

# Investigating Effective Practice Methods for Memorizing English Spelling Among Japanese Junior High School Learners: The Beneficial Use of the First 15 Minutes in the Classroom

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**Abstract** *Without doubt, literacy building is one of the main purposes of language education. When learning English, beginners find it difficult to connect English spellings to sound (i.e., pronunciation). Some previous studies have focused on a learning methodology for understanding sound-letter correspondences; however, here in Japan, there are few studies which focus on such methodology. In order to shed light on this language learning methodology, this study focuses on effective practice methods for learning English spelling. The researcher compared three practice methods: “pronounce,” “write,” “pronounce and write”. Sixty-seven junior high learners (seventh grade learners) participated using words with a higher or lower number of letter strings. Fifteen words from Gakken’s (2007) corpus data were used in the current study. The analysis compared practice methods, and the results showed the “pronounce and write” method to be the most effective for words containing 12 letters.*

**Key Words:** spelling, sound-letter correspondences, language learning methodology

**Interdisciplinary Fields:** Second Language Acquisition (SLA), Pronunciation Learning, Literacy Building

## 1. Introduction

When we start to learn another language, we need to understand various aspects of that target language. The relationship between English spellings and sounds (i.e., pronunciation) is very difficult for learners of English to acquire because of the complicated orthographic system. According to the course of study at junior high schools in Japan, the initial purpose in *reading* is “to distinguish between different letters and symbols and to learn to read correctly,” and the initial purpose in *writing* is “to distinguish between different letters and symbols and to learn to write correct-

ly with due attention to the spaces between words, etc.” (Japanese Ministry of Education, Culture, Sports, Science and Technology, 2003). It seems that these two learning goals for reading and writing are very simple; however, many learners cannot acquire these rudimentary skills even though they are already in high school. Spelling and reading are important aspects of literacy; therefore, we cannot disregard the importance of these skills in language competence. Mori (2007) pointed out that few studies here in Japan have focused on the connection between reading and spelling. We need to shed light on the process of developing literacy to clarify the mechanics by which it occurs.

## 2. Research Background

### 2.1 The Purposes of Literacy Building

Literacy building is one of the main purposes of language education. Written products, such as books, newspapers, magazines, and letters, among others, enable writers and readers to communicate with each other. In general, there are three types of writing systems: ideographic, syllabic, and alphabetic (Taylor, 1981). In the ideographic writing system, there are no particular correspondences between sounds and symbols. This writing system is strongly related to a lexical or grammatical approach (i.e., morphemic), which means there are no direct representations of the phonological or phonetic shapes of the morpheme. Chinese is a typical example of sound and symbol. The symbol, in this case, represents a syllable. Japanese belongs partly to this syllabic writing system (e.g., *kana* is syllabic). In an alphabetic writing system, individual symbols or letters represent individual sounds. This does not mean that there must be a one-to-one correspondence between sounds and letters, but the correspondence is systematic. It can be said that learning how to correct sounds (i.e., speech product) with letters (i.e., alphabetic sequences) is the first step in understanding this system. English is a typical type of alphabetic writing system.

Understanding writing systems or their mechanics is an important aspect of learning and understanding the written product of the target language. If the learners have a different writing system background, the first step in teaching reading and writing means essentially instructing the learners in mechanics. According to Olshtain (1991), ‘mechanics’ refers to “letter recognition, letter discrimination, word recognition and basic rules of spelling, punctuation, and capitalization, as well as recognition of whole sentences and paragraphs” (p. 208).

Alphabetic writing uses the Roman alphabet which contains only 26 letters. In addition, the range of pronunciation is rather narrow in the

alphabetic writing system. Many believe that English spelling rules are complicated or chaotic, but this is not always true. Thus, English writing systems are not so complicated if we focus carefully on their principles (e.g., Taylor, 1981; Olshtain, 1991). Olshtain (1991) indicated that some difficulties in understanding English consonants and English vowels arise because of the difficulties associated with sound-spelling correspondences, but Olshtain also indicated that sound-letter correspondences follow specific rules.

In the early stages of learning, learners should start by learning to recognize the letters of the alphabet if the learners are from countries that do not use alphabets in their orthography. The first step in learning alphabet letters is to recognize each letter as a letter. Some tasks can help to improve learners' knowledge of mechanics in the writing system; i.e., matching tasks, writing types of recognition tasks in the early stages of reading and writing. Practicing writing starts with copying letters. From the processes discussed above, learners gradually acquire writing skills.

## **2.2 Possible Effective Practice Methods for Learning English Spellings**

### **2.2.1 The Effects of Reading (Pronouncing) a Word**

It is widely believed that phonological awareness, spelling, and reading (i.e., pronunciation) are closely related. Phonological awareness predicts later reading skills and is the basic skill for understanding phoneme-grapheme correspondences (Harley, 2001; Yopp & Yopp, 2000). English-speaking children start to learn words in their first language with its sounds, and they gradually remember their meanings. After connecting sounds and meanings, they find that there are shapes which represent the words in written material. At this stage, learners do not have any knowledge of letters. They first practice how to move their pens to write each of the 26 letters and begin to connect them with their sounds. The term 'sounds' includes an understanding of alphabetic names and pronunciations. Drake and Ehri (1984) indicated that connecting sounds and spelling through reading was an effective method for learning English spellings.

### **2.2.2 The Effects of Writing (Copying) a Word**

The first step in learning the letters of the alphabet is to recognize each letter (Blaiklock, 2004). As mentioned above, in the early stages of reading and writing, matching tasks, writing tasks and meaningful sound-spelling correspondence practice tasks can improve learners' knowledge of mechanics (Abbott, 1979; Olshtain, 1991). Copying letters is a good way to practice writing. Letter recognition is also an important skill for learning English. Copying letters can definitely enhance learners' spelling ability.

### 2.3 The Importance of Phonological Awareness

Celce-Murcia, Brinton, and Goodwin (2007) pointed out that an important way of helping ESL/EFL learners to understand the mechanics of English spelling is to teach the relationships between phonology and orthography. Thus, teaching (a) how to pronounce a word with spelling and (b) how to find plausible spellings from sounds is of major importance. In English-speaking countries, the importance of phonological awareness is widely discussed. In English language, it is natural to focus on the relationships between sounds and letters. There are only 26 letters in the alphabet, which means that the connections between sounds and letters are extremely strong (Taylor, 1981). In English-speaking countries, improving learners' phonological sensitivity is one of the most important aspects of literacy. Some researchers have studied how to assess phonological (or phonemic) awareness. These assessments relate to the recognition of words' pronunciation and the ability to analyze contents of sounds. Yopp (1988) determined the reliability and validity of the phonemic awareness tests. Table 1 below shows Yopp's summary of phonemic awareness tasks.

**Table 1 Yopp's (1988) Phonemic Awareness Tasks (cited in Harley, 2001)**

sound-to-word matching	Is there a/f/in "calf"?
word-to-word matching	Do "pen" and "pipe" begin the same?
recognition of rhyme	Does "sun" rhyme with "run"?
isolating segmentation	What is the first sound in "rose"?
phoneme segmentation	What sounds do you hear in "hot"?
phoneme counting	How many sounds do you hear in "cake"?
phoneme blending	Combine these sounds: /k//a//t/
phoneme deletion	What would be left if you took/t/out of "stand"?
specifying deleted phoneme	What sound do you hear in "meat" that's missing in "eat"?
phoneme reversal	Say "as" with the first sound last and last sound first.

Some researchers have pointed out that particular instruction is needed to develop learners' phonological awareness (e.g., Bruck & Treiman, 1990; Harley, 2001; Stanovich, Cunningham & Cramer, 1984; Stuart & Masterson, 1992;). However, it seems that there are no particular methods for improving learners' phonological sensitivity or awareness in EFL studies. When learning about sound-letter correspondences, EFL learners usually require prior experience in order to understand the connections. Specific practice should be developed to improve one's sensitivity to sound-letter correspondences.

### 2.4 Purposes of the Present Study

This study focused on the importance of sound-letter correspondences considering three methods for practicing English spellings. First, the "pro-

nounce" method (henceforth P) involved simply pronouncing the target words several times, looking at the printed words and practicing their pronunciation without writing. The second method, "write" (henceforth W), involved writing and copying the letter sequence of a word as many times as possible. In order to eliminate the effects of the sounds when remembering letters, practicing the pronunciation should not be allowed in this method. The third method, the "pronounce and write" (henceforth PW) method, involved practicing target words using both P and W. In junior high school, many teachers utilize spelling tests as a checking function for learners' at the very beginner level in writing. However, the results of the spelling tests only tell us whether learners' answers were correct or not and we cannot understand their learning process through the results. To perceive the circumstances of the learners' learning process, and to advance an effective learning method will be much more beneficial for exploring literacy education in the EFL classroom. In fact, many beginning learners of English are not aware of what is the effective way to acquire another language. Above all, the following two questions were considered in this study:

RQ1: Do Japanese EFL learners focus on methods for improving their spelling ability?

RQ2: Which method is the most effective in learning and retaining English spellings among the three methods?

### 3. Methods

#### 3.1 Participants

The number of the participants was 111 at the beginning of the study. Participants who could not attend all sessions were excluded from the analysis. Ultimately, the total number of participants included 67 learners from a junior high school in Japan aged 13 to 14 years. In addition, there were no returnee students (i.e., learners who had recently come home from abroad). The participants belonged to different classes, which were assumed to be homogeneous in terms of English proficiency. These learners were divided into three groups (i.e., upper, middle, and lower) according to their score on the phonological awareness test (Cronbach's  $\alpha = .64$ ). The phonological awareness test contained 13 items assessing learners' previous knowledge of phonological aspects of English words. The test was able to distinguish three groups even though the reliability was not high due to the small number of items. The items used in the test were adopted from a workbook for junior high school learners (Bunri, 2000). Some items were excluded from the test to enhance its reliability. The number of participants

was 18 in the upper group, 39 in the middle, and 10 in the lower. One-way analysis of variance (ANOVA) showed significant differences among the three groups ( $F(2, 64) = 125.79, p < .01$ ). The tukey post-hoc test showed that all three groups were significantly different from each other at the .01 level. Learners participated in the study for over five weeks. Detailed explanations of the procedures and the post-tests (i.e., immediate and delayed) are described below.

### 3.2 Materials and Design

#### 3.2.1 Pre-Questionnaire and Post-Questionnaire

The pre-questionnaires and post-questionnaires were prepared to investigate actual conditions related to learners' interest in practicing English spellings. Some items asked about the three practice methods discussed in the previous section. The pre-questionnaires consisted mainly of two questions:

- (a) What kind of practice methods do you use to remember English spellings?
- (b) Which method do you think is the most effective? Choose one of the three following methods: pronounce, write, or pronounce and write.

The first question aimed to assess learners' practice methods, and the second question aimed to assess their first impressions of the three methods before starting the treatment sessions. After choosing one method that they considered effective, they needed to answer why they thought it would be effective.

The post-questionnaires included some of the same questions as the pre-questionnaires:

- (c) Choose one method that you thought would be the most effective for learning English spellings.
- (d) Choose one method that you considered the most ineffective of the three.

The post-questionnaires also asked which methods seemed effective, but this time, after the completion of actual treatment sessions. One question asked about ineffective methods of practicing English spellings. All three of the methods have effective aspects, which are mentioned above; however, asking about ineffective methods helped to reveal what we needed to focus on during English spelling practice.

#### 3.2.2 Target Words for the Present Study

The words were chosen from 1,850 words from corpus data collected from high school entrance exams over the past five years (2001-2006), which were edited by Gakken (Gakken, 2007). All 1,850 words were categorized

into 5 levels based on the frequency with which they appeared in the entrance exams. Overall, 589 most frequently appearing words formed a group. Finally, 15 words were carefully chosen from the highest-level group, forming the basis of word length and frequency in the present study. To assess effective and ineffective methods, participants were asked to practice words utilizing all three methods. We then used repeated measures design to compare these methods. Consequently, target words were carefully sorted to fit into one of the three methods. Table 2 lists the words by each method.

**Table 2 Target Words across Three Methods**

Length	Pronounce	Write	Pronounce and Write
12 letters	neighborhood	photographer	handkerchief
11 letters	underground	independent	fortunately
10 letters	difficulty	surprising	collection
9 letters	challenge	spaghetti	ambulance
7-8 letters	volcano	aquarium	dinosaur

Note. Word length means the number of the letter strings in each word.

### 3.3 Training Sessions

Before starting the training sessions, all participants were asked to answer whether they knew the meanings of the words. The results indicated that they did not know the words' meanings. The participants learned the spellings of 15 English words by using the proposed three self-practice methods. In the P method, learners simply pronounced English words several times without any writing. In the W method, learners simply wrote the words several times, but they were not allowed to pronounce the words. In the PW method, learners learned English spellings by both writing and pronouncing the words at the same time. The details of each self-practice method are described as follows.

**Pronounce:** In the P method, each learner was given five words on a worksheet. They were instructed to check whether they knew the words or not in order to eliminate from the experiment those words that learners already knew. They had 20 seconds to check the words. Then, the researcher briefly explained the word's meanings in Japanese and pronounced each. The researcher told learners that they would not have to memorize the word meanings. In this method, learners were required to pronounce the words. The researcher expected them to pronounce them incorrectly; therefore, to avoid this problem, the author pronounced each word about 20 times within one minute and told learners to repeat. After practicing each word for one minute, the learners took a spelling test. After they finished practicing all five words and completed the immediate post-

test, they checked their answers to see their mistakes and correct them. It took about 15 minutes for learners to complete the task from start to finish.

**Write:** In the W method, each learner was given another five words on a worksheet. They had 20 seconds to check whether they knew the words or not. Then, the researcher briefly explained the word's meanings in Japanese and pronounced each. As was the case with the P method, the researcher told learners that they would not have to memorize the word's meanings. In method W, learners were required to write the words as many times as they could. As mentioned above, pronouncing the words was not allowed. After one minute of practicing, learners took a spelling test. After learners finished practicing all five words and completed the immediate post-test, they checked their answers to see their mistakes. It took learners about 15 minutes to complete the task from start to finish.

**Pronounce and Write:** In the PW method, learners were given another five words on a worksheet and were instructed to check whether they knew the words or not in order to eliminate any words that they already knew. They had 20 seconds to check the words. Then the researcher briefly explained their meanings in Japanese and pronounced each one. Again, learners did not have to memorize the word's meanings. In the PW method, learners were required to practice both pronouncing and writing the words. As with the P method, the researcher pronounced each word 10 times to assure that learners would pronounce words correctly. Learners took a spelling test after one minute of practicing. After learners finished practicing all five words and completed the immediate post-test, they checked answers to see whether they made mistakes in the test. It also took learners about 15 minutes to complete the task from start to finish.

In the P and PW methods, learners could not repeat the correct pronunciations of the words by themselves, at least in some instances. Thus, the researcher had to repeat those words' pronunciation with the learners during the practicing activity.

### 3.4 Experimental Procedure

Figure 1 summarizes the procedure of the current study's experiment. The learning phases were conducted over a 5-week span. In the first session, the participants completed pre-questionnaires and simplified versions of the phonological awareness test. The contents of the pre-questionnaires were described in section 3.2.1. In the second, third, and fourth sessions, participants learned 15 target words applying the three learning methods. Because of the repeated-measures design, learning methods were given to participants using a counter-balance method.

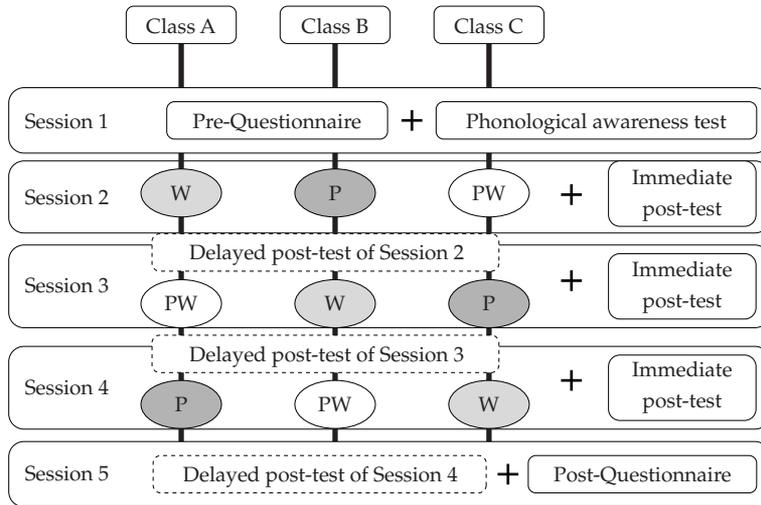


Figure 1. Experimental procedure.

## 4. Results and Discussion

### 4.1 Pre-Questionnaires

The first question in the pre-questionnaires was aimed at assessing learners' own methods for practicing English spellings with free description. Most of them indicated that they write a lot to remember the letter ordering. Some learners answered that they try to remember English spellings using their own methods. It was interesting to note that some learners used original methods closely related to *Romaji* or *katakana*.

Unfortunately, none of them wrote that they practice the pronunciations of the words. It is more than probable that they do not focus on the words' pronunciations during spelling practice or they do not know how to pronounce the target words.

The second question was designed to identify learners' impressions of the three methods used in this study based on previous studies: pronounce-only (P), write-only (W), and pronounce and write (PW). Four percent (4%) of learners chose P, 38% chose W, and 58% chose PW as the most effective method.

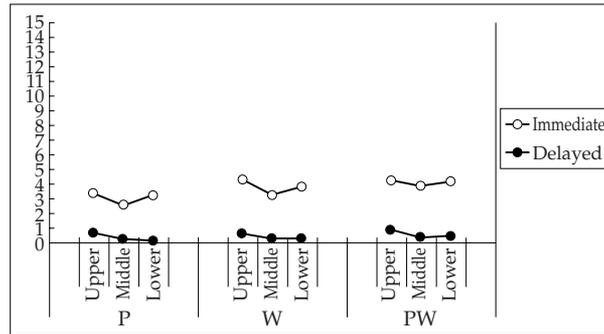
Although learners did not write about pronunciation practice in the first question of the pre-questionnaires, they chose PW as the most effective method.

### 4.2 Comparisons of Three Factors: Group, Method, Time

A three-way ANOVA was used to examine the relationships among the three factors: group (i.e., upper, middle, and lower), method (i.e., P, W,

**Table 3** Descriptive Statistics of Group, Method, and Time

Method	Time	Upper ( <i>n</i> = 18)		Middle ( <i>n</i> = 39)		Lower ( <i>n</i> = 10)		Total ( <i>N</i> = 67)	
		<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
P	Immediate	3.39	1.46	2.64	1.42	3.20	1.69	2.93	1.49
	Delayed	0.72	1.23	0.28	0.86	0.20	0.42	0.39	0.94
W	Immediate	4.33	1.19	3.31	1.62	3.80	1.14	3.66	1.50
	Delayed	0.67	1.08	0.31	0.66	0.30	0.67	0.40	0.80
PW	Immediate	4.28	1.27	3.90	1.37	4.20	1.32	4.04	1.33
	Delayed	0.89	1.02	0.36	0.54	0.50	0.71	0.52	0.75

**Figure 2.** The mean scores of group, method, and time.

and PW), and time of the post-tests (i.e., immediate and delayed). Table 3 shows the descriptive statistics for group, method, and time. Figure 2 shows the mean scores for each variable: group, method, and time.

All effects are reported as significant at  $p < .05$ . The second-order interaction effect (i.e., group  $\times$  method  $\times$  time) was not significant,  $F(2.32, 59.64) = 1.246, p = .295, \eta^2 = .002$ . There was no significant first-order interaction effect between group and time,  $F(2, 64) = 0.745, p = .479, \eta^2 = .002$ . In addition, there was also no significant first-order interaction effect between group and method,  $F(3.68, 117.77) = 0.322, p = .848, \eta^2 = .001$ . The main effect of group was not significant,  $F(2, 64) = 3.074, p = .053, \eta^2 = .019$ . There was a significant first-order interaction effect between method and time,  $F(1.95, 124.93) = 11.416, p = .000, \eta^2 = .008$ . The main effects of method and time were found to be significant (method:  $F(1.84, 117.77) = 17.010, p = .000, \eta^2 = .014$ ; time:  $F(1, 64) = 387.638, p = .000, \eta^2 = .569$ ). Figure 3 shows the interaction between method and time.

As can be seen from Figure 3, methods W and PW seem to have similar dimensions; however, we need to clarify that the difference between these two methods is statistically significant. Additionally, the immediate post-test and the delayed post-test scores are clearly different. As mentioned above, there was a significant interaction effect between method and time. Thus, one-way repeated-measures ANOVA was conducted for three meth-

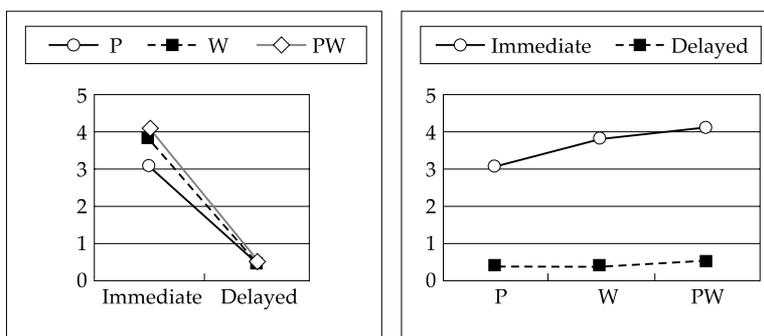


Figure 3. The interaction effect between method and time.

ods for immediate and delayed post-test trials, and a t-test was conducted as well, comparing time to the three methods.

For the immediate post-test, there were significant differences among the three methods: P, W, and PW,  $F(2, 132) = 29.345, p = .000, \eta^2 = .308$ . Method P had significantly lower score compared to the other two methods W ( $p = .000$ ) and PW ( $p = .000$ ). In addition, method W performed significantly worse compared to PW ( $p = .017$ ). For the delayed post-test, there were no significant differences among the three methods,  $F(1.89, 121.28) = 1.286, p = .279, \eta^2 = .019$ .

To compare the immediate and delayed post-test scores, a two-tailed t-test was conducted. For the three methods, the immediate and the delayed post-tests were found to be significantly different from each other: (P:  $t(66) = 14.329, p = .000, r = .87$ ; W:  $t(66) = 17.988, p = .000, r = .91$ ; PW:  $t(66) = 23.575, p = .000, r = .95$ ). For the immediate post-test, it seemed that the PW method is the most effective; however, there were no statistical differences among the three methods in the delayed post-test condition. Further analysis is needed to confirm these results. As mentioned above, every method has five levels of word length. Thus, it is dangerous to conclude that method PW is the most effective method for learning English spellings because in the previous analysis, word length was not considered. Thus, the following question arose about the relationships between word length and the most effective method: "Do any of these three methods affect learning English spellings regardless of word length?"

#### 4.3 Effects of Word Length

To answer the above question, a three-way ANOVA was planned to examine the relationships among the three factors: method (i.e., P, W, and PW), length (i.e., 12 letters, 11 letters, 10 letters, 9 letters, and 7-8 letters), and time of the post-tests (i.e., immediate and delayed). Table 4 shows the descriptive statistics for each variable: method, length, and time.

**Table 4** Descriptive Statistics of Method, Length, and Time

Method	Length	Immediate ( <i>N</i> = 67)		Delayed ( <i>N</i> = 67)	
		<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
P	12 letters	0.31	0.48	0.01	0.12
	11 letters	0.43	0.45	0.07	0.26
	10 letters	0.50	0.50	0.03	0.17
	9 letters	0.79	0.41	0.16	0.37
	7-8 letters	0.88	0.33	0.10	0.31
W	12 letters	0.55	0.50	0.01	0.12
	11 letters	0.81	0.40	0.19	0.40
	10 letters	0.76	0.43	0.00	0.00
	9 letters	0.78	0.42	0.06	0.24
	7-8 letters	0.76	0.43	0.13	0.34
PW	12 letters	0.82	0.39	0.37	0.49
	11 letters	0.75	0.44	0.01	0.12
	10 letters	0.84	0.37	0.09	0.29
	9 letters	0.78	0.42	0.01	0.12
	7-8 letters	0.87	0.34	0.03	0.17

As can be seen from Table 4, the standard deviation of method W with 10 letters was .00, which indicates a floor effect. The delayed post-test was conducted one week after the initial practice of the target words' spellings. The sessions for practicing English spellings were only about 15 minutes each, including immediate post-tests, which might not be enough time for learners to remember the spellings of the target words. It seems, however, that word length seems to have some kind of effect on practicing English spellings. In this regard, further analysis was conducted with the results of the immediate post-tests. Two-way repeated-measures ANOVA for method x length for the immediate post-test were conducted.

All effects are reported as significant at  $p < .05$ . There was a significant interaction effect between method and length,  $F(8, 528) = 11.155, p = .000, \eta^2 = .069$ . The main effect of method and length was also found to be significant: (method:  $F(2, 132) = 29.345, p = .000, \eta^2 = .060$ ; length:  $F(4, 264) = 15.431, p = .000, \eta^2 = .063$ ). Figure 4 shows the interaction effect between method and time. According to Figure 4, it seems that the PW method has a stable pattern in the immediate post-test. In addition, the W method also has a stable dimension compared to the P method.

One-way repeated-measures ANOVA was used to examine the significant differences between each method and each length of word in more detail. Comparing the three methods with different letter lengths, the results revealed significant differences among the three methods with 12 letters:  $F(2, 132) = 35.561, p = .000, \eta^2 = .120$ . Method PW performed significantly better compared to method P ( $p = .000$ ) and W ( $p = .000$ ). Method W

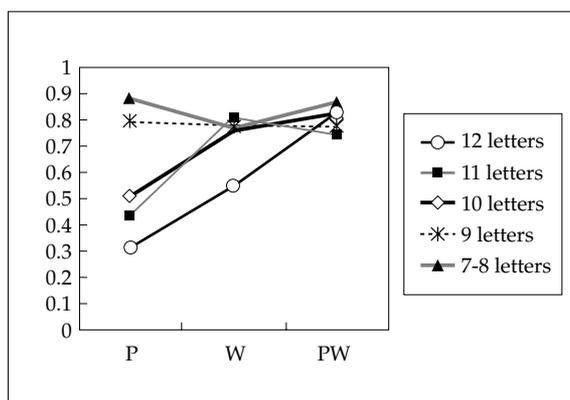
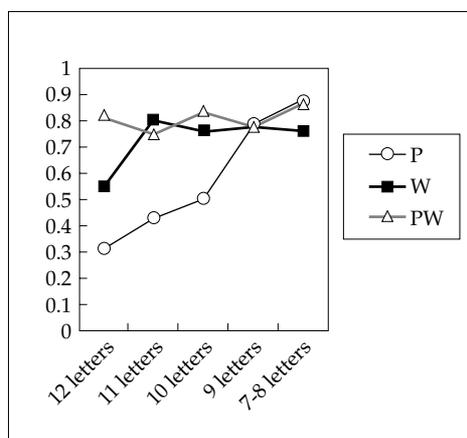


Figure 4. The interaction between method and length in the immediate post-test.

also performed significantly higher compared to method P ( $p = .000$ ). There were also significant differences among the three methods with 11 letters:  $F(1.81, 119.76) = 18.424, p = .000, \eta^2 = .050$ . However, there were no significant differences between method PW and method W ( $p = .865$ ). Method PW performed significantly better compared to method P ( $p = .000$ ), and method W performed also significantly better compared to method P ( $p = .000$ ). Significant differences were also found between methods with 10 letters:  $F(1.67, 110.71) = 17.056, p = .000, \eta^2 = .040$ . However, no significant differences were found between method PW and method W ( $p = .287$ ). Method PW outperformed method P ( $p = .000$ ), and method W outperformed method P ( $p = .000$ ). There were no significant differences among the three methods with 9 letters ( $F(2, 132) = .047, p = .954, \eta^2 = .000$ ) or with 7-8 letters ( $F(2, 132) = 2.787, p = .065, \eta^2 = .000$ ).

In sum, method PW was effective for 12 letters, and it seems that method PW is a stable learning method for memorizing words containing

long string of letters. Method W followed method PW. Finally, method P was not so effective and stable. It can be said that pronounce only method (i.e., method P) was not effective for learning letter sequences correctly.

Comparing the differences among letter lengths across three practicing methods, one-way repeated-measures ANOVA was used. There were significant differences among letter length for method P:  $F(4, 264) = 28.270, p = .000, \eta^2 = .090$ . There was no significant difference between 7-letter and 9-letter words ( $p = 1.000$ ). However, there were significant differences between 7-letter and 10-letter words ( $p = .000$ ), 7-letter and 11-letter words ( $p = .000$ ), and 7-letter and 12-letter words ( $p = .000$ ). The difference between 10-letter and 11-letter words was not significant ( $p = 1.000$ ) as was the difference between 10-letter and 12-letter words ( $p = .058$ ), and also between 11-letter and 12-letter words ( $p = .734$ ). For method W, there was a significant difference among letter lengths:  $F(4, 264) = 5.515, p = .000, \eta^2 = .010$ . There were no significant differences between 8-letter and 9-letter words ( $p = 1.000$ ), 8-letter and 10-letter words ( $p = 1.000$ ), and 8-letter and 11-letter words ( $p = 1.000$ ). However, there was a significant difference between 8-letter and 12-letter words ( $p = .035$ ). The difference between 9-letter and 12-letter words was significant ( $p = .013$ ), as was the difference between 10-letter and 12-letter words ( $p = .013$ ), and between 11-letter and 12-letter words ( $p = .002$ ). However, all other comparisons were found to be non-significant ( $p = 1.000$ ). There were no significant differences among letter lengths for method PW:  $F(4, 262) = 1.446, p = .219, \eta^2 = .000$ .

Above all, method PW seems to be a stable learning method again, unaffected by word length. Method W also seems stable for learning words containing 11 letters or less; however, it was not effective for words containing 12 letters. As far as we can predict from this result, method W and method PW are basically the same in that the learners were required to copy the exact spellings (i.e., letter strings). In addition, it can be easily imagined that the learners were pronouncing words in their head for method W. However, method PW was fundamentally different than method W in terms of the intentional activity for words' pronunciation (i.e., read aloud). Thus, pronunciation would affect retention for words containing 12 letters.

#### 4.4 Post-Questionnaires

The post-questionnaires aimed to ask learners which practice methods were most effective and ineffective. The purpose of the post-questionnaires was the same as the pre-questionnaires, i.e., to assess learners' impressions of the three methods, pronounce-only (P), write-only (W), and pronounce and write (PW). After the post-test, 3% of the learners chose P, 41% chose W, and 56% chose PW as the most effective method. For the most ineffec-

tive method, 89% of the learners chose P, 7% chose W, and 4% chose PW.

On a post-questionnaire, learners wrote their opinions very clearly in the free response section. The author selected some of their opinions to share. The number inside the parentheses represents the number of learners who chose that method. Some of the learners' responses are as follows;

#### **Effective Methods**

"W" (37)

- *I always remember English words with Romaji, so writing English spellings with Romaji imaging is effective for me.*
- *I can concentrate only on writing, then I can remember English spellings.*

"PW" (61)

- *If I forget the spellings of the words, my memory of pronunciation will help me to write the correct spellings.*
- *Practicing pronunciation will be helpful in a listening test, too. I can write spellings, and I can also understand it in a listening test.*

#### **Ineffective Methods**

"P" (83)

- *I cannot recognize alphabet letters.*

"W" (11)

- *This method is not effective for listening practice, because I cannot pronounce the words.*

"PW" (6)

- *I cannot concentrate on doing two things at once, pronouncing and writing.*

Learners did not write their opinions regarding the effectiveness of each method in detail on the free response questionnaire; however, after the completion of learning sessions, learners provided detailed explanations for why a particular method was effective or ineffective for each of them.

## **5. Conclusion and Pedagogical Implications**

This study investigated the effective practice methods for learning English spelling, especially for beginner English learners in Japan. Many learners cannot understand the connections between sounds and letters. Learning pronunciation and spelling is the beginning stage in learning other languages, and we should not ignore these basic skills. Three practice methods were considered in the present study such as pronounce (i.e., method P), write (i.e., method W), and pronounce and write (i.e., method PW). The results indicated that method PW was the most stable and practical method for learning English spellings especially for the words containing 12 letters.

The participants were classified based on the results of a phonological awareness test, however, only 13 items were included in the current study's test. Thus, the validity and reliability of the phonological awareness test for the EFL learners need to be examined. The target words which were used in this study were based on the high school entrance exams' corpus data (Gakken, 2007). Because of this restriction, the current study only focused on word length and its frequency. Further research is needed to examine the selections of the target words considering the features of each word.

Finally, one main purpose of this study was to investigate the beneficial use of the beginning of English lessons. Thus, total time in the learning sessions should not be more than 15 minutes. All three practice methods only required 15 minutes to complete from start to finish. However longitudinal studies are needed to ensure the findings from the current study.

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