The Effects of Post-Reading Activities on Young EFL Learners’ Word Learning

Chia-Hui Cindy Shen  
Taipei Municipal University of Education  
cindy422@tp.edu.tw

Chieh-Fang Hu  
Taipei Municipal University of Education  
cfhu@tmue.edu.tw

Abstract
Many teachers give little classroom attention to direct vocabulary instruction, assuming students will learn words incidentally through reading. This study used storybooks to assess the effects of three types of post-reading word instruction on word learning: word instruction in context, word instruction in isolation, and repeated reading, which served as the controlled condition. Three intact classes of fifth graders and three intact classes of sixth graders at an elementary school in Taipei City were recruited for the study. A counterbalanced treatment, post-test-only design was used. The results showed that word instruction in isolation promoted written and spoken word learning beyond word instruction in context and repeated reading. For the higher-proficiency students, those receiving word instruction in isolation performed significantly better than those who read the stories repeatedly and those receiving word instruction in context. On the other hand, no significant main effect of post-reading activities on written or spoken word learning was found with the lower-proficiency students.

Key Words: post-reading activities, vocabulary instruction, Chinese EFL learners’ word learning
INTRODUCTION

Recently, the use of English picture books to teach English as a foreign language has drawn a great deal of attention from researchers, who suggest that children can naturally acquire novel words from reading storybooks without direct or explicit instruction (Blok, 1999; Brett, Rothlein, & Hurley, 1996; Huang, 2001; Lin, 2003; Tyan & Shen, 2003). Reading stories to young EFL learners has also become a trend in Taiwan. However, despite acknowledging the facilitative effects of language learning by using storybooks, most teachers in Taiwan seem to complement story reading with post-reading activities that are considered creative and innovative from a traditional point of view, for example, making mini books, filling in reading logs, role-playing, conducting reader’s theater, and writing worksheets. These post-reading activities are certainly beneficial to language learning; however, such activities usually pose a great challenge to many beginning EFL learners, who have an insufficient command of an adequate number of English words. Students who are constantly impeded by unfamiliar words in English usually feel frustrated and gradually lose motivation to read further, which in turn impairs the development of vocabulary knowledge (Huang, 2001) and eventually leads to the well-known vicious cycle of the Matthew effect (Stanovich, 1986).

To the authors’ best knowledge, not much attention has ever been paid to how post-reading activities can be effectively implemented in the language classroom as well as what effects post-reading activities would have on young EFL learners’ word
learning. In fact, post-reading activities with a focus on vocabulary instruction are needed for at least one practical reason. Currently in Taiwan, students are randomly assigned to heterogeneous homeroom classes, so students differ considerably in language proficiency. Some students with good comprehension of the English language are usually very responsive in class while others may have problems understanding a simple direction like “open your book.” Teachers often give more attention to students who are highly responsive and interactive in class, leaving students with a poorer command of the language further behind in the course of language learning. To deal with the heterogeneous language proficiency among learners in classes, it has been suggested that teachers design extended and supplemented learning activities that provide additional vocabulary encounters beyond the level of learning words for the purpose of story comprehension only (Grabe & Stoller, 2002; Pardo, 2004). It is hoped by conducting post-reading activities which specifically focus on word instruction, one can help low-proficiency students benefit maximally from story reading in class.

In this study, the effect of post-reading activities with explicit word instruction on young learners was examined. There were three types of post-reading activities, that is, word instruction in context, word instruction in isolation, and repeated reading, with the last one serving as the controlled condition. The effects of context on word reading have been well studied. Some researchers suggest that context provides meaning that helps to enhance word recognition (Nation & Snowling, 1998; Roth & Perfetti, 1980; Stanovich, Nathan, West, & Vala-Rossi, 1985). However, some researchers contend that learning new words in context may draw children’s attention away from word
forms (Ehri, 1991; Share, 1999). It is thus worthwhile to investigate whether different post-reading activities lead to differential effects on word learning when students read English storybooks. Since children are not expected to benefit equally from storybook reading based on their diverse language proficiency levels, this study further examined how students of different proficiency levels would benefit from different post-reading activities.

The Importance of Vocabulary Instruction

The first issue that has to be discussed about post-reading word instruction is whether there is a need to complement story reading with vocabulary instruction. While it has been proposed that words can be learned incidentally through reading without direct instruction (Nation, 2001; Read, 2000; Schmitt, 2000), numerous researchers have claimed that direct and explicit vocabulary instruction is needed for vocabulary and literacy growth (Biemiller & Boote, 2006; Brett et al., 1996; Elley, 1989; Hulstijn, Hollander, & Greidanus, 1996; Justice, Meier, & Walpole, 2005; Penno, Wilkinson, & Moore, 2002; Stahl & Fairbanks, 1986; Zimmerman, 1997). Hulstijn et al. pointed out problems with incidental vocabulary learning by indicating that through incidental learning, learners may fail to acquire a word due to their deliberate ignorance of the unfamiliar word and their incorrect inference of the word’s meanings from context. Over-reliance on learning vocabulary incidentally may reduce the requisite amount of effort that should be exerted in decoding (Landi, Perfetti, Bolger, Dunlap, & Foorman, 2006).

The positive effect of direct word instruction over reading or
listening to stories alone has been demonstrated in various empirical studies. In Elley’s (1989) study, second graders’ vocabulary development was examined over readings of two storybooks. The students were assigned to two contrasting conditions: reading with word instruction and reading without word instruction. In the instruction condition, unfamiliar words were explained to children by providing a synonym, using role play (e.g., acting out a hornet flying and buzzing, for the word *hornet*), or pointing to an illustration depicting the unfamiliar words. In the no-instruction condition, the storybooks were read verbatim with no explicit direction to the unfamiliar words. Pre- to post-test vocabulary gains on a multiple-choice test were 40% in the instruction condition and 15% in the no-instruction condition. On average, the children gained approximately eight words in the instruction condition and three words in the no-instruction condition. Similar findings were obtained in Penno et al.’s (2002) study, in which children’s accurate use of words in the instruction condition in post-test story retellings (25%) was higher than that in the no-instruction condition (5%).

Another example is the extensive study conducted by Justice et al. (2005), where ten storybooks were read to kindergartners. Pre- to post-test vocabulary gains in the instruction condition were 9% for children with high vocabulary skills and 7% for the low vocabulary skills, but in the no instruction condition, the vocabulary gains were 8% for children with high vocabulary skills and 4% for children with low vocabulary skills. The findings indicate that elaborated vocabulary instruction is especially beneficial to children with low language proficiency. In Biemiller and Boote’s (2006) study, the results also indicated that participants who read three storybooks
learned more target words (22%) in the reading with instruction condition than in the reading with no-instruction condition (13%).

Though studies have demonstrated that direct vocabulary instruction enhances word learning and reading comprehension, less attention has been given to extended post-reading activities. As shown by the aforementioned studies, words that are learned through storybooks are limited, ranging from 4% to 40% depending on whether word instruction is given and how word learning is measured. It is conceivable that the benefit for L2 learners in story reading without direct vocabulary instruction is even more limited than that can be expected for L1 learners. It appears that additional exposure to new words after reading stories is especially needed for EFL learners, who rely more heavily on direct instruction than native speakers (Goulden, Nation, & Read, 1990; Stahl & Fairbanks, 1986). Intentional, direct vocabulary instruction after reading provides students with additional learning activities that assist the students in committing words to memory well enough and to recall them from memory when the words are encountered again. Another benefit of post-reading word instruction is that it reduces the possibility of interrupting the storyline and distracting students from the main flow of the story (Wixson, 1986).

The present study intended to investigate young EFL learners’ word learning through word instruction after story reading. With respect to conditions for word learning, two methods of word learning have been widely discussed: word learning in context and word learning in isolation.
Word Learning in Context

A large body of research in L1 and L2 has indicated that learners are able to derive unknown word meanings by using the context when reading (Archer & Bryant, 2001; Day, Omura, & Hiramitsu, 1991; Frantzen, 2003; Fukkink, Blok, & de Glopper, 2001; Goerss, Beck, & McKeown, 1999; Huckin & Bloch, 1993; Laufer & Shmueli, 1997; Lin, 2003; Mondria & Wit-De Boer, 1991; Nation & Snowling, 1998; Rott, 1999; Swanborn & de Glopper, 2002; Zimmerman, 1997). It is argued that instruction in the use of contextual cues could enhance students’ ability to derive unfamiliar word meanings. The more contextual information one takes into account, the greater the chances one can derive an unknown word meaning. Some researchers have come to view learning words from context as a secondary self-teaching mechanism (e.g., Martin-Chang, Levy, & O’Neil, 2007; Nation & Snowling, 1998).

There are three advantages of learning words in context. First, with a word presented in different ways in a variety of contexts, word meanings can be effectively constrained so that students have better understanding of the unknown word meanings (Adams, 1990). Context may contribute to the aspects of word knowledge such as the range of possible referents and collocational restrictions of a word (Joe, 1998). Second, students’ schematic knowledge could be activated in context, which facilitates the inference of word meaning (McCarthy, 1990; Morrison, 1996). Third, presenting new words in context such as a reading text may lead to a broader view of how words could be applied in different sentence contexts (Nation, 2001).

In terms of the relative superiority of word learning in context versus word learning in isolation, many researchers believe that the...
former condition, word learning in context, results in better retention than the latter one. It is argued that students who study an isolated word’s definition tend to learn only one definition of a particular word, which may interfere with the expansion of students’ vocabulary knowledge (McCarthy, 1990; Oxford & Scarcella, 1994). Archer and Bryant (2001) compared 6- and 7-year-olds’ word reading in context and in isolation. It was found that children were able to read words more accurately in context, but they were no better at reading these words when the words were presented later in isolation on the post-test. However, it should be noted that the results of the study support only the idea that word reading or word recognition performance is better in context. The results did not lend support to the idea that word learning can also be enhanced in context.

There is evidence that children with different language proficiency levels benefit differentially from word learning in context (Landi et al., 2006; Lesgold, Resnick, & Hammond, 1985; Martin-Chang et al., 2007; Nation & Snowling, 1998; Stanovich et al., 1985). For example, Lesgold et al. found that beginning and struggling readers had better performance on word learning from pre- to post-test when words were learned in the contexts of sentences or phrases. These readers of lower proficiency required the syntactic and semantic cues of a sentence or phrase to recognize a word. In other words, lower achievers were more successful when decoding words in context than in isolation (Alexander, 1998; Nicholson, 1991). In contrast, some researchers (Goerss et al., 1999; Grabe & Stoller, 2002; Kondo-Brown, 2006; McKeown, 1985; Nagy, Herman, & Anderson, 1985; Pardo, 2004) claimed that context may prove facilitative only
for good and advanced readers. Readers with lower language proficiency could not derive a correct definition from context though they relied heavily on contextual cues (McKeown, 1985).

One reason for the mixed findings regarding the facilitative effect of context on students of varying proficiency is to compare the beneficial effect on different conditions. It is conceivable that contextual cues can bolster word recognition, especially for learners of low proficiency whose word recognition is slow and effortful in isolation. So if one's word recognition skill in context is compared to isolated word recognition, a facilitative effect of context will be obtained, especially for readers of lower proficiency. When the facilitative effect of context is assessed across groups of different proficiency levels, it is usually the good readers who demonstrate a larger beneficial effect than poor readers. To complicate the matter further, the facilitative effect of word recognition is usually interpreted as tantamount to the facilitative effect of word learning. It is not inconceivable that one can read a word in context but fails to read the same word when the word is subsequently encountered in another context or when the word is presented in isolation. Successful word reading in context does not necessarily lead to successful word learning or attainment unless the word can be read or recognized in different contexts. As discussed in the following, when word learning is measured, the evidence for the facilitative effect of context is mixed.

**Word Learning in Isolation**

In addition to word learning in context, word learning in isolation has also been rigorously studied in recent years (Archer &
Bryant, 2001; Landi et al., 2006). Many researchers (Ehri & Roberts, 1979; Ehri & Wilce, 1980; Johnston, 1998; Nemko, 1984) suggest that children learn words faster and more completely when the words are studied in isolation without any contextual support or illustration. In Ehri and Roberts’ study, for example, first graders trained to read 16 words on flash cards demonstrated faster word recognition and more complete orthographic retention than those trained to read words in sentences. Johnston (2000) conducted a study to explore first graders’ word learning in predictable texts in three reading treatments, that is, repeated reading treatment, sentence context treatment, and word bank treatment. The reading instruction was carried out in three classes and the first graders read three books per week across three weeks. To estimate the vocabulary gain made by these first graders, a measure of immediate and delayed recall of words was conducted. The results revealed that for both immediate and delayed recall tests, these beginning readers learned more words in the word bank treatment, that is, word learning in isolation, followed by sentence context treatment and repeated reading treatment.

Prince (1996) suggests that word retention is enhanced when learners isolate words from context and process these words elaborately. Learning words in isolation can be a way of quickly raising learners’ awareness of particular words so that when learners subsequently meet these words in reading and listening, there is a greater likelihood for the word to be noticed and recognized, which opens another opportunity for the consolidation of the word in memory. Moreover, in support of word learning in isolation, some researchers believe that reading in context may distract learners’
attention from the printed words and thus result in lower word recognition in memory (Landi et al., 2006) and weakened skilled reading (Johnston, 2000; Stuart, Masterson, & Dixon, 2000).

With respect to language proficiency levels, Lesgold et al. (1985) found that successful readers identified single words quickly. Successful readers with greater knowledge of word forms and better decoding skills are more able to distribute their attention between form and meaning effectively and are more likely to encode the relevant orthographic and phonological representations when reading new words in isolation. Less skilled readers, who have poorly developed decoding skills, may fail to attend to a word’s orthographic and phonological representation and therefore will not properly encode the information required to form a lasting representation.

In summary, the literature review in this article has highlighted the role of direct word instruction on word learning, which may be a promising approach for enhancing word learning in young school-aged children after stories are read to them. However, to young EFL learners whose orthographic and phonological analysis skills were not as proficient as L1 learners for word learning in isolation and whose awareness of contextual cues was not as sophisticated for word learning in context as L1 learners, which method of word instruction would be more effective remains an empirical question.

The Present Study

This study examined the effect of post-reading activities with explicit word instruction on young EFL learners’ word learning. There were three types of post-reading activities, that is, word instruction in
context, word instruction in isolation, and repeated reading, with the last one serving as the controlled condition against which the effect of post-reading word instruction could be gauged. Since children of varying proficiency levels were not expected to benefit equally from the post-reading activities, it was highly motivating to examine whether EFL elementary school students with varying degrees of literacy achievement would learn words differently from different post-reading activities.

The present study was guided by the following two research questions: 1) What are the effects of post-reading activities on word learning in Chinese-speaking children who learned English as a foreign language? 2) Do young EFL learners with diverse English proficiency levels perform differently on word learning in post-reading activities?

METHOD

Participants
The participants included 48 fifth-grade Chinese-speaking children from three intact classes and 60 sixth graders from three intact classes at an elementary school in Taipei City. Three cohorts of students were formed by randomly grouping one fifth-grade class with one-sixth grade class. The participants started to learn English formally in the first grade; therefore, the fifth graders had received formal English instruction for five years while the sixth graders had studied English in school for six years. The six classes were taught by the first author, who was also their English teacher.
Design and Materials

A within-subjects, post-test-only design, where each participant took part in each of the three post-reading activities, was employed. In each of the training conditions, new words were taught after reading a storybook; therefore, three clusters of materials were required. Each cluster contained two storybooks. From each storybook, five words were selected for instruction. Thus, in total, each child was exposed to six books across the six weeks of the study. The three clusters of books were counterbalanced across the three post-reading conditions and across the three cohorts of participants so that any differences in post-reading activities were not attributable to differences in the story content and words to learn or to the differences in the participants.

The six storybooks were selected based on three criteria. First, each storybook contained at least five words that were unlikely to be known by the fifth graders. Second, on the basis of the experimenter’s teaching experiences, the book needed to be about 400 words in length so that the teacher could complete the story reading, the post-reading activities, and the outcome measures within 40 minutes of a class period. Third, these storybooks should be interesting and comprehensible and filled with rich language and colorful illustrations.

For each storybook, five words were selected for post-reading word instruction based on the following considerations. First, the target words were content words, including nouns, verbs, and adjectives. Second, they were unfamiliar and unknown to the participants in this study. Third, a pool of potential target words was first selected from the storybooks and was pilot tested with 30 fifth-grade students, who were not the participants in the study.
Words that were known by more than 10% of these students \((n \geq 3)\) were replaced by words of similar meanings but with lower frequency. For example, the word *metropolis* was used as a substitute for the word *city*. Fourth, efforts were made to control the summed frequency of exposure to the target words in each cluster, as it was not possible to control the frequency of occurrence of each target word in the storybook. In other words, the summed frequency of exposure to the target words in Stories 1 & 2 was made similar to that in Stories 3 & 4 and that in Stories 5 & 6. For example, in Stories 1 & 2, the summed frequency of exposure to the target words was 59; in Stories 3 & 4, the sum was 63; Stories 5 & 6 was 59. See Table 1 for the materials for word instruction and the design of the treatment conditions.

**Treatment Procedure**

One week prior to the implementation of the experimental tasks, participants completed a standardized word recognition test as the background measure for identifying their initial English proficiency levels and classifying the participants into the higher- and lower-proficiency groups. The experimental post-reading activities were given over six consecutive weeks. One book was read in one class hour each week. In each class period, the participants were read a storybook for 10 minutes, which was followed by a 15-minute post-reading activity. After the post-reading activity, every participant was required to complete two word recognition tests and one comprehension test in about 15 minutes.
### Table 1
Materials for Teaching and Treatment Conditions by Cohort

<table>
<thead>
<tr>
<th>Books (total words)</th>
<th>Target words (frequency of occurrence)</th>
<th>Summed Frequency</th>
<th>Cohort</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cluster 1</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. <em>Prince Cinders</em> (440 words)</td>
<td>sovereign (11), nocturnal (2), pixie (7), slacks (6), suit (2)</td>
<td>59</td>
<td>C I R</td>
</tr>
<tr>
<td>2. <em>A Bunch of Daisies</em> (467 words)</td>
<td>crumbly (8), digit (3), lid (3), quiver (4), canister (13)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Cluster 2</strong></td>
<td></td>
<td>63</td>
<td>I R C</td>
</tr>
<tr>
<td>3. <em>I Know a Shy Fellow who Swallowed a Cello</em> (434 words)</td>
<td>cymbal (8), fiddle (10), fife (6), lyre (14), harmonica (4)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. <em>Mrs. Wishy-Washy’s Farm</em> (404 words)</td>
<td>basin (4), grange (5), lorry (2), metropolis (4), barn (6)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Cluster 3</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. <em>Froggy Gets Dressed</em> (423 words)</td>
<td>blizzard (8), galoshes (6), mittens (6), muffler (7), toque (7)</td>
<td>59</td>
<td>R C I</td>
</tr>
<tr>
<td>6. <em>We’re Going on a Bear Hunt</em> (414 words)</td>
<td>apprehend (6), creek (3), mire (3), pursuit (7), startled (6)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note.* C = instruction in context; I = instruction in isolation; R = repeated reading

Each storybook was presented in a PowerPoint format through an overhead projector. The teacher videotaped her story reading in
advance and controlled each storybook reading for five minutes. In class, the teacher played the video twice; thus the total reading instruction took 10 minutes. The story was read in a consistent format with varied voice expressions and rich body language. The teacher pointed to each word while reading, drew explicit attention to the important concepts through colorful illustrations and translated the story into the participants’ native language.

After reading the story, each cohort of participants took part in a post-reading activity designated for them. The three cohort of students listened to the same story in one week, and the story reading procedures for the three cohorts of students were the same but the post-reading activities were different across the three cohorts of students. The post-reading activities were counterbalancedly implemented so that each student had the opportunity to receive each of the post-reading activities as shown in Table 1. The post-reading activities varied in format but were equivalent in the time of administration.

**Word instruction in context.** After reading the entire storybook with the teacher, the students read the target words in sentence strips without any illustrative support. Each student was given an envelope of sentence strips in which the target words were embedded and underlined. The teacher presented these sentences by reading them aloud, pointing word-by-word while reading these sentences, explaining and defining the meanings of the sentences by translating the sentences into the participants’ native language, and inferring the word meaning by multiple sentence contexts. The participants were asked to reconstruct the story with their own sentence strips into the
correct order according to the story line. The reason for using sentence strips as one of the post-reading word instruction activities was to reduce the distracting effect of the illustrations in the storybooks, maximize the possibility in using linguistic context in inferring word meaning, and give the students an opportunity to encounter the new words in multiple sentential contexts.

It should be noted that the target word might not be predictable by the sentence context alone, but the sentence context served to constrain the possible interpretations of the target word. For example, in the sentence, “No one could put on the slacks,” the underlined target word might not be predictable by the sentence context because the word could be coat, jacket, shoes, and so on, but the semantic relationship between the words in the sentence constrained and thus supported the interpretation of the word “slacks” because the verb “put on” limited the possible meanings of its object. In addition, the story line that the participants had to rely on to sort out the sentences also helped further constrain the possible interpretations of the target word.

**Word instruction in isolation.** In this condition, the students were required to pronounce each word without any illustration or contextual support from the story. Each word, chosen from the storybook and printed on a flash card, was shown to the students to be read aloud. Each student was also given a pack of word cards. The instruction began with the teacher showing the participants a flash card with one word printed on it. To emphasize both orthographic information and the mappings between orthographic and phonological information, the teacher read the word aloud and asked the students to
spell the word letter by letter. Additionally, to make the students get familiar with the sounds of each word, the teacher guided them to clap their hands per syllable, e.g., clap hands three times for the target word *noc-tur-nal* and pronounce the whole word for five times. After that, the teacher explained the meaning of the word by translating it into the students’ native language. Finally, the teacher played a word card game with the students. When the teacher said, “Show me [the target word],” the students had to find the word in their own pack of cards and show the word card to the teacher. At this moment, the teacher checked the students’ cards and provided prompt feedback if some of them failed to make a correct response. The procedure was repeated for the remaining target words. Each word took three minutes, five words for 15 minutes.

**Repeated reading.** Repeated reading served as a control condition in the present study. It took the same amount of time as the other two treatment conditions but involved no deliberate word instruction. The students read the whole story twice without further, direct instruction on the individual vocabulary items. The teacher provided prompt assistance as soon as the students encountered difficulty in reading the story by themselves.

**Grouping Measure**

Prior to the study, a standardized word recognition test (Hung, Huang, Chu, Liou, Lin, & Hsieh, 2006) was administered in order to obtain information about the participants’ baseline word recognition ability. The word recognition test was used to divide the participants into two proficiency groups, a higher-proficiency group and a
lower-proficiency group, to investigate if Chinese EFL learners with different English proficiency levels performed differentially on word learning in post-reading activities. Those whose standardized word recognition scores were in the top 33% of the 108 participants were grouped as the higher-proficiency learners, whereas those whose scores were in the bottom 33% were grouped as the lower-proficiency learners. The criterion for dividing the participants into two groups was purely practical: to obtain sufficient statistical power to detect potential differences in outcome measures. Thus, it should be noted that the division criterion was relative rather than absolute. Word recognition scores were used as an index of language proficiency because vocabulary knowledge is generally viewed as an indicator of prior knowledge (Sénéchal, Thomas, & Monker, 1995). Additionally, children who differ in prior knowledge of words also differ in their ability to acquire vocabulary from stories (Robbins & Ehri, 1994).

**Outcome Measures**

*Written vocabulary.* The participants were shown four pictures in a plate and were asked to choose the one that best matched a word printed on the left of plate, as illustrated in Figure 1. The pictures were not the ones selected from the storybooks. There were 10 items for each cluster of storybooks. The structure for testing was the same as that for the commonly used Peabody Picture Vocabulary Test (Dunn & Dunn, 1981). A plate of four pictures was created for each target word. One picture illustrated the target word. The other three were distractors, which were created based on two criteria. First, the distractors were of the same taxonomic category of the target word.
For example, the distractors of the target word “mittens” were earmuff, socks, and pants. Second, the target and its corresponding distractors illustrated words of the same grammatical category, objects for nouns or actions for verbs. See Figure 1 for an example of the test items.

![Figure 1](image)

**Figure 1**  
*An Example of Written Vocabulary Items for “Froggy Gets Dressed”*

*Spoken vocabulary.* The 10 target words from each cluster of storybooks were also tested in a spoken form. The procedure for the spoken vocabulary test was the same as that for the written vocabulary test. The only exception was that the target words were given in a spoken mode and that the words were not printed on the left of the picture plate (see Figure 2). The order of the written and the
spoken vocabulary tests was counterbalanced across the storybooks in each cluster.

<table>
<thead>
<tr>
<th>Corresponding pictures</th>
<th>Corresponding pictures</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>a</td>
</tr>
<tr>
<td>b</td>
<td>b</td>
</tr>
<tr>
<td>c</td>
<td>c</td>
</tr>
<tr>
<td>d</td>
<td>d</td>
</tr>
</tbody>
</table>

**Figure 2**

*An Example of Spoken Vocabulary Items for “Froggy Gets Dressed”*

*Reading comprehension.* The participants were given one sheet of five comprehension questions in order to make sure that they attended to the story content while listening to the story. Five questions were devised for each story. Some of the questions were factual (explicit), and some were inferential (implicit), which required the participants to combine text details with their own general knowledge to make inferences about the story. As the test was used to make sure that the students attended to the story content, it was not included in the statistical analyses.
Data Collection Procedure

In brief, the outcome measures took 15 minutes. It took ten minutes to complete the two receptive vocabulary tests. The order of the written and the spoken word recognition tests were counterbalanced across the storybooks in each cluster. In other words, the spoken word recognition test was administered after the written word recognition test for one story book but before the written word recognition test for the other story book in the same cluster. The remaining five minutes of the class period was devoted to the administration of one reading comprehension test.

RESULTS

There were two general treatments for the data in the current study. First, the data from the three clusters of storybooks were analyzed separately because these clusters of the stories were not made to be comparable in terms of difficulty. Analyzing the data separately for the three clusters of storybooks allowed us to see whether there were consistent patterns of results across different sets of storybooks. Second, given that the major interest of the study was in the effect of the post-reading activities, analyses were not conducted to compare performances between fifth graders and sixth graders in each cohort. The participants’ performance on the standardized word recognition test was initially analyzed by one-way ANOVA to make sure that there were no significant differences among the three cohorts of participants in general word recognition
skills prior to the study \( (F(2, 107) = .14, p > .05) \).

**The Effects of Post-Reading Word Instruction**

To examine which post-reading word instruction was effective in promoting word learning among EFL learners, the data obtained from the three post-reading activities were compared by one-way ANOVA for each cluster of storybooks, using the written and the spoken vocabulary scores as dependent variables. When there were significant differences in the outcome measures across the three post-reading activities, post-hoc comparisons were conducted. Specifically, the children’s performances on the two post-reading activities with word instruction (i.e., word instruction in isolation and word instruction in context) were compared with the performance on repeated reading. These two analyses would yield information regarding whether post-reading word instruction was effective in promoting word learning beyond repeated reading alone. The third post-hoc analysis compared the participants’ performance on the two post-reading activities with word instruction. This analysis allowed an examination of which post-reading word instruction was more effective in promoting word learning.

Table 2 presents a summary of the overall ANOVA results, along with the means and standard deviations of the scores from the written and the spoken vocabulary tests for each cluster of storybooks.
Table 2

Summary of the ANOVA Analyses of Outcome Measures

<table>
<thead>
<tr>
<th>Storybooks (Max = 10)</th>
<th>Context</th>
<th>Isolation</th>
<th>Repeated reading</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Written vocabulary</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>cluster 1</td>
<td>5.33</td>
<td>1.99</td>
<td>7.66</td>
<td>1.98</td>
</tr>
<tr>
<td>cluster 2</td>
<td>6.94</td>
<td>2.58</td>
<td>8.19</td>
<td>2.05</td>
</tr>
<tr>
<td>cluster 3</td>
<td>6.63</td>
<td>1.87</td>
<td>7.79</td>
<td>2.56</td>
</tr>
<tr>
<td>Spoken vocabulary</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>cluster 1</td>
<td>4.75</td>
<td>1.90</td>
<td>6.97</td>
<td>2.16</td>
</tr>
<tr>
<td>cluster 2</td>
<td>7.15</td>
<td>2.31</td>
<td>7.50</td>
<td>2.25</td>
</tr>
<tr>
<td>cluster 3</td>
<td>6.61</td>
<td>1.79</td>
<td>7.71</td>
<td>2.25</td>
</tr>
</tbody>
</table>

Note. * p < .05, *** p < .001

Figure 3 presents the overall pattern of the effects of post-reading activities on word learning measured by the written and spoken vocabulary tests for the three clusters of storybooks. As shown by Figure 3 and the results of the statistical analyses, except for the second cluster of storybooks, children who received isolated word instruction demonstrated better performance on the written vocabulary test beyond repeated reading alone. The favorable effect of isolated word instruction was even greater than word instruction in context. Similar patterns of results were obtained for the spoken vocabulary test. Word instruction in isolation yielded better performance on the spoken vocabulary test than repeated reading and word instruction in context. Unlike word instruction in isolation, word instruction in context did not consistently facilitate word learning, as shown by Table 3 and Figure 3. It even created an inferior effect on the written vocabulary test for the first cluster of storybooks.
Figure 3
Performances in Outcome Measures for the Three Clusters of Storybooks across the Three Post-Reading Activities

Table 3
Summary of the Post-hoc Comparisons of Outcome Measures

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Clusters</th>
<th>Post-reading activities</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>I and R</td>
</tr>
<tr>
<td>Written vocabulary</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>I &gt; R*</td>
<td>C &lt; R*</td>
</tr>
<tr>
<td>2</td>
<td>ns</td>
<td>ns</td>
</tr>
<tr>
<td>3</td>
<td>I &gt; R*</td>
<td>ns</td>
</tr>
<tr>
<td>Spoken vocabulary</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>I &gt; R*</td>
<td>ns</td>
</tr>
<tr>
<td>2</td>
<td>ns</td>
<td>ns</td>
</tr>
<tr>
<td>3</td>
<td>I &gt; R***</td>
<td>C &gt; R*</td>
</tr>
</tbody>
</table>

Note. C = instruction in context; I = instruction in isolation; R = repeated reading; ns = nonsignificant  
* $p < .05$, *** $p < .001$
Post-Reading Word Instruction for Students of Different Proficiency Levels

The next set of analyses was conducted to answer the second research question of whether young EFL learners with different proficiency levels responded differentially to different post-reading word instruction activities. The proficiency levels were determined by the participants’ performances on the standardized word recognition test taken at the beginning of the study. The participants with the scores at the highest 33% of the standardized word recognition test were designated as the higher-proficiency group ($n = 36; M = 89.2, SD = 7.7$) while those with the scores of lowest 33% as the lower-proficiency group ($n = 36; M = 24.9, SD = 14.8$). As the purpose of the analyses was to find which post-reading activity was particularly effective for students of a particular proficiency level rather than to identify between-group differences, one-way analyses of variance were used to compare the performance of the three post-reading activities for the higher-proficiency children separately from those for the lower-proficiency children. The dependent variables were the two outcome measures: written vocabulary and spoken vocabulary. The results of the ANOVA analyses are summarized in Table 4, along with the descriptive statistics of the outcome measures for the two proficiency groups. Table 5 summarizes the results of the post-hoc comparisons of the outcome measures across three post-reading activities for the two proficiency groups.
Table 4
Summary of the ANOVA Analyses by Proficiency Levels

<table>
<thead>
<tr>
<th>Storybooks</th>
<th>Context</th>
<th>Isolation</th>
<th>Repeated reading</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Max =10)</td>
<td>M</td>
<td>SD</td>
<td>M</td>
<td>SD</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Written vocabulary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cluster 1 Higher</td>
</tr>
<tr>
<td>Cluster 1 Lower</td>
</tr>
<tr>
<td>Cluster 2 Higher</td>
</tr>
<tr>
<td>Cluster 2 Lower</td>
</tr>
<tr>
<td>Cluster 3 Higher</td>
</tr>
<tr>
<td>Cluster 3 Lower</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Spoken vocabulary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cluster 1 Higher</td>
</tr>
<tr>
<td>Cluster 1 Lower</td>
</tr>
<tr>
<td>Cluster 2 Higher</td>
</tr>
<tr>
<td>Cluster 2 Lower</td>
</tr>
<tr>
<td>Cluster 3 Higher</td>
</tr>
<tr>
<td>Cluster 3 Lower</td>
</tr>
</tbody>
</table>

Note. * p < .05, *** p < .001
Table 5

Summary of the Post-hoc Comparisons by Proficiency Levels

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Clusters</th>
<th>Groups</th>
<th>Post-reading activities</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>I and R</td>
<td>C and R</td>
</tr>
<tr>
<td><strong>Written vocabulary</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Higher</td>
<td>I &gt; R***</td>
<td>ns</td>
</tr>
<tr>
<td>2</td>
<td>Higher</td>
<td>ns</td>
<td>ns</td>
</tr>
<tr>
<td>3</td>
<td>Higher</td>
<td>I &gt; R*</td>
<td>ns</td>
</tr>
<tr>
<td>1</td>
<td>Lower</td>
<td>ns</td>
<td>ns</td>
</tr>
<tr>
<td>2</td>
<td>Lower</td>
<td>ns</td>
<td>ns</td>
</tr>
<tr>
<td>3</td>
<td>Lower</td>
<td>I &gt; R*</td>
<td>C &gt; R*</td>
</tr>
<tr>
<td><strong>Spoken vocabulary</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Higher</td>
<td>I &gt; R***</td>
<td>ns</td>
</tr>
<tr>
<td>2</td>
<td>Higher</td>
<td>ns</td>
<td>ns</td>
</tr>
<tr>
<td>3</td>
<td>Higher</td>
<td>I &gt; R*</td>
<td>ns</td>
</tr>
<tr>
<td>1</td>
<td>Lower</td>
<td>ns</td>
<td>ns</td>
</tr>
<tr>
<td>2</td>
<td>Lower</td>
<td>ns</td>
<td>ns</td>
</tr>
<tr>
<td>3</td>
<td>Lower</td>
<td>I &gt; R*</td>
<td>C &gt; R*</td>
</tr>
</tbody>
</table>

*Note. C = instruction in context; I = instruction in isolation; R = repeated reading;  
ns = nonsignificant  
* p < .05, *** p < .001

Figure 4 presents the overall patterns of performances on written and spoken vocabulary across the two proficiency groups for the three clusters of storybooks. As shown by Figure 4 together with the results of statistical analyses, a general pattern of effects of post-reading activities emerged. In both written and spoken vocabulary, young EFL learners of higher proficiency demonstrated higher accuracy in the condition of isolated word instruction for all the clusters of storybooks except the second one. However, young
EFL learners of lower proficiency did not perform differently on the written or the spoken vocabulary tests with the three types of post-reading activities for the first and the second clusters of storybooks. They showed facilitative effects of word instruction in context and in isolation only for the third cluster of storybooks.

**Figure 4**

Performances in Outcome Measures in the Three Clusters of Storybooks across Three Post-Reading Activities for the Two Proficiency Groups
DISCUSSION AND CONCLUSION

The main purpose of the present study was to determine which post-reading activity facilitated English word learning more effectively among Chinese EFL learners. Recall that in the present study, the participants were told the same set of stories in the same format but were counterbalancedly exposed to three different post-reading activities across the three clusters of storybooks. Each child obtained two scores representing the number of the words he or she could recognize correctly (i.e., written and spoken vocabulary) after receiving a designated post-reading activity. They were also given a story comprehension test to make sure that they paid adequate attention to the story content.

Effect of Post-Reading Word Instruction

The results of the present study revealed that the three types of post-reading activities resulted in differential effects on English word learning among young EFL learners. The participants receiving word instruction in isolation performed significantly better than the controlled condition, i.e., repeated reading. The facilitative effect of word instruction in isolation was even evident when compared to word instruction in context. This study joins previous research (Blok, 1999; Brett et al., 1996; Huang, 2001; Lin, 2003; Nation, 2008; Tyan & Shen, 2003; Zimmerman, 1997) in demonstrating that direct and deliberate vocabulary instruction, where explicit attention is directed to isolated words, can yield greater positive effects on the retention of word learning than word instruction in context.
As indicated by Johnston (2000), learning words in isolation can be a way of quickly raising learners’ awareness of the particular words when learners subsequently meet those words in reading or listening. In line with Johnston’s suggestion, the facilitative effect of isolated word instruction in the present study was evident not only when the words were presented in the written form but also when they were presented in the spoken form, indicating that the beneficial effect of isolated word instruction was independent of input modality. Further, theoretical perspectives on word learning suggest that word retention is enhanced when learners isolate an individual word from context and process the word elaborately and focally (Prince, 1996). Also, Ehri and Wilce (1980) found that beginning readers trained to read words on flashcards (i.e., in isolation) demonstrated faster word learning and more complete speech sounds represented by letters, i.e., orthographic retention, than those trained in meaningful sentences. In other words, word learning in isolation requires learners to rely entirely upon formal aspects of the language (i.e., graphophonic cues in written language or phonological cues in spoken language), which provides a good opportunity for beginning EFL learners to process the constituent forms of the new words in depth, thereby increasing the odds of retention of the words in memory. In the present study, children had better performance on word learning when the supportive context offered by story texts was diminished or removed and when the young EFL learners were forced to attend to the visual characteristics of the target words by using word cards and to the phonological details of the target words by aural-oral practice.

In contrast, the results of the present study revealed an
incongruous facilitative effect of word instruction in context. When the effect of word learning in context was compared with repeated reading, there was generally no superiority effect of word instruction in context. In the first cluster of storybooks, performance on written vocabulary following word instruction in context was even worse than that following repeated reading. The nil facilitating effect of word instruction in context might be an artifact of the experimental design of the present study. The processing for unscrambling the sentences according to the story line might be too heavy and thus might have cancelled out the potential facilitative effect of contextual word instruction in the present study. Recall that in the present study, the intention of using sentence strips as one of the post-reading word instruction activities was to reduce the distracting effect of the illustrations in the storybooks and increase the possibility of focusing on linguistic cues in learning new words. It was hoped by encountering the target words in context and by retrieving the story line to rearrange the sentences, the students were given opportunities to elaborate and consolidate the meanings of the words in multiple sentential contexts. It was possible that many of the children’s mental resources were devoted to reordering the sentences, which might have overloaded the participants and thus reduced the potential beneficial effect of word instruction in context.

On the other hand, the nil favorable effect might also point to the limitations of contextual word instruction in an EFL context. For young EFL learners who have not mastered the ability to quickly and thoroughly process the orthographic and phonological representations of a word, learning words in context could be a complicated process.
According to Adams (1990), it is easy to use context to quickly identify the unfamiliar word, but it is not easy for the learner to pay attention to the spelling of the word as the form of the word becomes obscure when it is embedded in the text. Without adequate attention to intra-word orthographic or phonological details, it is difficult for the participants to develop the visual familiarity or acoustic familiarity of the unfamiliar words. The distracting effect of context could be more devastating in beginning EFL learners as they are not sensitive to intra-word orthographic structure (Koda, 1999) and are not good at segmenting words from a string of coarticulated sounds, resulting in poor association of acceptable orthographic letter strings with the correct pronunciation. Moreover, young EFL learners, lacking the necessary semantic and syntactic analysis skills, are not accustomed to using the constraining properties of the sentence or the story context to rough out the meaning of an unknown word and to refine the meaning of the word when it is subsequently encountered.

**The Varying Effects for Students of Different Proficiencies**

In the present study, the effects of post-reading activities for students of different proficiency levels varied. For higher-proficiency learners, word instruction in isolation was shown to be particularly effective, whereas for lower-proficiency learners, there did not seem to be a post-reading activity that was more effective than the others.

Consistent with previous work (Lesgold et al., 1985), higher-proficiency learners who received word learning in isolation identified single words quickly. Higher-proficiency learners, with greater knowledge of word forms and better decoding skills, were
more able to distribute their greater degree of attention between form and meaning effectively and were more likely to encode the relevant orthographic and phonological representations when learning new words in isolation. This finding is similar to that of Johnston (2000), who found that word learning through a word bank was most effective for all three achievement groups, particularly for the high group, where students learned approximately five times more words than the lowest group and twice as many as the middle group. However, this finding was not anticipated in light of previous research that only higher-proficiency learners could benefit from the contextual cues for learning new words (e.g., Goerss et al., 1999; Grabe & Stoller, 2002; Kondo-Brown, 2006; McKeown, 1985; Nagy et al., 1985; Pardo, 2004). It should be noted that the results from the previous studies support only the idea that word reading or word recognition performance is better in context. The results did not lend support to the idea that word learning can be enhanced in context.

As for the lower-proficiency learners in the present study, none of the three post-reading activities, either involving deliberate word instruction or not, was more effective than the others in promoting word learning. It was possible that the lower-proficiency learners had poorly developed decoding skills and they might thus have failed to attend to a word’s orthographic and phonological representations. Therefore, they did not properly encode the information required to form a lasting representation (Shefelbine, 1990).

Some scholars have argued that lower-proficiency learners rely more on contextual cues than higher-proficiency learners because of their inability to use sound-spelling relationships to decode words
In other words, lower-proficiency learners, who have weak decoding skills, are more successful when decoding words in context (Alexander, 1998; Nicholson, 1991; Nicholson, Bailey, & McArthur, 1991). Then, why did word instruction in context not yield greater beneficial effect in word learning in the present study? One possible reason might be that there were too many unfamiliar words in the sentential contexts, which might have distracted lower achievers’ attention from the target words. Another possibility was that the lower-proficiency learners, with general poor knowledge of the target language, could not derive or construct a correct definition of an unknown word from context.

Though the failure to identify a post-reading activity particularly effective for learners of lower proficiency is disappointing, it is important to keep in mind that learners of lower proficiency did show some evidence of word learning. In the two outcome measures of each storybook, there were four alternatives for each test item, so learners had at least 25% to score correctly by guessing. The lower-proficiency learners in the present study performed above the chance level in the two outcome measures, indicating that they still could learn new words after receiving the three post-reading activities in this study (all ps < .001) in spite of the nonsignificant main effect of post-reading activities on the two outcome measures.

In summary, the present study showed that word instruction in isolation after reading a story was effective in promoting word learning among young EFL learners beyond repeatedly reading the same story. The effect of isolated word instruction was even greater than word instruction in context, especially for students of higher
proficiency. Though word instruction in context was not as effective in facilitating word learning as word instruction in isolation, the results should not be taken as evidence that reading or learning words in context is not beneficial to vocabulary acquisition over the course of language development. The results only support that word instruction in isolation after reading is more effective than word instruction in context for young EFL learners.

Pedagogical Implications

Based on the major findings of the study, some pedagogical implications are indicated. First, it has been pointed out that vocabulary lists can be an effective way to quickly learn word-pair translations (Nation, 1990). This view is supported by the results of the present study where young EFL learners were more apt to learn new words in post-reading word instruction in isolation. Teachers and parents should be encouraged to point out the target words after reading the entire text and have children pay attention to the graphophonic cues and phonological cues of the print.

Second, it is suggested that lower-proficiency students learn English from the basics, such as phonics instruction, which will prepare the students to develop the ability to map sounds onto spelling. This ability enables readers to decode words (Stanovich & West, 1989) and make an improvement in word learning. Therefore, it is recommended that teachers integrate phonics instruction into early reading programs to facilitate young EFL learners’ development of word learning.

Finally, the present study adds to the growing body of evidence
that young EFL learners can learn new words with explicit vocabulary instruction (Elley, 1989; Hulstijn et al., 1996; Zimmerman, 1997). Teachers and parents should be encouraged to enhance children’s word learning by providing rich explanations of new vocabulary in all books (Collins, 2005). Thus, direct vocabulary instruction needs to be an integral part of post-reading activities that actively engage children’s direct attention to novel words.

**Limitations of the Present Study**

This study had several limitations. The first limitation concerns the span of reading instruction. The study was conducted during the short and intensive class period. Thus, the participants were required to finish storybook reading, post-reading activities, and immediate outcome measures within a forty-minute class period under pressure, which might have undermined the children’s intrinsic motivation in reading English storybooks and might have reduced the potential beneficial effect of story reading and post-reading activities. Future research could offer reading instruction in the first class, and then have post-reading activities in another class, which might lead to greater insights into the effect of post-reading activities on young EFL learners’ word learning.

The second limitation concerns the way the outcome measures were administered. The test items in the written and spoken outcome measures were isolated target words, and the results revealed that there was a positive effect of post-reading word instruction in isolation on young EFL learners’ word learning. However, it had been found that children demonstrated excellent performance when the congruency between training and outcome measures was high.
(Martin-Chang et al., 2007). A good avenue for the outcome measure in the future research would be the one that includes testing vocabulary knowledge in context to assess the effect of word learning in context more properly.

REFERENCES


Lin, H. L. (2003). Integrating English children’s picture books with


1418-1428.


**ABOUT THE AUTHORS**

Chia-Hui Cindy Shen received her Master’s Degree in TEFL from the Department of English Instruction at Taipei Municipal University of Education. She is currently an English teacher at Taipei
Municipal Fuan Elementary School. Her research interests include EFL teaching and learning, children’s literature, and reading strategies. This paper was advised by the second author.

Chieh-Fang Hu received her Ph.D. in Child Language from University of Kansas. She is currently a professor of Department of English Instruction at Taipei Municipal University of Education. Her research interests include psycholinguistics, child language development, and investigating individual differences in written and spoken language development and the interface between the two. Her current research addresses how brief exposure to L2 phonological patterns affects the tuning of phonological awareness and the extraction of morphological patterns from the L2 input.
閱讀後教學活動對臺灣學童學習單字的影響

摘要
許多教學者認為透過閱讀可以無意間促進單字學習，所以在教學現場就很少或不特別做單字的直接教學。本研究使用英語繪本來探討三種閱讀後教學活動對臺灣學童學習英文單字的成效，此三種閱讀後教學活動分別為：在句型情境中教單字「word instruction in context」、用單一詞彙來教單字「word instruction in isolation」以及重複閱讀「repeated reading」，最後一種閱讀後教學活動也是本研究的控制組。研究對象是臺北市某國小五年級三個班級和六年級三個班級的學童。研究方法是五、六年級共三大組的學生交替接受三種閱讀後教學活動，並以後測來評量單字學習成效。研究結果顯示，「用單一詞彙來教單字」的閱讀後教學活動比透過「在句型情境中教單字」和「重複閱讀」來學習單字有幫助。除此之外，對於語言能力較好的國小學童，他們在接受「用單一詞彙來教單字」直接教學的表現優於另外兩個閱讀後教學活動；對於語言能力比較弱的國小學童，本研究發現他們在接受這三種閱讀後教學活動之後，在閱讀認字測驗和聽力認字測驗的單字學習表現並沒有顯著差異。

關鍵詞：閱讀後教學活動 單字教學 臺灣學童學習單字之能力