 44 phonemes and 26 graphemes in the current study, they were able to identify and match letters with sounds, particularly ones that they saw very often. This demonstrates that students have letter knowledge as they have the capacity to recognize and pronounce letters by their sounds and names, as well as the ability to dictate letters (Málková & Caravolas, 2016). Letter knowledge is a prerequisite for phoneme awareness, which in turn is a prerequisite for reading competence (Málková & Caravolas, 2016). According to Castles & Coltheart (2004), learning letter-sound knowledge while learning to read allows children to control phonemes since they can manipulate orthographic pictures of words. It is a precondition for the development of phoneme awareness when they have letter knowledge and a comprehension of the alphabetic principle. Indeed, letter knowledge and phoneme awareness

are crucial precursor abilities that function in reciprocal alliance to enhance beginning reading in children (Caravolas & Samara, 2015).

One explanation for the improvement of English word reading ability is that students were taught word awareness. Word segmentation and word blending are two activities used in word awareness. Word awareness allows students to break down speech into individual words and to understand how words can be combined to form a sentence. According to the researcher's observation, when a sentence consisted of single words, students segmented words easily and they could tell how many words are in a sentence if they saw those printed with spaces. This indicates that the students have word awareness as they have the ability to separate individual words from the sentence (Phillips, Menchetti & Lonigan, 2008). Trehearne and Healy (2004) also discussed the importance of word awareness while considering word boundaries in reading and spelling.Another explanation for the improvement is that the participants were trained in syllable awareness. This included activities that involved segmenting words into syllables and blending syllables into words. Learners were able to distinguish words with modeling and practice. Some students required Thai language modeling to gain a better understanding of the activity. Gillion (2004) suggested that syllable awareness is crucial for learners to understand that words are broken down into syllables, or word parts, after students understand that sentences are composed of words and that words come in several lengths. That is, they learn to recognize the phonemes that form words and to examine speech sounds as syllables.

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Another reason why English word reading improved after the implementation might be that students were taught to become aware of the onset-rime using two tasks. One task was related to recognizing onset and. Task 2 was related to blending onsets and rimes. Trehearne and Healy (2004) argued that students with a good sense of rhyme and segmenting skills should be able to quickly learn how to segment onset and rime. The use of word analogies in reading and writing is made easier by knowing how to segment and blend words into onsets and rimes.

Phoneme awareness may also have improved the participants' English word reading abilities. Phoneme awareness is the ability to recognize that words are made up of individual phonemes (sounds) and to manipulate these phonemes using segmenting and blending tasks. This is regarded as a late-developing phonological ability. According to Chard and Dickson (1999), phoneme awareness is the most significant and advanced level of phonological awareness. Nevertheless, students found this phase of the instruction difficult. Indeed, the phoneme awareness activities required a variety of skills and therefore the students needed more time to prepare, and some pupils struggled with the tasks. Blending and segmenting distinct sounds inside words is difficult to acquire in phonological awareness and is strongly related to learning to read (Adams et al., 1998). Because phoneme awareness can be developed in a symbiotic relationship with learning to read, some learners may struggle at first.

In conclusion, the results showed a significant improvement in Thai second grade students' performance on reading tests after receiving phonological awareness training. This is likely due to phonological awareness

training, which progresses from simple to complicated, and the varied and active nature of the training activities.

2. The features of the phonological awareness instruction that help improving improve students' English word reading ability

The results from the semi-structured interviews indicate that students believe that letter-sound knowledge and phoneme awareness are the features of phonological awareness that help them read unknown words. This is consistent with previous research by Dessemontet and Chambrier (2015) showing that phonological awareness and letter-sound knowledge at 6–8 years of age could indicate growth in both word and non-word reading. The benefits of phoneme awareness and letter-sound knowledge was demonstrated by Lerner and Lonigan (2016) who investigated patterns of bidirectional relationships between letter knowledge and phonological awareness during preschool. The findings showed that letter knowledge and phonological awareness were found to be bi-directionally connected, with the beginning level of one uniquely predicting an increase in the other. Lyster et al. (2012) also examined the impact of a phonological and reading intervention that promoted letter-sound knowledge and phoneme awareness, and found that these two skills, as well as word-level reading and spelling skills, significantly increased. Specifically, it was shown that the development in letter-sound knowledge and phoneme awareness at the conclusion of the intervention fully mediated the gains in children's word-level literacy skills after five months (Hulme et al., 2012).

The findings of the current study indicate that letter knowledge and phoneme awareness are crucial precondition skills that act in tandem to enhance early reading in children. Many studies have identified strong links between letter knowledge and later decoding abilities (Badian, 1998; Roth, Speece & Cooper 2002; Georgiou & Kirby, 2008). Understanding the alphabetic principle, how particular speech sounds in spoken words are indicated by

letters in printed words, requires letter–sound knowledge. Letter knowledge is the precursor and is necessary and sufficient for the development of phoneme awareness. Students with fluent phonemic awareness skills can regcognize that words are made up of separate sounds because they have developed the ability to audibly segment and blend sounds in words (Rightmyer, McIntyre, & Petrosko, 2006; Schuele & Boudreau, 2008; Roe & Smith, 2012; Caldwell & Leslie, 2013).

Students also reported that their English word reading ability was improved because the activities in this phonological awareness training were varied and enjoyable. The training included active learning activities during which students were asked to listen to audio, play games, sing, and dance. This is consistent with a previous study from Lane (2007) showing that teachers should plan and integrate fun phonological awareness into classroom activities.

Conclusion

The purpose of this study was to investigate whether students who received phonological awareness instruction showed improved performance on a word reading test, and to determine what features of phonological awareness instruction help Thai EFL primary students improve their English word-reading ability. The participants were 12 second-grade students from a small-type school in northeastern Thailand. The results demonstrated that phonological awareness instruction improved students' word reading abilities, and students believed that training in letter-sound knowledge and phoneme awareness enhanced their ability to read English words.

Overall, it can be concluded that phonological awareness instruction, which involves activities that facilitate learning to read words, is beneficial for students to improve their word reading abilities especially letter-sound knowledge and phoneme awareness.

Recommendations for future studies

This study examined the effect of phonological awareness instruction on Thai EFL second graders' ability to read English words. The findings suggested that phonological awareness teaching could improve students' word reading abilities. Recommendations for further research based on the findings of this study are described below:

1. The current study compared pretest and posttest scores to assess the effectiveness of a phonological awareness instruction. Therefore, the study did not reveal the improvement of word reading in each aspect of phonological awareness instruction. Further studies should be conducted as a time-series study to determine the aspect of a phonological awareness instruction regarding pedagogical implications explicitly.

2. Longitudinal studies may be beneficial to assess the long-term impacts of phonological awareness training. In addition, the duration of the training may be increased to allow young children to have more time to learn.

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