

Enhancing Reading Comprehension through Intensive Phonological Awareness Instruction

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Abstract

The purpose of this study is to enhance students' reading comprehension skills through intensive reading practices under phonological awareness (PA) instruction. The participants received phonological awareness strategies such as rhyming, syllabification, concept of word along with the intensive reading practices in order to comprehend the reading texts.

Eleven of the 6th grade students were recruited from elementary school. During the first two weeks of the study, the students received four reading comprehension practices without PA instruction and took a first test, and a second test was carried out a week later. In the 5th and 6th weeks the students had four reading practices with PA instruction and a third test was held on the 7th week, also the fourth test on the 8th week. The PA instruction was expected to be effective and the results indicated the PA approach indeed revealed improvements in enhancing students' reading comprehension skills.

Keywords: phonological awareness, reading comprehension, instruction

1. Introduction¹

Phonological awareness (PA) is the foundation of reading skills. According to Kilpatrick (2015), phonological awareness means the competence in noticing the sound structure of words. When students lack of skills to master PA, it is likely to affect the progress of important reading components. On the other hand, students who have strong PA link to reading and spelling success.

1.1 The definition of phonological awareness

Phonological awareness (PA) refers to a general term of metalinguistic awareness of sound characteristics of language. It is such a broad skill which contains the abilities to identify and manipulate units of oral language like syllables; onsets and rimes (Hoover,2002). Previous research described that Phonological Awareness (PA) is like a big umbrella which includes different elements of rhyming syllables, concept of words, and phonemic awareness. Below is a brief definition of the terms (Reading Rockets, 2004):

Rhyming Syllables: Repetition of nucleus and coda sounds, such as *bat, mat, sat, ...etc.*

Concept of word: Ability to match spoken words to written words while reading.

Phonemic awareness: Play with sounds and words, like:

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- a. **Isolate sounds:** Able to isolate a single sound within a word.
- b. **Segment sounds:** Break a word into individual sounds.
- c. **Blend sounds:** Combine a sequence of sounds to produce a word.
- d. **Manipulate sounds:** Modify, change, or move the individual sounds in a word.

1.2 The crucial elements of reading comprehension

Acquiring four English skills is important for second language learners and the four skills refer to listening, speaking, reading, and writing. Reading skill is well known as a receptive or passive skill and it demands learners to read and comprehend the written language; overall the whole purpose of reading is to comprehend the text in passages.

When English learners read a passage, it is not just to understand every single word and its meaning; often times it requires much more advanced abilities to recognize the relation between the words in the context and process the information and prior knowledge to make sense of the overall meaning.

There are numeral components of reading, including accuracy, comprehension, and speed. Reading comprehension is associated with the cognitive process of language. A number of research stated that reading comprehension is not only simply blending, manipulating, and recognizing the words or sounds but also create the connection between the mental representation and the reading text. It is also suggested that reading comprehension connect with decoding and linguistic comprehension developments (Kirby & Savage, 2008).

1.3 Statement of the Problem

Learning to read has a lot to do with the abilities of hearing how words sound as the words are written and phonological awareness (PA) involves recognizing and manipulating the sounds with words. PA foundation indicates future reading success. Several researchers have stated that reading comprehension is a multi-faceted process and it is only possible when the readers' prior knowledge is good enough to construct the meaning with the text. In other words, facility in English reading comprehension is crucial for second language (L2) learners as reading is one of the important skills in second language learning. However, being able to comprehend and reading passages in a second language can be a tough challenge for L2 learners and they often experience difficulties to comprehend the whole context in reading passages. The toughest situation learners might face when they read a passage is, lacking prior knowledge of decoding the words, not knowing the meaning of the words or not able to understand the context between the words.

According to Sloat et al.(2007:529),”students who fail to learn to read during primary level education may not develop ability to read well in their secondary or tertiary stages of education”. Furthermore, reading is one of the significant skills that students need to obtain in order to fulfill their future academic success in English (e.g. Dabarera, et al., 2014; Ismail,2015; Lee,2012).

1.4 Significance of the Study

When students read reading passages, they have to reach certain amount of understanding in order to comprehend the information from reading them. A number of research works have shown that later reading achievement relates to PA, print awareness, and oral language (Whitehurst &Lonigan,1998). According to the Simple View of Reading (SVR) Model, reading comprehension is determined by decoding and linguistic comprehension (Gough & Tunmer,1986). The Simple View of Reading (SVR) Model is a model, or a representation of how skillful reading comprehension develops. The explanation of this model relies on the premise that decoding such as the efficient word recognition depends on students’ phonological awareness strongly.

Furthermore, reading is also considered as Rivers (1981: 147) indicated that “reading is the most important activity in any language class, not only as a source of information and a pleasurable activity, but also as a means of consolidating and extending one’s knowledge of language”.

To sum up, students who acquire phonological awareness has straight influence on reading comprehension achievement.

1.5 Purpose of the Study

For English learners reading is such a demanding requirement for academic purposes, no matter it is for class assignment, entrance exams or taking General English Proficiency Test (GEPT); therefore, reading skills benefit not only academic purposes but also future careers. When it comes to reading, most of the learners might encounter unfamiliar words and have troubles to sound the words out, let alone to understand the meaning in the context. If English learners have difficulties to read, it might affect their performance to other subjects as well, and poor reading comprehension skills often lead to frustration, low self-confidence, and poor grades eventually.

The aim of the study is thus to enhance students’ reading comprehension skills through phonological instruction such as understanding phonemic units, syllables, rimes, and sound structure in words. This study examined the two approaches of reading comprehension: one is based on students’ own reading comprehension skills and the other is the reinforcement on phonological awareness instruction by the teacher.

1.6 Research Question

Based on the purpose of the study, the research question is stated below:

To what extent does phonological awareness instruction enhance students' reading comprehension?

2. Literature Review

In this section the relations between the phonological awareness (PA) and reading comprehension and the importance of PA in reading comprehension are examined.

2.1 Relations between PA and reading comprehension

The relationship between phonological awareness and reading comprehension is mainly focused on the abilities of decoding, accuracy, and reading fluency of words so phonological awareness performs a strong predictor of reading and spelling success and moreover those skills will affect the learners' abilities to read and write. There is more to say that learners with poor decoding skills will have difficulties to comprehend due to the inefficiency of decoding individual letters and words; therefore, meaning of the reading text is less acquired rather than clustering words into chunk meaningful whole (Idol, 1998; Kendeou, Savage, & Van den Broek, 2009; Robison, 2001).

Some studies focused on PA and language literacy development claimed that PA facilitates syllable awareness and phoneme awareness and various aspects of literature skills such as reading fluency, accuracy, spelling, and comprehension (Diemer, 2006).

To sum up, phonological awareness and reading comprehension work hand in hand together to enhance learning reading

2.2 Importance of PA in Reading Comprehension

Reading fluency is fundamental to comprehension (e.g., Lesgold & Curtis, 1981; Perfetti & Hogaboam, 1975). Moreover, a number of research works stated that phonological structure, the orthography and the system of writing in language enhance a child learning to read (Castles & Coltheart, 2004; Diemer, 2016; Goswami, 2006; Makaure, 2017; McBride-Chang et al., 2008; Newmans et al., 2010; Wagner et al., 1997; Wilsenach, 2013; Ziegler & Goswami, 2005). The main reason for PA facilities in reading comprehension is to increase students' understanding of the passages they read. More and more research showed that poor PA skills lead to poor decoding skills which in turn result in poor comprehension skills. In addition, reading

comprehension connects with decoding and linguistic comprehension developments (Kirby & Savage, 2008). PA helps develop a consequence of reading instruction (Castles & Coltheart, 2004).

3. Methodology

The present study applied quantitative tests to investigate the outcome of phonological awareness instruction. The participants, instruments, procedure, and data analysis are described as follows.

3.1 Participants

This study included 11 sixth grade elementary students from one class in an English cram school in central Taiwan. The students aged around 11 to 12 years of age and have learned English for at least 5 years. They have learned phonics skills and basic sentence patterns over the past years. These students received four hours of English sessions each week; two hours are taught by English native speaking teacher and the others are by Taiwanese teacher. The study was carried out under the instruction of the Taiwanese teacher.

3.2 Instruments

The instruments of the study were a series of reading comprehension practices which were related to GEPT (General English Proficiency Test) reading comprehension section. The series of reading comprehension textbooks are published by Live ABC Company and the features of the books focus on GEPT oriented with 10 sessions of reading practices designed. Each reading practice contained a paragraph and five reading comprehension questions. Students were given the eight sessions of reading practices to evaluate the progress of reading enhancement.

3.3 Procedure

The data collection took 8 weeks, and in the first and second weeks of the study, the students received the 4 sections of the reading practices on their own without any instruction and the results were indicated as data of Test 1 and Test 2. A delayed-test 1 was assigned after a week. In the following 5th and 6th weeks students were asked to finish 4 reading sections with PA instruction. Then, Test 3 and Test 4 were conducted. Lastly a delayed-test 2 with PA instruction was carried out on the 8th week of the study. The procedure is shown in Table 1.

Table 1: The procedure of the study

Approach	Weeks	Reading Assignment Session	Tests
Reading comprehension Assignment without PA instruction	1	Reading sessions 1 and 2	Test 1
	2	Reading sessions 3 and 4	Test 2
	4	Reading sessions 1, 2, 3 and 4	Delayed-test 1
Reading comprehension Assignment with PA instruction	5	Reading sessions 5 and 6	Test 3
	6	Reading sessions 7 and 8	Test 4
Delay test	8	Reading sessions 5, 6, 7 and 8	Delayed-test 2

3.4 Data Analysis

Data collected from this study were the students' weekly reading practice results; two tests without PA instruction and two tests with PA instruction were included. In addition, delayed tests with and without PA were also collected. Statistical *t*-test analysis was applied to explore the results.

4. Results

The results of the test scores of reading comprehension and delayed tests are reported below followed by a description of the contribution of PA instruction.

4.1 Comparison between Non PA instruction and PA instruction

To determine whether there were any statistically significant differences between the PA and Non PA approaches to students' reading comprehension skills, a *t*-test was used. The results of this study indicated higher scores associated with PA instruction and a positive finding of PA approach related to students' reading comprehension skills.

Table 2 and Table 3 displayed the descriptive data of reading comprehension practices throughout the study. Each reading practice contained one reading paragraph and five questions. The delayed tests with and without PA instruction were also shown below (Table 4 and Table 5). On the basis of previous research findings, the hypotheses of PA skills are the direct predictors of reading comprehension abilities (e.g., Kirby & Savage, 2008; Castles & Coltheart, 2004). With these predictions, this study constructed reading assignment sessions to evaluate the effectiveness of PA on reading comprehension. Table 6 and Table 7 showed the comparison between PA instruction and Non PA instruction among tests 1--4 and delayed-test 1 and 2; although there were not significant outcomes, the possibility of positive results might be anticipated since the scores of PA instruction were higher than those without PA instruction.

Table 2: Test results of reading comprehension without PA instruction

	Reading Student Comprehension 1	Reading Comprehension 2	Reading Comprehension 3	Reading Comprehension 4
S1	1	3	1	3
S2	2	4	3	4
S3	2	1	0	1
S4	0	4	1	2
S5	0	5	2	2
S6	2	2	3	1
S7	1	4	1	3
S8	1	4	3	1
S9	3	2	0	2
S10	2	5	4	4
S11	1	4	2	3
Avg.	1.36	3.45	1.81	2.36

S: Student; Avg.: Average

Table 3: Test results of reading comprehension with PA instruction

Student	Reading	Reading	Reading	Reading
	Comprehension	Comprehension	Comprehension	Comprehension
	1	2	3	4
S1	3	4	4	4
S2	0	4	2	4
S3	1	1	3	4
S4	3	3	2	2
S5	3	1	3	3
S6	0	1	3	1
S7	1	1	3	2
S8	1	2	2	4
S9	1	1	2	3
S10	2	4	4	4
S11	2	4	1	4
Avg.	1.54	2.36	2.63	3.18

Table 4: Delayed-test of 5 questions reading comprehension without PA instruction

Student	Reading	Reading	Reading	Reading
	Comprehension	Comprehension	Comprehension	Comprehension
	1	2	3	4
S1	2	3	3	3
S2	2	4	2	4
S3	1	4	1	4
S4	1	4	1	4
S5	3	4	1	4
S6	0	1	1	1
S7	2	4	1	4
S8	3	5	5	5
S9	0	2	1	0
S10	5	5	3	4
S11	4	1	1	2
Avg.	2.09	3.36	1.81	3.18

Table 5: Delayed-test of 5 questions reading comprehension with PA instruction

Student	Reading	Reading	Reading	Reading
	Comprehension	Comprehension	Comprehension	Comprehension
	1	2	3	4
S1	2	3	3	1
S2	3	3	2	3
S3	2	4	1	4
S4	2	4	2	0
S5	1	5	2	2
S6	2	2	3	2
S7	1	2	1	3
S8	2	3	4	3
S9	2	2	3	1
S10	4	4	4	5
S11	1	4	3	5
Avg.	2	3.27	2.54	2.63

Table 6: Comparison of reading comprehension tests with and without PA instruction

	Test 1 and Test 2 without PA	Test 3 and Test 4 with PA
Mean	9	9.7
P(T<=t)	0.46	

Table 7: Comparison of Delayed-tests with and without PA instruction

	Delayed-test 1 without PA	Delayed-test 2 with PA
Mean	10.4	10.4
P(T<=t)	1	

4.2 Contribution of PA Skills to Reading Comprehension

Table 3 showed four scores of reading practices with PA instruction. In comparison with the four scores of reading without PA instruction in Table 2, the data indicated that S1, S4 and S11 scored higher after PA instruction.

PA instruction of blending, segmenting, isolating, and manipulating sounds was introduced to enhance students' reading comprehension skill, which gave an answer to the research question:

To what extent does phonological awareness instruction enhance students' reading comprehension? By examining the results of this study, the answer would be positive in that the scores of PA instruction were higher than those without PA instruction.

On the other hand, the students' reading comprehension skills improved after practice both without PA instruction and with PA instruction as can be seen in Table 4 and Table 5.

To further examine the test results, statistical analyses of *t*-test were applied. Table 6 showed the increased scores of PA instruction did not reach a significant difference.

The students' reading comprehension skills improved after practicing both without PA instruction and with PA instruction as shown in Table 7; the same result of 10.4, though insignificant, is higher than the results of the reading comprehension tests.

Table 8 and Table 9 displayed the relation between reading comprehension tests and delayed tests of Non PA and PA instruction; the *p*-value of Non PA implementation was 0.39 ($p > 0.05$). On the other hand, the *p*-value of PA instruction was 0.5 ($p > 0.05$). Although the statistical outcome did not show significance, PA instruction implementation truly increased students' reading comprehension skills in that the students after PA instruction scored higher.

Overall, the PA implemented approach data as shown in the tables indicates positive association between PA and reading comprehension.

Table 8: Comparison of reading comprehension and Delayed-test without PA instruction

	Test 1 and Test 2 without PA	Delayed-test 1 without PA
Mean	9	10.4
P(T<=t)	0.39	

Table 9: Comparison of reading comprehension and Delayed-test with PA instruction

	Test 3 and Test 4 with PA	Delayed-test 2 with PA
Mean	9.7	10.4
P(T<=t)	0.5	

5. Discussion

The purpose of this study was to investigate whether PA has any effect on students' reading comprehension since PA is an established important predictor of early reading development. The general finding was that once the students were able to use PA skills and apply the skills to the reading passages, it will contribute a positive result in comprehension.

In line with Stanvich (1992) the association of a deep awareness of PA and reading development were related; furthermore, PA allowed more efficient segmentation, blending of phonemes abilities to enhance reading comprehension skills. When the composite of PA skills was introduced to reading comprehension practices, a better result was shown. The implication of this finding is that the students who have advanced PA skills would hypothetically be better able to decode, segment, and manipulate words, and also have better recognition of connection to texts.

This finding supported the notion of reading comprehension requiring strategies of PA instruction that allow students to decode the message within the readings independently. According to the Self-teaching Hypothesis (Firth, 1972, as cited in Jorm & Share, 1983; Jorm & Share, 1983; Share, 1995, 2008, 2011), PA decoding skills indicate such a method and a crucial role in expanding readers' orthographic representation of words, and the contribution of PA to the aspects of reading comprehension abilities shows that visual word recognition and reading comprehension improve hand in hand. Moreover, the effectiveness of PA skills linked to benefit at least to some extent in reading comprehension by examining the scores of this study.

A possible explanation for the statistically insignificant results of this study might be related to the time arrangement of the tests and it caused some low motivated students unwilling to participate in the study. The reading tests were arranged between two classes and most of the students were tired after a long day study and therefore, some of students scored 0 out of 5 questions in this study. Another reason might be a multiple question designed; it was not easy to determine those students' real abilities of comprehension. They might take a chance of lucky guess while they were taking the tests so the reading comprehension practices might not serve as the efficient indicator to students' comprehension skills.

Nevertheless, it is important to note that the data from this study expands knowledge in the TESOL (Teaching English to Speakers of Other Languages) field by showing consistent evidence that PA can be seen as a trigger for proper reading comprehension.

6. Conclusion

The present study revealed that the phonological awareness brought the importance of enhancing students' reading comprehension. Therefore, this study contributes in the field of English teaching by expanding our knowledge of the relation between PA and reading comprehension. It was found that although PA ability may be influential in the development of reading skills, it required a long period of time to implement in order to have sufficient and significant outcome in reading comprehension.

Our results support the hypothesis that PA affects reading comprehension. The effects of PA on reading comprehension suggest that PA skills help the readers' vocabulary and information processing when reading paragraphs. Therefore, it is better to implement the PA to students in order to provide appropriate guidance especially to those who are not able to improve their reading comprehension.

At last, a number of limitations must be recognized. This study encountered factors of a small scale number of participants and a short time period. The weakness of the small number of participants in this study might have reduced the statistical power to examine the influence of PA on reading comprehension abilities. The short time span of the PA instruction (two weeks actually) was another limitation which also might diminish the reading comprehension results. Thus, future research recruiting large scale of the students and providing long term of PA instruction is suggested. In addition, this research did not specifically examine the effect of different PA skill on reading comprehension, and thus further study might dig into the influence of various PA techniques on reading comprehension.

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