

Vocabulary Learning Through Extensive Reading: A Case Study

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Abstract

The role and importance of reading in second language vocabulary learning have been discussed by many researchers because of the richness and variety of vocabulary in written texts compared to oral discourse (Horst, 2005; Nation, 2001). However, despite the recent increase of studies in this field, there are very few studies focusing on non-Western languages, including Japanese, compared to Indo-European languages. To fill the gap, this study explored the process of Japanese vocabulary acquisition through extensive reading. Data were collected through a pretest, eight immediate tests, a posttest, and a semistructured interview. The results indicate that extensive reading is especially beneficial in consolidating learners' vocabulary knowledge and in encouraging learners to reflect on their interests and needs in vocabulary learning.

Résumé

Le rôle et l'importance de la lecture dans l'apprentissage du vocabulaire en langue seconde sont sujets de discussion pour de nombreux chercheurs en raison de la richesse et de la variété de la langue écrite en comparaison au discours oral (Horst, 2005 ; Nation, 2001). Toutefois, malgré la récente hausse d'études effectuées dans ce domaine, très peu d'études se concentrent sur les langues non-occidentales, incluant le japonais, en comparaison aux langues indo-européennes. Pour combler cette lacune, cette étude a exploré le processus d'acquisition du vocabulaire en japonais par la lecture assidue. Les données ont été recueillies grâce à un pré-test, huit tests immédiats, un post-test et une entrevue semi-structurée. Les résultats indiquent que la lecture assidue est particulièrement bénéfique pour la consolidation du vocabulaire des apprenants et pour encourager les apprenants à réfléchir à leurs intérêts et à leurs besoins dans l'apprentissage du vocabulaire.

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Introduction

In the past, despite the importance of vocabulary in communication, the field of vocabulary acquisition had been neglected until the late 1980s. In light of some of the shortcomings of communicative language teaching and the underlying assumption that second language (L2) vocabulary can be developed through natural, communicative exposure as in first language (L1) vocabulary development, some researchers started to notice that vocabulary acquisition is a central aspect of language learning and an enormous task. With the growth of classroom-centred research, we now see the reality that, “not only do the majority of students studying foreign languages cite vocabulary as their number one priority, but it is often considered a priority by teachers as well” (Knight, 1994, p. 285). This is why the issue of how to better acquire L2 vocabulary has increasingly drawn the attention of learners and teachers.

Vocabulary Acquisition Through Extensive Reading

Over the past decade, the role and importance of reading in L2 vocabulary learning have been discussed by many researchers because of the richness and variety of vocabulary in written texts compared to oral discourse (Horst, 2005; Nation, 2001). On the pedagogical level, one of the major focuses on reading in L2 learning is the *extensive reading* (ER) approach. According to Day and Bamford (1998), Palmer first applied this term in foreign language pedagogy in the early 20th century to distinguish it from *intensive reading* (IR), which is reading word for word; and in Palmer’s view, ER is “real-world reading but for a pedagogical purpose” (p. 5). Although the reader’s attention is not on the language but the content, so that the texts are read for pleasure and information, reading in the ER approach is planned for the purpose of language learning. With the rise of Krashen’s (1981) input hypothesis, the ER approach has attracted many L2 researchers and practitioners, especially in foreign language learning settings such as English learning in Japan.

Proponents of ER have suggested its possible benefits, and previous studies of ER have supported some of these suggestions. Learners showed improvement in their performance on tests of reading comprehension (e.g., Bell, 2001; Hafiz & Tudor, 1989; Hitosugi & Day, 2004; Leung, 2002) and writing (e.g., Hafiz & Tudor, 1989, 1990). Also, some learners showed their motivation for learning and reading increased after ER treatment (e.g., Camiciottoli, 2001; Hitosugi & Day, 2004; Leung, 2002; Renandya, Rajan, & Jacobs, 1999; Yamashita, 2004). It seems that the effectiveness of ER is widely accepted as a fact among L2 researchers; thus, there are not many counterarguments about whether ER promotes L2 learning or not. However, with regard to vocabulary, there are still several areas that have not been fully investigated. First of all, only a few past studies have investigated learners’ vocabulary growth through an actual ER program (e.g., Horst, 2005; Leung, 2002; Lightbown, Halter, White, & Horst, 2002) because of the real-world reading nature of ER. Although ER is a part of language learning pedagogy, it is also, at the same time, a part of learners’ real lives (reading for pleasure). Therefore, it is difficult to control or remove the influences from other sources. Considering this difficulty, in the past, many researchers have examined the relationship between vocabulary learning and reading

instead of measuring vocabulary growth through ER (e.g., Day, Omura, & Hiramatsu, 1991; Moroishi Wei, 2006; Pitts, White, & Krashen, 1989; Waring & Takaki, 2003). In these studies, researchers chose the reading materials; and some studies did not have pretests with words that appeared in the reading material (i.e., researchers administered a general vocabulary test only). Therefore, to date, the extent to which ER actually promotes L2 vocabulary acquisition is still debatable.

Secondly, research on reading/ER has devoted little attention to the motivational dimension of learning. In spite of the positive results from numerous studies of the effect of reading/ER on vocabulary growth (e.g., Day et al., 1991; Horst, 2005; Lightbown et al., 2002; Pitts et al., 1989; Waring & Takaki, 2003), most of these found the amount of growth to be small. Also, some comparison studies showed that learners in a reading-plus condition performed better than learners in a reading-only condition (e.g., Laufer, 2003; Paribakht & Wesche, 1997). In the former, learners were required to engage in tasks that “consisted of reading a text and doing a range of vocabulary exercises based on the text” (Laufer, 2003, p. 574). These results can be explained by Laufer and Hulstijn’s (2001) *involvement load hypothesis* which suggests that the degree of the learner’s involvement with three motivational and cognitive dimensions—need, search, and evaluation—greatly influences L2 vocabulary learning through reading. Learners will successfully acquire a new word on the condition that they: (a) feel a need to know the meaning of the word, (b) search for the meaning by themselves, and (c) compare different meanings of the word and check these meanings against the context before selecting one.

This proposal tells us that: (a) if learners do not pay attention to the word, and do not feel a need to learn it, it cannot be learned (e.g., Huckin & Coady, 1999; Paribakht & Wesche, 1999); and (b) only when learners feels a need/desire to understand the text and believe that the unfamiliar word is key to comprehension, does they commit themselves to the activity of lexical inferencing (i.e., guessing the meaning of the word from the context; e.g., Laufer, 2003; Nation, 2001). Therefore, the type of text in terms of learners’ interest and prior knowledge of the topic plays an important role in motivation for vocabulary learning. Nation (2001) expressed the importance of real world knowledge to inferencing. If the topic is somehow related to learners’ real life (life experience), they can use existing schema to infer the meanings of the unfamiliar words. When the text reflects life experience, learners can be motivated to proceed to lexical inferencing. These two meditating variables indicate that the genre/topic of the text is a potentially influential motivating factor for comprehending the text and furthering vocabulary learning through reading.

However, despite this recognition of the importance of the genre/topic, in the field of vocabulary acquisition research the focus has traditionally been more on the effectiveness of vocabulary learning approaches (i.e., numerical outcomes). Many earlier studies have sought effective ways of vocabulary learning, focusing on the relation between the number of words acquired and external factors such as amount of exposure (e.g., Laufer, 2003; Paribakht & Wesche, 1997) through quantitative approaches. The number of studies that have focused on internal factors such as motivation, learners’ needs, and learners’ aspirations, however, is limited. At this moment, to our knowledge, no research has been done on the process of vocabulary acquisition through ER while considering learners’ choices regarding the words to which they attended in order to infer word meanings (i.e., what types of words the learner tries to know and why, when given the flexibility of choice such as in ER).

The other gap in the current research on vocabulary learning through ER/reading is in the minimal number of target languages studied. Despite the recent increase of studies in this field, there are very few studies focusing on non-Western languages, including Japanese, compared to Indo-European languages. Evidence supporting theories about vocabulary acquisition through ER/reading comes mainly from studies focusing on English language learning; the amount of reading research targeting languages other than English is quite small. Only a few studies (e.g., Leung, 2002; Moroishi Wei, 2006) exist regarding Japanese learning, reflecting its complex writing system. This absence limits the number of available reading materials for learners and discourages teachers from incorporating ER/reading, as a vocabulary learning and teaching method, into their courses. In Japanese second language education, most teacher's manuals (e.g., Matsumi, 2002; Sasaki, 1994) devote a lot of space to methods of teaching vocabulary, whether utilizing pictures, sounds, or collocations. However, looking at these existing teaching methods as featured in the teacher's manuals, vocabulary learning in the classroom appears to be biased toward intentional learning, simply relying on learners' efforts at memorization.

In order to help fill in these gaps, the present study explored the process of Japanese vocabulary learning through ER in comparison with intensive reading, looking closely at one learner by utilizing quantitative and qualitative approaches. More specifically, focusing on the perspective of a learner/reader, the present study asks:

1. What are the actual processes and outcomes of a Japanese learner's vocabulary acquisition through ER (e.g., the number of words acquired, the development of vocabulary knowledge, and the relation between word frequency and acquisition)
2. What is the learner's perception of vocabulary learning and ER?

Method

Participant

The participant in this study was one male student enrolled in a university in eastern Canada. Since this study examined the features of language acquisition through ER in comparison with intensive reading, to minimize the effects of individual differences such as learning history and background, only one student was solicited through the researchers' personal connection. Due to the multicultural and multiethnic environment in which he had grown up, the participant was a balanced trilingual who had three first languages: Finnish, French, and English. Since he had also learned Chinese before, Japanese was either his fourth or fifth language to learn. While his proficiency in Japanese at the time of the study was at an intermediate level according to the placement exam at the university, he had a good variety of vocabulary and expressions used in daily life. This is because he had studied Japanese for four years, one of which was spent in Japan studying at a language school. More specifically, while there were mistakes in his grammar and vocabulary, the participant could conduct any informal activities in Japanese without difficulty, such as conversing with friends, chatting on the Internet, writing a casual letter, reading comics, watching TV programs, and so forth. However, in formal settings such as writing a report, summarizing a newspaper article, or giving a presentation, he appeared to be able to fully communicate only about familiar topics. Due to his lack of a high level of accuracy, he had difficulties conveying messages without misunderstanding, confusion, or delay. According to an official reference, in the previous year he passed Level 3 of the Japanese-Language

Proficiency Test (JLPT), the most popular standardized test of Japanese proficiency (see Figure 1). There are five levels of difficulty in JLPT with Level 5 being the most basic and Level 1 being the most advanced level.

<p>The ability to understand Japanese used in everyday situations to a certain degree.</p> <p>Reading</p> <ul style="list-style-type: none"> • One is able to read and understand written materials with specific contents concerning everyday topics. • One is also able to grasp summary information such as news paper headlines. • In addition, one is also able to read slightly difficult writings encountered in everyday situations and understand the main points of the content if some alternative phrases are available to aid one's understanding. <p>Writing</p> <ul style="list-style-type: none"> • In addition, one is also able to read slightly difficult writings encountered in everyday situations and understand the main points of the content if some alternative phrases are available to aid one's understanding. • One is able to listen and comprehend coherent conversations in everyday situations, spoken at near-natural speed, and is generally able to follow their contents as well as grasp the relationships among the people involved.

Figure 1. A summary of linguistic competence required for Level 3 (JLPT, n.d.).

The participant reported that he enjoys going to his Aikido club and watching Japanese TV programs on the Internet. His outgoing personality allowed him to take part in various cultural and social activities related to Japan outside and inside of the campus.

Procedures

The data were collected over three months. Upon the participant's agreement to take part in the study, he was asked to write a background questionnaire and self-report vocabulary knowledge pretest, and then he was engaged in IR and ER concurrently for eight weeks. The participant received instruction on one chapter of the IR reading material (there is an average of 1950 Japanese characters per chapter) per week focusing on reading comprehension (a one-hour session) and read one chapter of the ER reading material (average 7250 characters/chapter) every two weeks with no instruction. The length of Japanese text is expressed in the number of characters (e.g., The following: 一口飲んだコーヒーはととても苦かった。 [*A sip of coffee tasted really bitter.*] consists of six words, but it is counted as 17 characters). The reading materials used in these sessions were: "*Minami*" *kara no kokusaikyoryoku* [*International Cooperation From "South"*] by Watanabe (1997) for IR, and *Shounen H* [*A Boy Called H*] by Seno (1999) for ER. The IR reading material was selected and provided by an instructor based on the participant's Japanese proficiency; the ER reading material was selected and used by the participant according to his interests. The difficulty levels of both texts were determined as *Difficult*, which is the highest level, by a Japanese language reading tutorial online system, Reading Tutor. This online system determines text difficulty according to the proportion of the JLPT vocabulary that corresponds to Level 5 (Beginner) or Level 4 (Upper-beginner). Texts containing the

highest proportion of Level 4-5 vocabulary are considered to be the easiest and those with the least Level 4-5 vocabulary, the most difficult.

Table 1
Text Difficulty

Proportion of JLPT Level 4-5 ^a vocabulary	Difficulty level of the text
More than 80%	Very easy
70% - 80%	Easy
60% - 70%	General
50% - 60%	Somewhat difficult
Less than 50%	Difficult

Note. Adopted from <http://language.tiu.ac.jp/materials/goichecker.html>.

^aJLPT difficulty: Level 5 = Beginner, Level 4 = Upper-beginner, Level 3 = Intermediate, Level 2 = Upper-intermediate, Level 1 = Advanced.

Considering the participant's proficiency level, it would appear that the difficulty level of these reading materials was a little higher than his comprehension level.

According to Renandya and Jacobs (2002), one of the basic characteristics of a successful ER program is that learners read large amounts of material. In this respect, ER in this study differed from existing ER in that it did not follow this particular basic characteristic. There were two reasons for not reading large amount of materials. First, we placed importance on the motivational and cognitive dimensions of learning. Another basic characteristic of successful ER programs suggested by Renandya and Jacobs, is that the reading material is near or even a little below the learner's level of comprehension. However, in this study, the participant chose a book that was more difficult than his level at that time. In order to focus on the motivational influence on vocabulary learning, we decided to keep his choice and to balance the difficulty of the text with the amount of reading. The other reason for not following this particular basic characteristic of ER in this study was related to a physical limitation. At the time of the study, the participant was concurrently engaging in IR as part of a credit course, and it was difficult for him to read more than 6000 characters per week in total. The participant seemed to feel pressured and that he could not read for "enjoyment" if he was required to read more than one chapter every two weeks of the book he chose.

During this 8-week period, the participant wrote the immediate vocabulary test every two weeks, a total of four tests. The immediate vocabulary test was given in order to check the participant's knowledge of words that he encountered in reading materials (i.e., two chapters for IR and one chapter for ER) during the previous two weeks. One week after the last immediate test, a cumulative post-vocabulary test was administered. Based on the results from a pretest, immediate tests, and a posttest, a semistructured face-to-face interview was conducted two weeks after the posttest. Most parts of this study were conducted in Japanese, but English was used intermittently for explanation and instruction. The qualitative method, mainly interviewing, was used to facilitate our understanding of the quantitative data obtained in the three tests by merging both types of data during the interpretation stage. The act of employing multiple ways of approaching the field is called

triangulation. This helps not only to deepen our understanding, but also to increase the validity of results.

Instruments

For data collection, this study used a vocabulary learning strategy questionnaire, background questionnaire, self-report vocabulary knowledge pretest, immediate vocabulary test, vocabulary knowledge posttest, and semistructured face-to-face interview (for the vocabulary learning strategy questionnaire and background questionnaire, see Appendix A and Appendix B). The self-report vocabulary knowledge pretest was adapted from Wesche and Paribakht's (1996) Vocabulary Knowledge Scale (VKS). While the VKS uses a 5-point scale in order to classify vocabulary knowledge, our pretest (see Figure 2) categorizes vocabulary used in Level 2 of the JLPT into four states of knowledge:

1. I definitely don't know what this word means,
2. I am not really sure what this word means,
3. I think I know what this word means, and
4. I definitely know what this word means.

Please tick the box that applies to your answer.

1. I **definitely don't know** what this word means.
2. I am **not really sure** what this word means.
3. I **think I know** what this word means.
4. I **definitely know** what this word means.

狙い ねらい 1 2 3 4
 [target]

Figure 2. Excerpt from the self-report vocabulary knowledge pretest showing the four states of vocabulary used. Adapted from Wesche and Paribakht's (1996) VKS.

As for the selection of target items for the immediate vocabulary test, the main criteria were that: (a) the words were designated as “low” (i.e., rated as 1 or 2) by the participant in the pretest, and (b) the words appeared only in either the IR reading material or the ER reading material, but not in both. However, because of the nature of incidental learning and the amount of reading, there was a limited number of words that fulfilled both of these conditions. Therefore, we also included some words that were rated as 3 or 4 in a pool of target items.

This method of selection is also based on the idea underlying Meara's (1989) matrix model, which is that vocabulary acquisition is not a simple continuum between passive and active vocabulary and that, “lexicons are fluid structures that change, not rigid and inflexible” (Horst & Meara, 1999, p. 313). In this model, each word is seen to be in one of several states, and knowledge of the word is considered as “movement” between these states. Thus, in the process of vocabulary acquisition, the direction of the change in vocabulary knowledge is not limited. Vocabulary knowledge could move in the negative

direction at some point during the entire process of acquisition. Meaning, there is a possibility that some words that were rated by the participant as state 3 or 4 could move to state 1 or 2. Taking this position, we reached the decision to include those items in the pool of target items.

From this pool, 20 words appearing only in the IR reading material and another 20 words appearing only in the ER reading material were selected as test items for immediate vocabulary tests. Each immediate vocabulary test contained five words from the IR material and five words from the ER material. During the test, the participant was asked to fill in the blank in each sentence with an appropriate choice, as well as to explain the meaning of the word in English (see Figure 3).

()に入れるのに最もよいものを, 1・2・3・4から一つ選びなさい。また, その意味を英語で書きなさい。

[Choose the most appropriate word from among the options (1-4) given. Write the meaning of the word in English in the box.]

犯人の()は, 最初から彼女の金だったんです。

[The criminal's () was, from the very beginning, her money.]

- 1 戦い 2 狙い 3 反省 4 計算
 [fight] [target] [apology] [calculation]

Figure 3. Excerpt from the immediate vocabulary test.

For the vocabulary knowledge posttest, a total of 40 items were tested in a format that was, like our pretest, based on Wesche and Paribakht's (1996) VKS. However, whereas the VKS uses a 5-point scale in order to classify vocabulary knowledge, our posttest asked the participant to select from four choices regarding the state of knowledge of each word:

1. I don't know what this word means,
2. I have seen this word before,
3. I know this word, or
4. I can use this word in a sentence.

Choices 2 and 3 also asked the participant to write the meaning in English, while choice 4 required writing a sentence in Japanese (see Figure 4). This was to evaluate not only receptive competence but also productive competence.

Please circle the number that applies to your answer for each word. If applicable, please also fill in the blank.

^{ねら}
[狙い] [target]

1. I don't know what this word means.
2. I have seen this word before, and I think it means _____
3. I know this word. It means _____
(Give the meaning in English, French, or your language.)
4. I can use this word in a sentence. (Write a sentence.)

(If you choose 4, please also complete 3.)

Figure 4. Excerpt from the vocabulary knowledge posttest. Adapted from Wesche and Paribakht's (1996) VKS.

Results and Discussion

The numbers of words the participant claimed that he knew the meanings of on the pretest, immediate test, and posttest were counted separately and differences between those scores were calculated to see the vocabulary growth for each learning method. After that, the change in the scores of each word was explored with respect to knowledge state and frequency of encounters with the word. To explain those quantitative results, and to answer the second research question regarding the participant's perception of vocabulary learning and ER, the transcribed interviews were analyzed qualitatively.

The Process and Outcomes of Vocabulary Acquisition

The results of the self-report vocabulary knowledge pretest, immediate vocabulary tests, and vocabulary posttest show the participant's vocabulary growth for both IR and ER learning methods (see Table 2). At Time 0 (pretest), the participant claimed that he knew the meanings of five words (rated as 3 or 4) out of 20 items tested in IR and nine words out of 20 items tested in ER. These numbers increased gradually during two periods of time: Time 0-Time 1 (immediate test during the treatment), and Time 1-Time 2 (posttest after the 8-week treatment). Whereas only one word was acquired in each method during the period of Time 0-Time 1, seven words were acquired in IR and three in ER during Time 1-Time 2. In total, the participant learned eight words through IR and four words through ER. The amount of words acquired through ER was relatively small compared to that of IR. For the present study, we considered the word to be "acquired" when the participant answered the meaning of the word correctly in the immediate test, and, in the posttest, the participant rated the word as 3 or 4 and the meaning given was correct.

Table 2
Vocabulary Growth by Time

Time	Time 0 (Pretest)	Time 1 (Immediate test)	Time 2 (Posttest)
ER Score	9/20	10/20	13/20
Number of words acquired	N/A	1	4
IR Score	5/20	6/20	13/20
Number of words acquired	N/A	1	8

As seen in the results, through the ER method the participant acquired four words out of 11 whose meaning he claimed to be uncertain of in the pretest. Similar to the results from earlier studies, this study found the vocabulary growth through ER to be small compared to IR. However, a closer look at the development of vocabulary knowledge in this study revealed two characteristic features of ER to be considered in the relationship between the condition and the words acquired. One was that the participant's previous knowledge state of each word did not influence the participant's acquisition of the word, and the other was that the frequency of encounters with the word directly influenced the participant's vocabulary acquisition without being interrupted by other external factors. This result can be explained by the condition for successful vocabulary acquisition suggested in Laufer and Hulstijn's (2001) involvement load hypothesis. In the following sections, we will introduce and discuss the findings of our study from the motivational dimension (i.e., need and interest) on vocabulary growth related to the involvement load hypothesis.

The relation between the condition and the words acquired.

Although the number of words reached at state 4 (i.e., the words that the participant rated as state 1, 2, and 3 in the pretest but categorized as state 4 in the posttest) referred to as the words acquired) through ER was relatively small, we found improvement in vocabulary knowledge for all the words tested in this study regardless of the previous knowledge state (i.e., words in state 1 in the pretest moved into state 4 in the posttest, and state 2 and 3 words stayed in the same states or moved toward the positive direction). It appears that the participant's previous knowledge state of each word did not influence his acquisition of the word in the ER method.

Given that the condition for successful vocabulary acquisition involves two cognitive dimensions, *search* and *evaluation*, it seems that the participant searched for the meaning of the word and evaluated the several possible meanings considering the context, without regard to previous knowledge of the word (i.e., without considering whether the word was totally new or partially new to him). This interpretation is based on the fact that the participant emphasized the importance of guessing the meaning of a word without using a dictionary. In the interview, he stated: “本当になんか、使いたい言葉があったら、辞書[を使う]。でもあんまり使わない。…[辞書を]見るのがだめだ” [“If I really want

to use a certain word, I look it up in the dictionary. But not often... It is not good to use one.”] He explained that, while he was studying at a language school in Japan, his instructors had said to try to not use a dictionary. In addition, this style of learning suited him in that he seemed to believe that one must try to guess the meaning of the word even if the guess is not accurate. In the interview, the participant shared with us his experience of trying to use as many things as possible that he learned during his stay in Japan. In this regard, he mentioned that he did not guess the meaning of the words in IR, while he did use guessing in ER. In the interview, he said:

『ユヌス教授』は、Guess してないよ。だって、全部調べたから。語彙を一つずつ最初から調べた。『少年 H』は一回読んでから、調べたけど。{I did not guess [when I read] *Professor Yunus* [the IR material]. Because I looked up all the words [that I was not sure of]. I looked up the words one by one from the beginning. As for *Shonen H* [the ER material], I looked up the words after reading through once, though.}

According to Laufer (2003), vocabulary learning through reading occurs when we go through three stages: noticing a new word, guessing the meaning of the word, and retaining the new knowledge. The cognitive dimensions of search and evaluation are involved in the second stage of *guessing* in this theory. In ER, we can assume that the participant rarely ignored unfamiliar words and proceeded to the guessing stage, which is lexical inferencing. This smooth transition between the first and second stages could depend to a large extent on the participant's past learning experiences. However, it could also be explained by Nation's (2001) mediating variables of lexical inferencing, such as familiarity of the topic and learner interest.

During the interview, the participant claimed that what he did not like about ER were the political tone and outdated words/expressions the author of the text used, an issue he had only noticed when the reading began. Regarding those points, he commented, “政治的な。なんかあんまり面白くない。...ときどきあんまり役に立たない。...あまり使わない。” [“Political. Like, it's not so interesting... sometimes, it's not so useful... We don't use it so often.”] As a result, his pace of reading slowed down (from a researcher's observation, and confirmed with the participant in the interview) because, “[多読は]まあ自由にできるから、自分のペースで。” {“Well, [ER] allows me to do it freely at my own pace.”} The flexibility of ER gave the participant a choice of delaying or avoiding reading the parts he did not like. Therefore, he could ignore parts and words according to his preference from the point of view of usefulness (i.e., whether the word is useful for him or not), rather than familiarity of the word (i.e., how confident he is about the meaning of the word). Consequently, although the amount of reading text and the number of new words encountered decreased as the participant progressed in his reading, unfamiliar words were inferred regardless of the degree of unfamiliarity, as long as they seemed useful to the participant. This may explain the improvement in vocabulary knowledge found for all the words regardless of their previous knowledge state in ER; and we might be able to assume that ER promotes Japanese language learners' acquisition of words at any stage of the learner's vocabulary knowledge development. The ER method not only gives learners a chance to encounter new words but also supports the consolidation of their existing vocabulary knowledge.

Another finding was that little change was observed in the rate of increase of vocabulary knowledge as related to the frequency of appearance in ER (e.g., the knowledge state of a word that appeared twice rarely moved to the next knowledge state, a word that appeared four times moved to the next knowledge state, and a word that appeared more than 10 times moved up two knowledge states).

Table 3
Vocabulary Growth by Frequency of Appearance

Frequency of appearance		2	3	4	5-9	10 +	Total
ER	Items tested	<i>n</i> = 6	<i>n</i> = 7	<i>n</i> = 3	<i>n</i> = 3	<i>n</i> = 1	<i>n</i> = 20
	Growth ^a	0.33	0.71	1.0	1.33	2.0	0.8
IR	Items tested	<i>n</i> = 5	<i>n</i> = 4	<i>n</i> = 3	<i>n</i> = 6	<i>n</i> = 2	<i>n</i> = 20
	Growth ^a	-0.4	1.25	2.0	1.5	2.0	1.1

^aGrowth = (Mean score of posttest) – (Mean score of pretest). Scores: state 1 = 1, state 2 = 2, state 3 = 3, state 4 = 4.

The mean scores of the difference between pretest and posttest scores increased in proportion to the frequency of encounters (twice, 0.33; three times, 0.71; four times, 1.0; five-nine times, 1.33; more than 10 times, 2.0); the rate of increase was relatively stable compared to that of IR.

This result can also be attributed to the second stage, that is, guessing, in the vocabulary acquisition process proposed by Laufer (2003), meaning that the context of the material affected the vocabulary acquisition process. While the material used in IR was selected by the instructor based on the participant's Japanese proficiency, the material used in ER was chosen by the participant according to his interests. In the interview, the participant described why he decided to read this specific book for ER:

XXさんが Classic と言ってた。日本人の中学生とかは Classic も勉強するから、日本の教育と同じように、まあ Basic のだけど、やってみようかって。日本人と同じ教育。{Mr. XX said [that this book is] classic. Japanese junior high school students study classics. So, following Japanese education, I chose [this] although this is basic. Same education as Japanese people.}

As the excerpt above shows, the participant appeared to be motivated to read the material since he could choose what he believed Japanese people were actually reading at school. In addition, he recalled what he felt when he encountered a word that he did not know, both in ER and IR:

分からない言葉も周りの他の言葉が知ってる言葉だったから、Context は分かった。... Context は、『ユヌス教授』のほうか今の話だけど...どうしてだろ? 『少年 H』のほうか簡単だった。[As for the words I did not know, since I knew the other words in the text, I could understand the context...I wonder why I felt reading the ER

material was easier although the context of the IR material was more contemporary?]

It can be assumed that the participant more easily understood the background of the ER material, utilizing existing knowledge from his previous life and learning experiences. In other words, the ER material contained clues that enabled him to use existing schema to guess the meaning of words more easily and accurately.

The participant also described how his existing *kanji* and vocabulary knowledge helped him to go through the guessing stage (i.e., search and evaluate the meaning of the word) in ER. *Kanji* is one of the three Japanese writing systems: *hiragana* (syllabary), *katakana* (syllabary), and *kanji*/Chinese characters (logograms). In Japanese text, all three writing systems are used together, often within one sentence.

XX [name of language school]で中級だったから、その時習った言葉とか。「薄暗い」は、昔話の『鶴の恩返し』を読んで、その時見た。それに、漢字の「薄い」と「暗い」だから。「平気」も「平和」と「気」で、これも習った。{[those words were] the words I learned when I was in the intermediate level at XX. I saw *dim/dusky* in the folk tale *The Grateful Crane* before. [I could get the meaning of the word because] it's made of *kanji light/mild* and *dark*. This *without hesitation* is also made of *kanji, peace* and *spirit*, and I learned them once.}

Even though learners proceed to the guessing stage when they encounter an unfamiliar word, the word cannot be acquired if the activity of guessing is unsuccessful (i.e., the result of the evaluation is incorrect). The stable increase rate in ER indicates that lexical inferencing was directly influenced by the frequency of encounters without being interrupted by other external factors such as context ambiguity.

The Participant's Perception of Vocabulary Learning and ER

In the interview, we also asked about the participant's perception of vocabulary learning and its methods. In the interview, the participant was given two situations/learning goals: (a) preparing for a language proficiency test, and (b) preparing for residing in Japan. He was then asked to choose 10 words from 19 that scored at knowledge state 4 in the vocabulary posttest (i.e., were rated as 4 and the answer was correct) according to their importance for each situation (see Table 7). For both situations, he chose four words appearing in the IR text (four out of 10 words) and six words from the ER text (six out of nine words). The participant also reported his vivid memory of 10 out of 19 words (IR: four words, ER: six words); and in ER, all six of those words overlapped with the words claimed as important (two words overlapped with the words claimed as important in IR). This suggests that the retention of word knowledge in ER is related to the participant's perception of the importance of the items. The results indicate that: (a) the participant perceived more than half of acquired words in ER (six out of nine words) to be important regardless of the goal/situation; and (b) all the words stored in his long-term memory were ones he considered important in either situation in ER, whereas only half of retained words were important words for him in IR.

Table 4
Importance of the Words

	Important for test		Important for residing in Japan		Vivid memory (retention) ^a	
	Rate	Items	Rate	Items	Rate	Items
ER	6/9	#1 ここここ [smile/beam with delight]	6/9	#1 ここここ [smile/beam with delight]	6/9	#1 ここここ Smile/beam with delight]
		#2 平気で [without hesitation]		#2 平気で [without hesitation]		#2 平気で [without hesitation]
		#3 見送り [send-off]		#3 見送り [send-off]		#4 隠す [hide]
		#4 隠す [hide]		#7 手拭い [Japanese towel]		#7 手拭い [Japanese towel]
		#5 涙 [tears]		#8 おしゃべり [chatter]		#8 おしゃべり [chatter]
		#6 薄暗い [dim/dusky]		#9 ますます [more and more]		#9 ますます [more and more]
IR	4/10	#1 希望 [hope/wish]	4/10	#1 希望 [hope/wish]	4/10	#1 希望 [hope/wish]
		#2 集会 [assembly]		#2 集会 [assembly]		#4 議長 [chairperson]
		#3 得られる [obtainable]		#3 得られる [obtainable]		#10 井戸 [water well]
		#4 議長 [chairperson]		#5 文房具 [stationery]		#11 体操 [physical exercise]

^aThe meaning of the word was still remembered after the posttest.

These results are in agreement with those from Watts' (2008) study. Watts reported a statistically significant relationship between word saliency (a measurement of the learners' perception of the importance of the target items in an L2 text) and L2 lexical gain. Watts suggested that "more relevant (or salient) words will have a higher probability of being

extracted; that is, their lexical information will have a greater likelihood of being recognized and remembered” (p. 10). The motivational dimension of *need* in the involvement load hypothesis is one of the essential keys to vocabulary acquisition. As well as being a precondition of lexical inferencing, it is also an influential factor that affects the retention of word knowledge. In the present study, the ER method offered a higher chance of encountering new words that pique the participant’s interest, and those words were acquired and stored in his long-term memory. As for retention, it seems that the participant’s language learning background had some influence on its process.

As mentioned in the previous section, the participant could guess the meaning of words relatively accurately with the help of his existing *kanji* knowledge. However, this condition did not directly lead the word to the stage of full-acquisition or retention (i.e., the stage of being able to read out aloud and use the word) because *kanji* is logograms and does not work as a syllabary in Japanese (i.e., one letter has several different readings, and Japanese has many homonyms). Hence, an extra step is required for a word to reach the retention stage, and a learner does not always proceed to that step during reading. According to the participant, he read a lot in his childhood in order to gain his knowledge of vocabulary, because the primary education that he received in Finland emphasized the importance of reading large amounts of various texts to gain vocabulary knowledge. After entering high school in France, he further realized that the more he read, the richer his expression became. These experiences led him to his belief in (and habit of) reading texts, which is that, “読むとき、頭の中で読まないといけない。{ “[To acquire and to be able to use the words in the text] I must read [the text] aloud in my head when I read.” } Due to this belief, the participant normally tries to know not only the meaning of the word (to comprehend the text) but also the reading of the word (to acquire and understand the use) while reading Japanese texts. Therefore, he chose a book with some familiar words/*kanji* and *furigana* (a Japanese reading aid, ruby characters), which supported his belief about reading and his retention of the words. ER’s feature of allowing choice of reading material freely enabled the creation of a learning/reading environment suitable for the learner, which promoted the retention of words that were meaningful to him.

Although the number of words acquired (i.e., immediate result) is normally a main focus in the field of vocabulary acquisition, when we consider the quality of vocabulary learning experiences, learners’ perception of the importance of the target items is as important as the number of words acquired. Taking into account the findings of the present study, we might be able to claim that one of the essential benefits of ER is the possibility of creating a base of meaningful vocabulary for learners. It would give learners a chance to learn words that they actually feel the need to learn, and promote the retention of vocabulary knowledge.

Conclusion

The present study explored the vocabulary acquisition process, through ER, of one Japanese language learner. Since this was a case study, the findings are not generalizable. However, the findings suggest some possible pedagogical implications for integrating ER into Japanese vocabulary learning.

This study shows that ER complemented the participant’s vocabulary acquisition through IR. In classroom teaching, often only IR is employed. Although the expected

vocabulary growth in ER (i.e., immediate result) is small, ER would work particularly well in consolidating learners' vocabulary knowledge, which is more challenging with IR. At this point, it may not be appropriate to employ ER in situations such as examination preparation, which requires learners to memorize certain words within a set period of time. Rather, it would be more beneficial to regard ER as an additional opportunity for learners to repeatedly encounter the vocabulary that they have already been learning. A related implication is that ER could provide learners with a chance to be exposed to a wide range of vocabulary that IR cannot cover in a limited time. Here, ER would be valuable as a way of learning vocabulary that reflects learners' individual needs and/or interests.

In this study, it was also found that ER allowed the participant a greater degree of freedom in how he conducted reading activities—from the choice of the material to the degree to which he made an effort to understand the text. He could reflect his preference through every aspect of the reading process, which ultimately seemed to facilitate his vocabulary learning. When ER is employed in L2 teaching, it might be ideal that teachers simply motivate and encourage learners' ER activity, but not outline how reading should be conducted in detail. For instance, it would be helpful for learners if teachers introduce a wide choice and variety of texts, encourage learners to track their reading by themselves, and provide opportunities to casually share their impressions of the texts with peers and teachers.

If we look at the effectiveness of vocabulary learning based simply on the amount of vocabulary acquired, ER, in this study, which focused more on the feature of flexibility than the amount of reading, may appear to be less effective than IR as a method of learning vocabulary. In this sense, the present study does not deny the important role of IR in vocabulary acquisition. However, this study indicates the importance of choosing a method relevant to a student's interests, needs, and purpose of learning. When looked at from the learner's perspective, vocabulary learning will be best if a "large number" of "meaningful" words are acquired at the end. Towards that goal, ER and IR would function together in a mutually reinforcing way.

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Appendix A: Vocabulary Learning Strategy Questionnaire—Japanese

(Adapted from VOLSQUES [Pavičić Takač, 2008] & SILL [Version 5.1; Oxford, 1990])

Foreign languages can be learnt in various ways. The aim of this questionnaire is to find out how YOU learn Japanese words. Please read each statement, and mark the response (1,2,3, or 4) that tells how true the statement is in terms of what you ACTUALLY DO when you are learning Japanese words.

1. Never 2. Almost never or not so often 3. Often or almost always 4. Always

1. I use new words in a sentence in order to remember them.	1 2 3 4
2. I use reference materials such as glossaries or dictionaries to help me write in Japanese.	1 2 3 4
3. I seek specific details in what I read.	1 2 3 4
4. I review words regularly outside the classroom.	1 2 3 4
5. I test myself to check if I remember the words.	1 2 3 4
6. I pick up words from films and TV programmes I watch.	1 2 3 4
7. I use flashcards with the new word on one side and the definition or other information on the other.	1 2 3 4
8. When I cannot think of the correct expression to say or write, I find a different way to express the idea; for example, I use a synonym or describe the idea.	1 2 3 4
9. I write down words repeatedly to remember them.	1 2 3 4
10. I remember a word if I see it written down.	1 2 3 4
11. I say a word out loud repeatedly in order to remember it.	1 2 3 4
12. I find the meaning of a word by dividing the word into parts which I understand.	1 2 3 4
13. I associate new words with the ones I already know.	1 2 3 4
14. I write down words when I watch films and TV programmes.	1 2 3 4
15. I plan for vocabulary learning in advance.	1 2 3 4
16. I remember where the new word is located on the page or where I first saw or heard it.	1 2 3 4

17. I pick up words while reading books and magazines in Japanese.	1 2 3 4
18. I make up new words if I do not know the right ones.	1 2 3 4
19. I physically act out the new word.	1 2 3 4
20. I translate the words into my mother tongue to understand them.	1 2 3 4
21. I repeat the word mentally in order to remember it.	1 2 3 4
22. I group words together in order to remember it.	1 2 3 4
23. I read and leaf through a dictionary to learn some new words.	1 2 3 4
24. I work with other language learners to practice, review, or share information.	1 2 3 4
25. I connect words to physical objects to remember them.	1 2 3 4
26. I write summaries of Japanese material.	1 2 3 4
27. I test myself with word lists to check if I remember the words.	1 2 3 4
28. I list all the other words I know that are related to the new word and draw lines to show relationships.	1 2 3 4
29. I pick up words from the Internet.	1 2 3 4
30. I read without looking up every unfamiliar word.	1 2 3 4
31. I use rhyming to remember it.	1 2 3 4
32. I write down words while I read books and magazines for pleasure.	1 2 3 4
33. I try to understand what I have heard or read without translating it word-for-word into my own language.	1 2 3 4
34. I connect an image with a word's meaning in order to remember it.	1 2 3 4
35. When I do not understand all the words I read or hear, I guess the general meaning by using any clue I can find, for example, clues from the context or situation.	1 2 3 4
36. I use familiar words in different combinations to make new sentences.	1 2 3 4
37. I listen to songs in Japanese and try to understand the words.	1 2 3 4
38. I use a combination of sounds and images to remember the new word.	1 2 3 4

39. I read a story or dialogue several times until I can understand it.	1 2 3 4
40. I plan what I am going to accomplish in vocabulary learning each day or each week.	1 2 3 4
41. I skim the reading passage first to get the main idea, then I go back and read it more carefully.	1 2 3 4
42. I visualize the spelling of the new word.	1 2 3 4
43. I use reference materials such as glossaries or dictionaries to help me understand what's written.	1 2 3 4
44. I ask the other person to tell me the right word if I cannot think of it in a conversation.	1 2 3 4
45. I use spaced word practice in order to remember words.	1 2 3 4
46. I read for pleasure in the new language.	1 2 3 4
47. I remember the word by making a clear mental image of it or by drawing a picture	1 2 3 4
48. I write personal notes, messages, letters, or reports in the new language.	1 2 3 4
49. I make word lists and write their translations in my mother tongue.	1 2 3 4
50. I take notes in class in Japanese.	1 2 3 4

Please answer the following questions.

- 1) What does 'vocabulary learning/acquisition' mean to you?
- 2) What is your goal of vocabulary learning? (i.e., understanding the meaning of the word, being able to use the word in a sentence)
- 3) What do you think is the best way to learn new foreign words in general?
- 4) What do you think is the best way to learn Japanese words? Does it differ from your answer in Question 1? If so, why?
- 5) Do you like reading in Japanese or want to try to read in Japanese?
- 6) Have you ever heard of Extensive Reading?
- 7) Have you ever tried Extensive Reading? If so, how was it? What do you think of it from a vocabulary learning point of view?

Appendix B: Background Questionnaire

The following questions are about your background. Please write your name and answer the questions.

Name: () Age: () Gender: ()

1. Mother tongue: ()
2. Language you speak at home: ()
3. Language you are now learning (or have most recently learned)
List one language only: ()
4. How long have you been studying the language listed in #3? ()
5. How do you rate your overall proficiency in the language listed in #3 as compared with the proficiency of other students in your class? (Circle one):

Excellent / Good / Fair / Poor

6. How do you rate your overall proficiency in the language listed in #3 as compared with the proficiency of native speakers of the language? (Circle one):

Excellent / Good / Fair / Poor

7. How important is it for you to become proficient in the language listed in #3? (Circle one):

Very important / Important / Not so important

8. Why do you want to learn the language listed #3? (Check all that apply) :

- () Interested in the language
- () Interested in the culture
- () Have friends who speak the language
- () Required to take a language course to graduate
- () Need it for my future career
- () Need it for travel
- () Other (list): ()

9. Do you enjoy language learning? (Circle one) : Yes / No

10. What other languages have you studied? : ()

11. What has been your favourite experience in language learning?