

# Incidental Learning of Foreign Language Spelling Through Targeted Reading

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How we learn to spell has been a consistent focus of attention of first language researchers and theorists (e.g., Allred, 1984; Bachman, Bruck, Hebert, & Seidenberg, 1984; Frith, 1980; Henderson & Beers, 1980; Holmes & Ng, 1993; Fitzgerald, 1951; Goodman & Goodman, 1982; Kreiner & Gough, 1990; Peters, 1967; Treiman, Freyd, & Baron, 1983; Van Orden, 1987; Waters, Bruck, & Malus-Abromowitz, 1988; and Zylve, 1931). Among the factors that are claimed to develop spelling competence is reading. Gilbert (1935), for example, claimed that merely through exposure to words in texts, university students improved their spelling. More recently, Beers (1980), in a study of the developmental nature of learning to spell, attributed correct spelling of high frequency words to either reading or the teaching of spelling. Holmes and Ng (1993) compared good and poor adult spellers and found that poor spelling resulted from a faulty word-recognition strategy. There are others, however (e.g., Smith, 1981), that hold an opposite point of view.

Whether there is a similar connection between spelling and foreign language reading has not yet been established, though Krashen, in an overview article (1989), claims there is a causal relationship between foreign language reading and correct spelling. Unfortunately, the evidence for the causal relationship between reading and correct spelling in learning and foreign language is scanty, as Krashen cites only one study, Polak & Krashen (1988). This study found that ESL community college students who reported more voluntary reading outside the classroom did better on a spelling test than those reporting less leisure reading. As the authors point out, however, the positive correlation found does not imply causality.

Gbenedio (1989) examined the effects of reading on university students in an English language teaching methodology course in Nigeria. The 64 subjects, categorized as either good or poor readers, read five passages in which were embedded nonsense target words used as proper nouns. Those subjects categorized as good spellers performed significantly better than poor spellers on a spelling test administered after the readings. Again, however, this finding does not establish the cause of good spelling.

This relationship needs further investigation, particularly in light of the disparity between the act of reading, (involving comprehension), and spelling, which is concerned with production. While there is evidence that reading influences vocabulary development (e.g., Saragi, Nation, & Meister, 1989; Pitts, White, & Krashen, 1989; Day, Omura, & Hiramatsu, 1991; Dupuy & Krashen, 1993), we should treat with caution a claim that reading could result in increased ability in a foreign language context.

The purpose of the research reported here was to make an initial empirical exploration of this issue by attempting to determine whether simply being exposed to target words while reading a short story could result in an incidental increase in spelling ability for Japanese university students studying English. If this initial investigation demonstrated a causal relationship, it would provide us with a foundation from which future research could be conducted. It would also have both theoretical and practical implications for our understanding of the teaching and learning of foreign languages.

### **The Study**

The 418 subjects were first and second year students enrolled in two junior colleges and one university in western Japan. Like most college and university students in Japan, they had completed six years of English instruction in high school

We wanted the treatment group subjects to read a short story of interest to them and that contained vocabulary items and grammatical structures they could understand. We selected a short story used by Day et al. (1991) in an investigation of foreign language reading and incidental vocabulary learning, with subjects similar to those in this investigation. Woven into this short story were 17 target words that Day and his colleagues had previously identified as words that their subjects did not know or found difficult. They had originally identified 36 words and had given a vocabulary test as part of a pilot test of their investigation. From this pilot test, they selected the words that received less than 40% correct responses. The present study focused on these 17 words.

We found it necessary to shorten the story so that our subjects could read it in less than 30 minutes. The revised version (see Appendix A) has 716 words and contains at least one occurrence of each of the 17 target words.

To measure spelling ability, we created a dictation exercise. While it included the 17 target vocabulary words that appeared in the short story, the content differed from the story. Each word occurred only once in the dictation (see Appendix B), except the word fake, which appeared twice, first in the title and again in the text. The use of such an

instrument to measure spelling competence is well-established in this type of research (e.g., Waters, Bruck, & Malus-Abromowitz, 1988).

Within each class, the subjects were randomly assigned to either a control or a treatment group. The subjects in the experimental group read the short story containing the 17 target words. The control group subjects performed a similar task that did not involve exposure to the 17 target words. The subjects were not allowed to use dictionaries, nor were they told in advance that there would be any kind of a test after they had completed their tasks.

This design involved only a post-test, which is similar to research by others in this area (e.g., Dupuy & Krashen, 1993). This was our only alternative. If we had pre-tested, the subjects might have been alerted to the focus on spelling. In spite of the lack of pre-testing, there is good reason to suggest that the results are valid. The vocabulary words were, as noted above, used in an investigation with similar subjects by Day et al. (1991).

After considerations of reasons for and against counting morphologically correct spellings of the target words, we decided to accept as correct any form of a target word spelled accurately. The major reason to count morphologically-correct spellings concerned the notion that the study was focusing on spelling and not grammar or morphology. Illegible attempts to spell the target words were counted as wrong.

In order to address the research question of whether exposure to the target words while reading results in improved spelling of the words read, we posited the null hypothesis: There would be no statistically significant difference between the treatment and control groups in the mean number of target words spelled correctly on the dictation exercise. The results of the dictation exercise were subjected to a two-tailed t-test with a .05 level of significance necessary to reject the null hypothesis.

Within each class, when the subjects in both groups had completed their tasks, the teacher administered the dictation exercise. The students were instructed to write down what they heard. The teacher did not inform them that the exercise had any relation to the story read by the treatment group subjects. The teacher played a cassette tape containing two readings of the dictation, clearly recorded by a native speaker of English. The first reading was spoken at a slower than normal rate of speed; the second time was spoken somewhat slower than the first, allowing the subjects sufficient time to write. Following the second reading of the dictation, the teacher collected the students' papers.

The results of the dictation exercise were scored as the number of words spelled correctly. Since there were 17 target words, a perfect score was 17.

## Results and Discussion

Table 1 presents a summary of the results of the dictation exercise and the t-test. As we can see in this table, there was a significant difference between the number of target words spelled correctly by the subjects in the treatment group and those in the control group ( $t = 2.62$ ,  $df = 416$   $p < .01$ ). Thus the null hypothesis must be rejected.

**Table 1**

Comparison of Control and Treatment Group Subjects' on Scores on Dictation Exercise Assessed by Means of the Independent Samples t Test

Group	N	Mean	SD	t
Treatment	211	776	3.23	2.26*
Control	207	6.24	2.93	

\* $p < .01$

Reliability: Kuder-Richardson 21 = 0.63

The results of this investigation demonstrate that merely being exposed to previously unknown or difficult words in a single reading by Japanese college-level students has a positive effect on their ability to spell these words correctly. This finding of a causal relationship between reading and spelling ability for foreign language learners is consistent with the findings of research into the development of spelling ability in native-speaking children reported above. In addition, it takes one step further the finding of the only related study by Polak & Krashen (1988), which found a correlation between voluntary reading and spelling ability.

As we noted at the beginning of this report, this is an initial exploration of the issue. Thus, its finding must be treated with caution. Indeed, while the difference in mean scores between the treatment and control groups was statistically significant, it was rather modest, 1.52. This means that the treatment group subjects averaged about one and one-half more correctly spelled words than the control subjects. Clearly, this difference is not large.

Further, it is obvious that there are other important factors that determine a foreign language learner's spelling ability, including, as Polak & Krashen (1988, p. 145) point out, rate of literacy in the first language, exposure to previous spelling instruction, variables of memory and perception, and motivation for correct spelling.

This first investigation provides a basis for future research. The next steps might include a longitudinal investigation of learners in an extensive reading program. The relationship between various first languages and their orthographies and spelling ability in English might also be a fruitful avenue, in addition to those mentioned by Polak & Krashen (1988, p.145).

In spite of the tentative nature of the results of this investigation, there are implications for our understanding of the teaching and learning of foreign languages. It does provide some support for Krashen's claim (1989) that foreign language learners can acquire spelling by reading.

The demonstrable existence of a causal relationship between reading and correct spelling has important curricular implications for the teaching of foreign languages. If the goals of a foreign language program include the development of writing skills, then we recommend that serious consideration be given to including an extensive reading component that involves repeated exposure to a great deal of vocabulary in the program (e.g., Day & Bamford, 1998). It makes sense to provide foreign language students with a tool that could improve their spelling competence, since correct spelling is highly valued in English. For example, Fitzgerald (1951, p. 1) says that "(S)pelling is a part of life, a skill which, if properly mastered, facilitates written expression and makes living more pleasant and more adequate." Krashen (1989, p. 440) claims that "our standards in spelling are 100%; a single spelling error in public can mean humiliation."

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## Appendix A

### Short Story Read by Experimental Group Subjects

#### **The Mystery of the African Mask**

Osamu Matsumoto had once been a good doctor. For years he had kept up with every idea in medicine. Then something happened that changed him.

One night, Dr. Matsumoto hurried to help a very sick patient, a young lady named Yukiko Shimazaki, but by the time he arrived, she was dead.

“What a shame,” Dr. Matsumoto said. “She wanted to become a nurse.”

As Dr. Matsumoto stared at her, she moved. The dead woman came back to life!

“Her heartbeat and her breathing were too faint for me to notice,” he thought. “But I thought she was really dead!”

From then on, Dr. Matsumoto was a changed man. He almost never read medicine. His thoughts were always on just one question: Can the dead come back to life?

When Yukiko became a nurse, Dr. Matsumoto hired her as his office assistant. He had to fire his old assistant, Masumi Kawasaki, to give the job to Yukiko. Masumi was very angry.

Then one night at midnight, Yukiko came to Dr. Matsumoto’s home.

“Osamu, help me, help me!” cried Yukiko. He opened the door and Yukiko rushed in, shivering from cold and fear. “It’s come for me. It’s after me. It’s terrible. It’s the mask of death!”

“What happened?” asked Dr. Matsumoto. “Try to relax. Don’t strain your heart.”

“When I went to bed, I heard a strange whirring sound. Then an old African mask appeared out of nowhere and I heard chanting:

‘Yukiko, Yukiko Shimazaki, hear me. I am the face of death. I have come from Africa for you. You will soon die.’

Then the mask just went away. Osamu, what can it be?” sobbed Yukiko.

“I don’t know,” replied Dr. Matsumoto. “It must have been a dream. Try to relax. I’ll take you home.”

The next night was even worse. It happened again when Yukiko turned off the lights: First the whirring sound and then a bright spot appeared across the room. The spot became clearer and clearer. It was the terrible mask! It began to chant:

‘Whoever sees my face will die. It is the face of death. Yukiko, you will die soon.’

Yukiko was very scared. “Please, please go away. Let me live,” she sobbed.

The next morning, Yukiko told Dr. Matsumoto about the second visit of the terrible African mask and chanting. She told him about the whirring sound and how the mask became clearer.

“This is very strange,” said Dr. Matsumoto. “I have a book on African masks. Let’s look at it.”

They looked at pictures of African masks in the book. There were many masks, from different places. Suddenly Yukiko saw it! Dr. Matsumoto stared at it and said, “You stay alone tonight. But don’t worry. I will be there to help you.”

That night, Yukiko turned off the lights. Again the mask appeared and the terrible chanting was even worse:

‘Yukiko, this is your last night. Now is the time for your death.’

“Turn on the lights.” shouted Dr. Matsumoto. He appeared at the window. He was holding a slide projector and pushing Masumi Kawasaki.

“When I saw the mask in the book, I knew it was a fake,” he explained.

“The book says it is an old African mask, not a mask of death. When you told me about the light and the whirring sound, I thought of a slide projector and the sound of its fan. Masumi was trying to scare you, Yukiko.”

Masumi was sobbing. “My job as your assistant was my whole life,” Masumi said. “You fired me, so I wanted to strain her heart.” Masumi hung her head in shame. “I thought if I could scare her to death, I could get my job back.”

Dr. Matsumoto felt shame, too. “I am sorry. I didn’t think of you after all those years. All I thought about was the dead coming back to life. Now I know that Yukiko was not really dead, but only in a coma. Come back as my assistant. Yukiko really wants to be a nurse in a hospital.”

Yukiko put her arm around Masumi and said, “Yes, that’s right. I really want to be a hospital nurse. After the mystery of the African mask, I know my heart is not faint, but strong.”

## Appendix B

### Dictation Exercise

#### The Fake Doctor

I thought the doctor had given me some good medicine, but it was only colored water. I was angry about that. Later I learned he was a fake! He had not finished school, so he was not a real doctor at all! He had no feeling of shame about that, though. Instead he had the strange idea that some day he would fire all his old college teachers. He sat in his room and stared for hours, trying to think of ways to scare them. What is worse, he began to have terrible thoughts about hurting them. It is not clear just when these thoughts first came to him, but they began to appear in his diary a few weeks after he left school. He worried about what would happen to him in the end. One day he felt faint and began shivering and sobbing because of the strain. To relax, he decided to try chanting but it was too late; he had already begun to slide into madness.

(N. B.: The 17 target words are underlined.)

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