

Comparing the Effectiveness of Word Cards and List Learning with Japanese Learners of English

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Abstract

This study investigated the recall of words learned through two deliberate learning techniques, word cards and list learning. While the literature points to word cards as being more effective, Japanese learners of English are seen to prefer list learning, which may indicate unique learning styles stemming from a non-alphabetic L1. To test the efficiency of the two techniques for Japanese learners, 25 university students of varying English proficiency were divided into four groups. Following the within-subject design, all groups were subjected to both treatments. Twenty low-frequency English words were learned within a 20-min period using one method, and then 20 more words were similarly learned with the other method. Subjects were tested immediately after the treatments, after a 20-min distraction period, and after an interval of 2 weeks. Results from all three testing stages indicated that list learning was more effective than word cards for these students.

Key Words: deliberate learning; word cards; list learning; Japanese learners

Deliberate learning is an important component of L2 vocabulary learning, and the usage of word cards has been shown to be a time-efficient strategy for learning large amounts of words, while also resulting in long-term retention (Nation, 2008, 2013). However, in EFL (English as a Foreign Language) classes in Japan, students are more likely to be seen using the list learning strategy or the repetitive writing of new words in columns, sometimes even after instruction in word card usage. Having developed their L1 reading and writing skills with a phonetic writing system along with logographic Chinese characters (*kanji*), it could be possible that different strategies may better suit their learning styles than those found to be efficient with learners with alphabetic L1s. This study investigates the effectiveness of learning English vocabulary using the word card strategy compared with list learning for Japanese learners of EFL.

1. Background

As a deliberate learning strategy to complement a vocabulary program, Paul Nation maintains that the usage of cards with the new foreign word on one side and the L1 meaning on the other is superior to list learning, where the learner memorizes new L2 words by looking at a list of those words paired with their

L1 meanings. One reason is that the order of the words cannot be changed on a paper list, so serial learning interferes with the ability to later recall words independently. In addition, there are effects such as the primacy and recency effects, where words at the beginning and end of the list are better learned. Second, word cards force retrieval, and long-term memory is dependent upon the number of times a word is seen and its meaning recalled (Nation, 2013, p. 437–478).

While there have been many studies that test the efficiency of the word card technique and also those that compare deliberate learning via the word card technique with incidental learning (as introduced in Nation, 2013), there have not been studies that directly compare the two deliberate techniques of word cards and list learning. Various studies have compared learner strategies by following learners through a semester or program as they record their vocabulary-related activities by method and times in a log (e.g., Fitzpatrick, Al-Quarni, & Meara, 2008; Sanaoui, 1995). They often look at a variety of aspects of learner behavior and time spent. In some cases, such log studies follow instruction in a particular method (e.g., Elgort, 2010; Pauwels, 2015). Studies that take place in a controlled environment tend to test aspects of vocabulary acquisition rather than strategy effectiveness (e.g., Pyc & Rawson, 2009; Tinkham, 1993).

Yet, while list learning has been dismissed by researchers in favor of word cards, the popularity of list learning among learners is apparent in a variety of studies. Some log studies identify a preference among learners for list learning (e.g., Pauwels, 2012). Surveys also show list learning to be widely used, and Schmitt (1997) found list learning to be the most popular among Japanese learners in terms of both actual usage and learners' perception of helpfulness, although this preference was seen to drop off with age. In 2016, the authors carried out a survey of 71 undergraduates training to be English teachers. In a multiple response question, 37 (52%) responded that they utilize a list and hide the meanings when learning new English words, 23 (32%) responded that they use a list without hiding the meanings, and only 16 (23%) used word cards.

1.1. Research Question

This popularity of list learning indicates that there may be cause to take a closer look at the effectiveness of list learning compared to word cards. In the classroom, convincing Japanese students to utilize word cards seems to be an uphill battle. Instruction, hands-on trials in class, and presentation of the benefits of word cards over list learning result in only a very few students adopting this strategy. Is this resistance simply due to unfamiliarity with the method and lack of motivation to try something new? Or, are learners instinctively staying with the method that works best for them? This study aims to compare the effectiveness of list learning and word cards in learning new English words.

Research question:

Are word cards a more effective deliberate learning technique than list learning for Japanese EFL learners?

2. Methods

2.1. Participants

The participants in this study were 25 Japanese undergraduate students of a private university in Kanagawa, Japan. They assembled specifically to participate in this study in return for compensation. There were first through fourth year students, all majors in International Studies. CASEC scores ranged from 424 to 786, with a mean of 560.32 ($SD = 97.07$). CASEC (Computerized Assessment System for English Communication) is an online test of English communication skills, and a score of 550 is said to have equivalency to a TOEIC (Test of English for International Communication) 465 score (Data & Information, n.d.).

2.2. Materials

Word lists provided for participants to learn were sourced from the 10th 1000 word list of Paul Nation's BNC/COCA Headwords of the first 10,000 words (Nation, 2017) in order to maximize the chances that students had not encountered the words previously. Only nouns were used, and culled from the list were words that were probably familiar to Japanese students, those that would be translated as loanwords or are used in Japanese as false friends, those that are inappropriate for a school setting or shocking (sexual, violent, death, illness), words whose Japanese translations may not be familiar to the students, and rare specific biological or scientific items (plants, animals, body organs, chemicals, and terms from geology and astronomy). After excluding words of less than five and more than eight letters in length, 209 words remained.

Four lists of 20 words each were made by choosing an equal number of words of each length (five through eight letters), and from a variety of starting letters of the alphabet. In addition, words of highly similar form and meaning were avoided within the same list (such as *audacity* and *tenacity*).

Japanese definitions provided to the students were taken from *Advanced Favorite English-Japanese Dictionary* (Asano, 2002). The most prominent noun definitions of the words were chosen. If there was a choice between a loanword and a Japanese word as a definition, the Japanese word was taken.

2.3. Procedures

Procedures followed the within-subject design, where all participants are subject to both treatments. A resulting order effect (Nation & Webb, 2011, p. 35) was controlled for by dividing the participants into two groups who then experienced the treatments in a different order. The following procedure was carried out on two different occasions with 12 and then 13 different participants, using four different lists of words to learn. On each occasion, the participants were separated into two groups, resulting in a total of four groups of six, six, six, and seven participants.

On the first meeting, each of the first two groups was given a list of 20 words to learn within 20 minutes. After vocal introduction of the words, pronunciation only, students in one group were told to utilize the list in learning the words. They were

given cardboard to cover up the words and paper to practice writing the words if they so wished. The other group was given prepared word cards, and the list was taken away. They were told to first go through the pack until they could recall the Japanese meanings of each word, then go on to the reverse while practicing the spelling from memory, as outlined in Nation (2013, p. 458). They were told to shuffle the cards after each round, and to utilize a drop-out schedule (put aside learned cards).

After the 20-minute study period, students were given a recall test where they wrote the English words in response to the Japanese meanings. The groups were then reversed to undergo a second study period and recall test, this time using the list and method of the other group. At this point, both groups had experienced the same methods paired with the same lists, yet in a different order.

The two groups were then brought together for a 20-minute distraction activity that did not involve the use of English. At the end of that activity, they were given an overall test of all 40 words they had learned that day, the two lists mixed together in random order. Two weeks later, the participants assembled and took a second mixed test. The meeting had been set in advance, but participants were not told that they would be tested.

This entire procedure was then repeated on a different date with 13 new members and two new lists of words.

3. Results

Results at all three stages indicated that list learning was more effective than word cards for these students (Table 1). Tests had a maximum of 40 points for 20 words. Two points were given for each correctly spelled word, and one for each word with one spelling mistake which did not change the meaning of the word. The means from words learned by list learning are higher for immediate, after 20-minute distraction, and after the 2-week interval, although for the latter very few words were recalled from either method of learning.

4. Discussion

Although these results are far from conclusive, preliminary results saw higher retention from list learning over word cards. The word card strategy utilized in this study differs from Nation's guidelines (2013:446–468) in that students

Table 1. Descriptive Statistics of Posttests

Retention interval	Method	Mean	SD	%
Immediate	List Learning	34.12	7.623	85.3
	Word Cards	26.40	10.532	66.0
After 20-min distraction	List Learning	27.28	9.423	68.2
	Word Cards	19.80	10.352	49.5
2-Week delay	List Learning	5.92	5.937	14.8
	Word Cards	3.76	5.262	9.4

Note: Maximum score = 40, $n = 25$

do not choose the words themselves, do not make their own cards, and do not review the cards at increasingly spaced intervals, or in fact at all after the 20-minute study period. However, if word cards themselves are in fact superior to list learning, more ambivalent results would be expected, if not those in favor of word cards.

Of course word learning does not usually happen in a controlled environment, and one advantage of word cards is that the act of making them and their availability for quick review throughout a day or week can make vocabulary learning more enjoyable. This in itself may be a good reason for a teacher to provide instruction in word card learning. In the classroom, effectiveness is only one aspect of a study method that needs to be considered. If a task is enjoyable, learners will be more inclined to spend more time on it, increasing learning. If the making of word cards and their usage is favored by students, then whether they are spending more time per word learned may not be important.

However, Japanese learners may not have the same preferences. In a questionnaire taken at the conclusion of the first meeting of this experiment, 16 of the 25 students responded that they preferred list learning to word cards, while only 6 preferred the word cards after having just experienced both methods. If Japanese learners prefer list learning and if they are finding more success utilizing it, then there may be no reason for teachers to encourage reluctant students to change to the word card strategy.

There is a possibility that list learning is not as ineffective as has been assumed, although that could not be evaluated in this study. Another possibility is that Japanese learners may be particularly receptive to list learning due to their L1 background, where repetitive writing is mainly used to learn over 2000 *kanji* characters. Due to the small sample size and limitations in the methodology of this study, further experimentation is called for in clarifying this issue.

5. Limitations and Further Research

The fact that different word lists were used for the two methods prevented a statistical analysis of the differences in effectiveness of list learning and word cards. In the next stage of this study, we will test a larger number of participants utilizing common lists learned by different participants using different methods.

Further studies that can be envisioned from these results include looking into whether the results here are due to students' background in a non-alphabetic L1. To do so, similar studies could be held with learners of different L1 and backgrounds. For example, one variable may be the methods participants had used for their L1 vocabulary learning.

In addition, as noted above, there were several aspects of word card learning that departed from Nation's guidelines due to the 20-minute limit for learning time. In order to re-examine the effectiveness of word cards in comparison to list learning, a longer-term study would be necessary, including aspects such as word choice and spaced repetitions. Further, the low overall recall in the third test prevented a comparison of long-term retention. Testing for recognition rather than

recall at that point, shortening the interval, or providing a practice period midway between the second and third tests may result in more usable data.

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