

THE APPLICATION OF PHONICS INSTRUCTION TO IMPROVE ENGLISH VOCABULARY OF GRADE 5 CHINESE STUDENTS

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ABSTRACT

The study aimed to: 1) compare Grade 5 students' English vocabulary before and after using phonics instruction, and 2) investigate the students' satisfaction with the use of phonics instruction in English vocabulary lessons in Hubei province, China. A cluster random sampling method was employed to select a study sample from two Grade 5 classes in a school located in Hubei province. Quantitative data were collected through a pretest and a post-test, evaluating Grade 5 Chinese students' English vocabulary, and a questionnaire indicating their satisfaction with the use of phonics instruction. Subsequently, the collected data were analyzed using a paired sample t-test and descriptive statistics. The results of the pretest and post-test revealed a significant improvement in students' English vocabulary, as indicated by a notable mean difference of 6.4 points between the pretest score and posttest score. Furthermore, the findings from the questionnaire demonstrated that nearly all participants expressed a high level of satisfaction with the implementation of phonics instruction in English vocabulary lessons. Consequently, this study underscored the effectiveness of phonics instruction as an alternative method for teaching and learning English vocabulary.

Keywords: Phonics Instruction, English Vocabulary, Students' Satisfaction, Grade 5 Students

INTRODUCTION

A consensus among linguists, language learners, teachers, students is that vocabulary is indispensable for mastering a language. As linguist Wilkins (1972) stated: "Without grammar very little can be conveyed; without vocabulary nothing can be conveyed." Vocabulary plays a significant role in cultivating students' comprehensive language use ability and is the prerequisite for the development of speaking, listening, reading and writing skills.

However, despite of the significant role that vocabulary plays in English learning, the current situation of vocabulary teaching in primary school in China is not optimistic. Most English teachers still use the traditional vocabulary teaching method, having students learn English words by rote.

Phonics Instruction is the mainstream method of teaching English vocabulary to children from countries where English is the native language. Adam (1990) claimed that children can not only learn to sound out words through phonics training, but they can also focus on the spelling of the words. Applying phonics instruction in English vocabulary would assist students to grasp the relationship between written letters and spoken sounds, so that students are able to sound out words.

As mentioned above, this paper was to test that would the use of phonics instruction help improve English vocabulary of grade 5 Chinese students by comparing students' achievement before and after applying it in vocabulary teaching and to investigate students' satisfaction with the use of it as well.

RESEARCH OBJECTIVES

1. To compare students' English vocabulary of grade 5 in Hubei Province before and after using phonics instruction.
2. To investigate students' satisfaction of grade 5 in Hubei Province with the use of phonics instruction.

LITERATURE REVIEW

1. English Curriculum Standards in China

On March 25, 2022, the Ministry of Education of the People's Republic of China announced the English Curriculum Standards for Compulsory Education (2022 Edition), which has undergone substantial innovation compared with the 2011 version of the curriculum standards. The new standards points out that vocabulary is the foundation of the English curriculum and is closely related to the content elements of the curriculum

such as discourse, language knowledge, and language skills.

Compared with the former curriculum standards (2011), the number of vocabulary that students ought to master has increased by about 100 in the new English curriculum standards, which significantly raises the requirements of vocabulary learning (Tao & Mao, 2022). The adjustment not only further indicates the significance of vocabulary in English learning, but asks teachers to pay more attention to students' vocabulary learning.

2. The Importance of English Vocabulary

Vocabulary is frequently seen as a crucial component of foreign language learning, directly influencing the use of language since communication is hampered by a restricted vocabulary in a second language. Read (2000) presents that words are the fundamental building blocks of a language, the units of meaning from which larger structures such as sentences, paragraphs and entire texts are constructed. Likewise, Nation (2001) further explains that learning vocabulary is essential for improving all language abilities in English as a second language (ESL) and English as a foreign language (EFL), including speaking, listening, reading, and writing.

3. Teaching and Learning Problems of English Vocabulary in Primary Schools in China

Shao (2014) states that generally speaking, primary students learn new words mainly through the way that reading after teachers or recording. For the meaning of words, teaching lacks the assistance of objects, pictures and context. In addition, students often memorize words by rote, making vocabulary learning mechanical and boring. Zhou (2020) presents the problems in vocabulary for primary students as well. Firstly, solidification of teaching methods. Many primary teachers still use old teaching methods in English class. Some think that vocabulary teaching is only for students to memorize words and dictate them. Others believe that students can grasp words by copy them on papers many times.

Secondly, problems in memorizing words. Although there are only 26 letters in English, students always complain that it is way to hard to remember words combining with a number of different letters without a proper way of memorization.

Thirdly, sinicization of English words. Trying to imitate teacher's pronunciation, students who are new to English often pronounce words by using Pinyin or Chinese characters to mark out

the pronunciation of words, which obviously has a negative impact on learning the pronunciation, especially that there are many dialects in China.

4. Phonics Instruction

Johnson & Pearson (1984) firstly states that phonics is to associate the letters in a word with the sound of it, so even when a child sees an unfamiliar word, he or she can pronounce the word successfully. Then Stahl (1992) defines, "Phonics merely refers to various approaches designed to teach children about the orthographic code of the language and the relationships of spelling patterns to sound patterns", and further explains that these methods can range from direct instruction to instruction incorporated into the reading of literature.

4.1 Types of Approaches for Applying Phonics Instruction in English Vocabulary Teaching

Scholars have designed various systematic approaches for applying phonics instruction in teaching English. Stahl, Duffy-Hester and Dougherty Stahl (1998) review the previous researches and discuss about the specific approaches to phonics instruction, including Analytic

phonics approaches, Synthetic phonics approaches, Spelling-based approaches, Analogy-based approaches, Embedded phonics approaches. Among these systematic approaches, synthetic phonics instruction is more suitable for beginners. Therefore, this study adopted the synthetic phonics instruction based on the participants' English proficiency and age.

4.2 Benefits of Phonics Instruction in English Vocabulary Teaching

Wang (2012) clarifies that phonics instruction is completely different from traditional rote method and presents the process of phonics instruction in English teaching. First, having students grasp the sounds of English letters. Second, students practice applying letter sounds to read and spell words and try to figure out the sound patterns of letter combinations at the same time. Third, teachers guide students to develop the ability of writing down a word by listening to its pronunciation. They regard phonics instruction as a highly effective way to teach English vocabulary that all English learners should receive training in phonics.

Conceptual Framework

The independent variable in this study was phonics instruction, and the dependent variables were improving students' English vocabulary and students' satisfaction with the application of phonics training. Following is the illustration of the study's conceptual framework:

RESEARCH METHODOLOGY

This study applied a quantitative approach to collect the data, including a pretest and a post-test to assess grade 5th Chinese students' English vocabulary, and then a questionnaire to indicate their satisfaction with the use of phonics instruction to improve their English vocabulary. Figure 2 below describes the research design of the study.

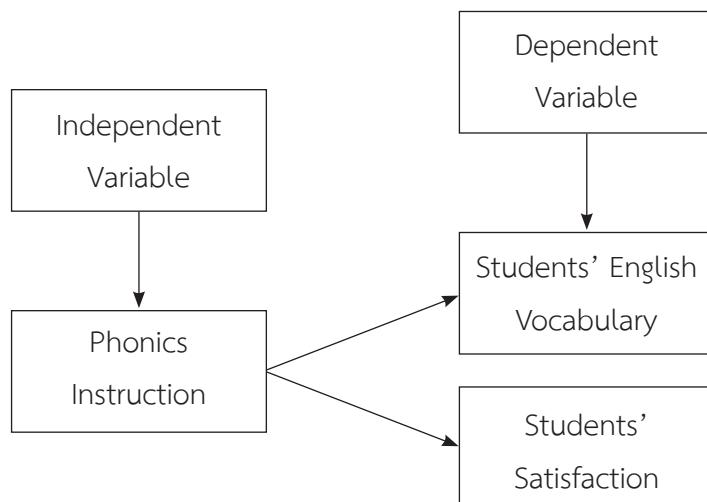


Figure 1 Independent and Dependent Variables

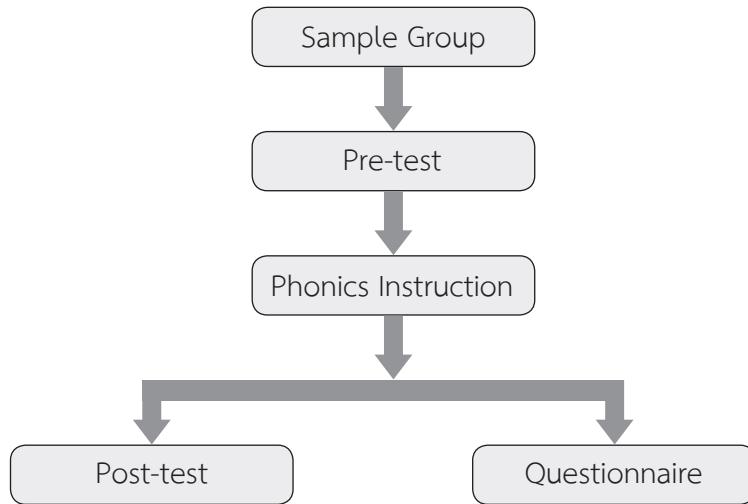


Figure 2 Illustration of Research Design

Participants

The target population of this study consisted of two classes of 60 students grade 5 students from Hubei Province, China, ranging in age from 11 to 12 years with mixed genders and learning abilities. The researcher used the cluster random sampling technique to select one class with 30 students out of these 2 classes as the sample group.

Research Instruments

In this study, there were three research instruments: lesson plans, English vocabulary tests and a questionnaire on student' satisfaction with the use of phonics instruction in English vocabulary learning.

1. Lesson Plans

The researcher prepared four lesson plans that applied phonics instruction over the course of one month (one lesson plan = 90 minutes). A total number of 26 single letter sounds were included in the four lesson plans, which were designed into 4 steps respectively, that is 1) Warming up and Revision; 2) Presentation; 3) Presentation and Consolidation; 4) Summary.

2. English Vocabulary Test

Vocabulary tests were used to the sample group to compare the students' vocabulary before and after the intervention of phonics instruction. Words in the vocabulary test were selected from the list of vocabulary required of 5th graders in English curriculum standards in China.

3. Satisfaction Questionnaire

The questionnaire to investigate students' satisfaction with the use of phonics instruction in English vocabulary teaching contains three parts, which are interest and motivation, engagement and the efficacy of phonics instruction on student learning. The questionnaire consists of 15 statements (5 statements per part) and uses a five-point Likert scale system ranging from 5 to 1. (5) Strongly agree, (4) Agree, (3) Neutral, (2) Disagree, and (1) Strongly disagree.

Validity and Reliability of Research Instruments

In this study, Item Objective Congruence (IOC) analysis was used to ensure the content validation of research instruments. The IOC, developed by Rovinelli and Hambleton (1976), is a widely used procedure for assessing the validity of unidimensional or multidimensional items. To validate the research instruments in this study, three experts from China were invited to review them and fill out the IOC form. In this study, the validity coefficients of all research instruments were higher than 0.67, indicating the content validity of them were acceptable.

Moreover, the reliability of satisfaction questionnaire was tested using Cronbach Alpha through SPSS. Cronbach Alpha ranges from 0 to 1. Higher values imply items with greater agreement. The items were sufficiently consistent at the value of 0.7 and above to suggest the measure is reliable. In this study, the Cronbach Alpha coefficient was 0.808, indicating that satisfaction questionnaire was reliable.

Results Conclusion and Discussion

1. Analysis of Vocabulary Test Scores

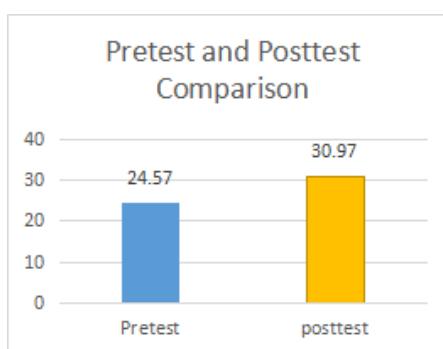
As shown in table 1, paired-sample analysis of the test scores showed positive results. The pretest mean is 24.57 with a standard deviation of 5.71; the posttest mean is 30.97 with a standard deviation of 6.52. The pretest and posttest mean differ by 6.4, indicating an increase in the posttest mean. The obtained P (value) was .001, which was lower than 0.05 ($P < 0.05$), suggested a statistically significant increase in the posttest score compared to the pretest score for the sample group.

Table 1 Sample t-test

Paired Sample Statistics							
	N	Mean	Std. deviation	Mean difference	t	P(value)	
Pair 1	Pretest	30	24.57	5.71	6.4	-14.26	.000
	Posttest	30	30.97	6.52			

Figure 3 below compares the mean scores for the pretest and posttest, which are 24.57 and 30.97 respectively. The mean score on the posttest was higher than that on the pretest. The posttest mean

score is greater by 6.4 points compared to the pretest mean score. Therefore, it can be concluded that each participant progressed and scored higher on the posttest.

**Figure 3** Comparison of Pretest and Posttest Mean

2. Analysis of Satisfaction Questionnaire

Five-point Likert scale was adopted in this study to collect quantitative data and explore participants' satisfaction with the use of phonics instruction in English vocabulary lesson. In the scale, 1=Strongly Disagree and 5=Strongly Agree. The questionnaire consisted of 15 items divided into 3 parts: Part A - Interest and Motivation; Part B – Engagement; and Part C - Efficacy of Phonics Instruction on Student Vocabulary Learning. Descriptive statistics (mean and standard deviation)

were used to analyze the survey results. In the mean interpretation, 5-4.01 was the highest level, 4-3.01 was the high level, 3-2.01 was the medium level, 2-1.01 is the low level and ≤ 1 is the lowest level.

A questionnaire was administered to all 30 ($N=30$) study participants. From the table 2 below, it could be seen that the mean scores were 4.16, 4.24, and 4.32 for part A, part B and part C respectively, which were all at the highest level. The overall average was also at the highest level with the figure of 4.24.

Table 2 Questionnaire of the Sample Group

	N	Mean	Interpretation
Part A	30	4.16	Highest
Part B	30	4.24	Highest
Part C	30	4.32	Highest
Total	30	4.24	Highest

Part A - Interest and Motivation:

The students agreed that learning English vocabulary using phonics instruction was interesting with the highest mean of 4.36, which denoted the 'Highest' level of mean score range on a Likert scale.

Part B- Engagement: It was apparent

that most of the students were willing to apply phonics instruction in remembering English words, with the highest mean score of 4.46. Therefore, the researcher concluded that phonics instruction enhanced students' engagement.

Part C- Efficacy of phonics

instruction on student learning: Most students affirmed that phonics instruction would help improve their English vocabulary and would be beneficial to their future English learning, which were both at the highest level with the mean score of 4.5. In terms of the average mean score of this part, which was 4.32 falling in the highest level, it could be determined that phonics instruction would enhance students' English vocabulary.

In summary, Part C- Efficacy of phonics instruction on student learning was rated the highest among the three parts with the average mean score of 4.32 and standard deviation of 0.70, while Part A and C had relatively lower mean scores

with the average score of 4.16 and 4.24 respectively. Nevertheless, considering the overall mean score of 4.24, the researcher was convinced that most students had a positive satisfaction with the use of phonics instruction in English vocabulary learning.

CONCLUSION AND DISCUSSION

As stated above, this study generated two main conclusions:

1) The application of phonics instruction helped improve grade 5 Chinese students' English vocabulary in Hubei province, China.

2) Students had positive satisfaction with the use of phonics instruction in English vocabulary lesson.

In the discussion that follows, the results would be presented in detail, along with an explanation of how they addressed the research questions that were put forth for this study.

1. Students' English Vocabulary Test Achievement

1) The statistical analysis of the paired samples t-test for the English vocabulary scores showed that the mean score of the post-test (30.97) was higher than that of the pretest (24.57), with a mean difference of 6.4. The mean score of

the post-test was higher, indicating that phonics instruction had a positive effect on students' English vocabulary learning.

2) All participants scored higher in the posttest than in the pretest with score disparities ranging from 2 to 12 points.

3) 14 out of 30 participants scored 32 or above out of the total of 40 in the posttest. In contrast, only 4 participants scored 32 or above out of the total of 40.

The above quantitative data analysis directly revealed the students' improvement in the posttest. Therefore, the results of this study clearly indicated that the use of phonics instruction effectively improved the English vocabulary of grade 5 Chinese students in Hubei Province, China. The data collected from this study was reassuring as well. One of the most prominent reasons for the improvement in students' English vocabulary was the effectiveness of phonics instruction. Phonics provided a systematic and structured approach to decoding and understanding English words. By learning how individual sounds correspond to letters, students can more easily decode unfamiliar words. This foundation enhanced their ability to recognize and remember new words, ultimately leading to improved vocabulary, which were in accord with

previous studies. Chen (2020) found through pretest and posttest that students in the experimental class scored higher than those in the control class, showing that phonics instruction had significantly improved students' English vocabulary learning. Moreover, she concluded that students in the experimental class well comprehended phonics and used it as frequently as they could when learning English words, which obviously contributed to students' future English vocabulary learning. Likewise, according to the test scores in the study conducted by Cui (2021), junior high school students' efficiency of vocabulary learning was markedly enhanced through phonics instruction. Therefore, the data collected in this study contributed to a clearer understanding that phonics instruction can improve students' English vocabulary learning.

Furthermore, ample activities used in this study, including listening to songs, making sound cards, observing pictures playing games and so on, contributed to a positive and engaging learning environment, offering a hands-on and interactive approach to vocabulary learning, making vocabulary lessons interesting and enjoyable. This, in turn, encouraged students to actively participate and practice their vocabulary, leading

to better results in vocabulary learning. This finding was accord with previous studies. Chen (2020) stated that in the teaching process, English teachers had to promote the integration of phonics instruction in teaching through interesting and motivating activities, like making phonics dictionaries, playing videos, doing alphabet exercise, etc. In this way, primary students can be extremely motivated to engage in the class, thus making sure the efficiency of learning. Similarly, Zhang (2020) found that phonics instruction with various activities, such as playing phonics games, playing phonics songs and using tongue twisters, etc would get greater results in improving students' English learning as these activities provided access for students to engage in the classes.

Moreover, the most distinct result was achieved by student number 17, who scored 18 and 30 in the pretest and posttest respectively, resulting in a massive discrepancy of 12 points. This significant finding corresponds to previous studies. Zhang (2018) found that all students made progress in English vocabulary with several students making conspicuous stride after using phonics instruction in English vocabulary classes for four months. After using phonics instruction in English class for a month,

Xiang (2022) discovered that one average student made notable progress, indicating the efficiency of phonics instruction in students' English vocabulary learning. As a result, a sharp increase in students' accomplishment scores suggested that phonics instruction improved students' English vocabulary. The first research question was thus credibly addressed by all the aforementioned findings.

2. Students' Satisfaction

The second objective of this study was to investigate students' satisfaction with the use of phonics instruction in English vocabulary lesson. Quantitative data concerning this objective was collected through a questionnaire containing 15 items, which were further divided into three parts:

Part A: Interest and motivation.

Part B: Engagement.

Part C: The efficacy of phonics instruction on student learning.

1) The data from Part A of the questionnaire showed that students had the highest level of interest and motivation with the use of phonics instruction ($\bar{X} = 4.16$, $SD = 0.84$). Students agreed that using phonics instruction to learn English vocabulary was interesting and motivated.

2) The data from Part B of the questionnaire showed that students had the highest level of satisfaction in terms of engagement when using phonics instruction in English vocabulary lesson ($\bar{X} = 4.24$, $SD = 0.73$), indicating that phonics instruction could engage students in learning English vocabulary.

3) The data from Part C of the questionnaire showed that students consented to the idea that phonics instruction had a positive impact on the effectiveness of their English vocabulary learning and gave it the highest level of satisfaction ($\bar{X} = 4.32$, $SD=0.70$), implying that students affirmed phonics instruction helped improve their English vocabulary.

The results showed that the majority of students found it interesting and efficient to use phonics instruction in English vocabulary learning. Qiu (2016) carried out a study applying phonics instruction in vocabulary class within a time frame of a semester and found that students' efficiency of learning English vocabulary was significantly improved. Moreover, he concluded that phonics instruction made the classroom atmosphere more active and motivated students' interest in learning English. Zhang (2022) also found through experimental data that phonics

could improve students' interest in learning English. Phonics instruction with various activities makes it easy for students to grasp the English words and hence improve students' satisfaction with the use of it in English vocabulary lessons.

RECOMMENDATIONS

1. Recommendations for Implementation

1.1 The application of phonics instruction in improving grade 5 Chinese students' English vocabulary has been found effective. However, phonics instruction was implemented for a limited time frame in this study. To get further information, it is recommended that schools consider extending the duration of phonics instruction within the regular English curriculum. The result may be different.

1.2 Phonics instruction was demonstrated to be beneficial in enhancing the English vocabulary of Grade 5 Chinese students. Phonics instruction should therefore be encouraged in the other grades as well while teaching English vocabulary.

1.3 The success of using phonics instruction to learn English vocabulary suggests that this method can be used to teaching other language skills as well, like reading, writing, listening, etc..

2. Recommendations for Future Research

Considering some of the limitations of this study, the researcher recommends for future research.

2.1 This study was limited to a group of 30 grade 5 Chinese students from a rural school in Hubei province China. Consequently, similar studies might be carried out including a larger sample of different grades, namely primary schools, middle schools, high schools, and colleges, or from different regions in China, which would aid in generalization and

help validate and reassure the validity of the conclusions found in this study.

2.2 This study was confined to 26 single alphabet sounds. Further studies can contain sounds of both single letters and letter combinations.

2.3 To investigate the impact of phonics instruction on other language skills beyond vocabulary, such as reading comprehension and speaking proficiency. Understanding the broader effects of phonics can provide a more comprehensive view of its benefits in a foreign language learning setting.

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