Learners' Recognition of Loanwords and Reading Comprehension

Chieko KAWAUCHI

Abstract

The present study investigated three aspects of loanwords: how loanwords were utilized in English learning, how they were recognized in English texts, and how they affected reading comprehension. Four reading texts were used and manipulated by the number of loanwords and the degree of topic familiarity and text difficulty. Thirty students with larger vocabularies and 30 with smaller vocabularies were selected from 102 students. First, students responded to a questionnaire about how they perceived loanwords in learning. Then, they read the texts and marked words they recognized as loanwords. Finally, they were provided comprehension questions, followed by their feedback about how familiar and difficult they found it. Major findings were: (1) Students with larger vocabularies rarely used *katakana* for learning pronunciation, which was significantly different from students with smaller vocabularies, (2) Although the number of loanwords was set in the texts, students with larger vocabularies recognized more loanwords than those with smaller vocabularies, and their recognition rates differed among the four texts, whereas students with smaller vocabularies did not show any differences regardless of whether the text was familiar or difficult, (3) Students with smaller vocabularies showed a significant correlation between the questionnaire responses and the number of loanword recognitions, (4) Students with larger vocabularies outperformed those with smaller vocabularies in reading comprehension, (5) Students with smaller vocabularies strongly perceived a difference due to topic familiarity rather than text difficulty, and (6) Effects of loanwords on topic familiarity and text difficulty in reading comprehension were not clearly shown. In response to the increasing use of loanwords in today's society, the present study discusses how they can be utilized in vocabulary learning.

Keywords: loanword, recognition, reading comprehension,
topic familiarity, text difficulty

1. Introduction

Due to the corona virus pandemic, we have frequently seen and heard new loanwords, such as "lockdown," "social distance," and "cluster", to name a few, which would otherwise have never appeared without this infection. In fact, loanword dictionary entries continue growing. For example, Sansido (2000) contains 525,000 loanword entries (MacGregor, 2003). It is also reported that the ratio of loanwords in magazines published during 2001 to 2005 was as much as 25.3% (Iwata, 2014), and 97% of loanwords in newspapers have English origins (Ito, 1993). When the increasing number of loanwords is considered, there seems to be a role of loanwords to play to help students learn English in an EFL situation like Japan.

In fact, students consciously or unconsciously make use of loanwords in English language production. Daulton (2007) revealed that in writings by non-English majors, 76% of the words were loanwords at the most frequent 1,000-word level. In fact, vocabulary size tests are sometimes affected by the inclusion of loanwords. Laufer and McLean (2016) investigated two versions of vocabulary size tests: one with loanwords included and the other without loanwords. They found that Japanese EFL learners indicated greater aptitude on the more difficult test such as active recall (translation from L1 to L2) and passive recall (translation from L2 to L1) on the test versions with loanwords. They also indicated that Japanese learners benefitted from loanwords more than Hebrew-speaking learners, particularly for active recall, among basic level learners.

It is also shown that learners felt longer loanwords were significantly more familiar than shorter loanwords when they were frequently used in the Japanese context (Kawauchi, 2017). Moreover, college students indicated that they frequently used loanwords themselves and felt an increase of loanwords was favorable (Kawauchi, 2019). These findings clearly show that loanwords

are influential for receptive and productive use of English by Japanese learners.

It is, however, often criticized that since loanwords tend to undergo semantic, morphological, and phonological modification, they are not exactly the same as English words, such as "*manshon*" for condominium and "*smaho*" for smart phone as a reduced form of a compound noun. However, in the study on semantic transfer and development in vocabulary acquisition Jian (2004) states "while it is true that translation equivalents rarely share identical meanings, it is also true that they often share core meanings" [emphasis added] (p. 118). This is particularly true with loanwords. Many of the previous studies have shown positive effects of loanwords when learners were asked to recall corresponding English words (Daulton, 1998, 1999; Elgort, 2012; Kawauchi, 2014, 2015; Laufer & McLean, 2016; Stubbe, 2014). From the pedagogical point of view, it is also mentioned that loanwords contribute to lessen the learning burden (Nation, 2001), in particular at the beginning levels, as a bridge from recognition to active knowledge (Daulton, 2008).

When these benefits for vocabulary learning are considered, there arises a possibility that loanwords might help learners when they read. If leaners are able to notice more loanwords in the text, they will get more information than those who are not able to do so. However, many of the previous studies have examined their receptive and productive knowledge at the de-contextualized word level (Brown & Williams, 1985; Daulton, 1999, Kawauchi, 2014, 2015, Stubbe, 2014) or at most sentence level (Kawauchi, 2017).

Thus, there has been no examination into how loanwords affect comprehension in a larger context like L2 readings. Above all, how do learners perceive and utilize loanwords when they read, write, and learn vocabulary? Do they really recognize loanwords when they read? Furthermore, learners' vocabulary sizes might affect the recognition of loanwords and facilitate comprehension when they read. Kawauchi (2017) found that learners with larger vocabularies recalled more target words than those with smaller vocabularies when they were reminded of the existence of corresponding loanwords in advance.

Taken together, the research findings indicate that loanword knowledge is highly predictive of performance on various vocabulary tests, but little research has been done on how loanwords are perceived and relate to L2 reading comprehension. With these questions above, the present study examined how loanwords affected L2 readings, which are composed of different levels of topic familiarity and text difficulty, focusing on students with different vocabulary sizes. The following three research questions (RQ) were addressed:

RQ1: How do learners with different vocabulary sizes perceive loanwords when learning English?

RQ2: How often do these learners recognize loanwords when they read L2 texts with different levels of topic familiarity and reading difficulty?

RQ3: How do loanwords affect reading comprehension of L2 texts with different levels of topic familiarity and text difficulty?

2. Loanwords in Reading Comprehension

Reading is not a simple task but involves various factors such as topic familiarity, vocabulary level, text difficulty, and reading strategies. The present study focuses on topic familiarity and text difficulty. Regarding topic familiarity, it has been agreed that background knowledge such as cultural factors plays an important role in comprehension (Carrell, 1987; Chihara, Sakurai, & Oller, 1989). Readers bring their knowledge to the text. It is possible to think that loanwords in the text would activate some background knowledge that the learner has attached to it, helping him/her to understand the text more effectively and efficiently. For example, when the text is concerned with a *sushi* restaurant, the reader's background knowledge of *sushi* restaurants will be activated in their memory, which is called top-down processing. Top-down processing is strongly related to schematic knowledge.

Carrelle (1987) conducted how culture-specific content schema and formal schema, that is, knowledge of the rhetorical organizational structures, affected reading comprehension. The results indicated that familiar content and familiar rhetorical forms yielded better reading comprehension than unfamiliar

content and unfamiliar rhetorical forms. In addition, content schemata affected reading comprehension to a greater extent than formal schemata. García (1991) indicated in her qualitative study that bilingual Hispanic children (5th~6th grade) had difficulty comprehending a given English passage because they did not activate their appropriate schemata due to a lack of prior knowledge of vocabulary and context.

There is no doubt that both content and formal schemata affect reading comprehension.   In order to see the effect of loanwords on reading, learners must first recognize a target English word, for example "real," in the text and associate it with the corresponding *katakana* loanword, " リアル " as well as the Japanese word " 本物の ", both of which coexist in common usage and are frequently seen in the Japanese context. The point is, however, whether or not learners really note these words in the text and associate them with their L1 meaning.

However, it may not always be easy to recognize loanwords. Banta (1981) indicated that although a number of cognates existed between German and English, some English-speaking students of German could not recognize certain cognates, even obvious common borrowings such as *hunger* and *intelligent.* Regarding the failure of noticing cognates, Japanese learners of English would have more difficulty than those learners because Japanese and English employ different orthographies. How often do they recognize those English words in the text and associate them with corresponding *katakana* loanwords? Are there any differences among students in the recognition of loanwords?

Regarding text difficulty, several methods have been used: total number of words and word types, type/token ratio, average sentence length in words, and word frequency level. Thus, longer sentences with less frequent words are considered more difficult than shorter simple sentences with frequent words. A readability index is one of the useful indicators. The Coleman-Liau index shows the grade level thought to be necessary for comprehension by examining the average number of letters per 100 words and the average number of sentences per 100 words. If some loanwords are included at differing difficulty levels of text, how do they affect reading comprehension? Are there different effects of

loanwords based on text difficulty or topic familiarity?

      To the best of the writer's knowledge, little research has been done regarding how loanwords are perceived, recognized, and related to reading comprehension. In this sense the current study is exploratory in nature.

3. Method

3.1 Participants

    One hundred two students from four intact classes participated; 58 students were first-year students classified as at the intermediate level by our in-house placement test, and 44 students were second- and third-year students who were taking English as a major or minor course. However, to clarify the research questions, the present study focused on the upper 30 students whose vocabularies exceeded 4,066 words (mean=4,611, min=4,066, max=5,400, median=4,516) and those lower 30 students whose vocabularies were less than 3,200 words (mean=2,819, min=2,200, max=3,200, median=2,866) in the vocabulary size test (Mochizuki, Aizawa, & Tono, 2003). A t-test indicated there was a significant difference between them (t=20.75, p=.000)

3. 2 Questionnaire on Loanwords in English Learning

      For RQ1, the study asked the students the following 10 questions on their perceptions of loanwords (LWs) in English learning, using a 4 point Likert scale: 1: rarely, 2: not so often, 3: sometimes, 4: very often.

Q1. <u>When reading</u>, to what degree do I recall *katakana* loanwords and relate them with their L1 meaning (recall of LWs in reading)?

Q2. <u>When writing</u>, to what degree do I recall *katakana* loanwords and relate them with their L1 meaning (recall of LWs in writing)?

Q3. To what degree am I conscious of <u>differences in meaning</u> between *katakana* loanwords and corresponding English words (different meaning)?

Q4. To what degree am I conscious of <u>differences in pronunciation</u> between *katakana* loanwords and corresponding English words (different pronunciation)?

Q5. <u>When learning English words</u>, to what degree am I conscious of and relate

to *katakana* loanwords (LWs for word learning)?

Q6. When learning English words, to what degree do I make notes of their pronunciation with *katakana* (*katakana* for learning pronunciation)?

Q7. When I can't figure out the meaning of *katakana* loanwords, to what degree do I check them up in a dictionary or on the Internet (checking of meaning)?

Q8. To what degree do I think *katakana* loanwords and corresponding English words are similar in meaning (similar meaning)?

Q9. How often do I use *katakana* loanwords daily (using LWs)?

Q10. How often do I see and hear *katakana* loanwords (seeing/hearing LWs)?

3.3 Reading Texts, Loanword Frequency, Comprehension Tests, and Learners' Feedback

Prior to the main study, a pilot study was carried out with 19 Japanese college students to find appropriate reading materials, reading difficulty, and frequency of loanwords in the Japanese corpus, *Shonagon* (NINJAL). The results indicated that reading texts needed a clearer difference in difficulty level and that the frequency of loanwords had to be more strictly restricted so that these words could be easily recognized. The students of the pilot study did not participate in the main study.

Bearing this in mind, the following four texts were made by adapting them from textbooks by VELC Material Development Group (2018). The texts were composed of two types of familiarity and two types of difficulty: *Ninja* as a familiar topic with an easy text (+familiar +easy: +F+E); *Japanese food* as a familiar topic with a difficult text (+F-E); *Child labor* as an unfamiliar topic with an easy text (-F+E); and *Bones* as an unfamiliar topic with a difficult text (-F-E).

To make a clear distinction between easy and difficult texts, some words were replaced by more frequent ones, and some sentence structures were manipulated to yield a distinctive difference in readability. With these procedures, readability for easy texts was at the 8th grade level, and that for difficult texts was at the 10th grade level on the Coleman-Liau Index.

Word length and word types for these texts were also controlled to make them almost equivalent. The average number of total words, or tokens, used in the texts was 135.3, ranging from 130 to 139 words. The number of word types

were between 80 and 82, with the average being 80.5.

Based on the results from the pilot study, loanwords were limited to those which appeared more than 100 times in the Japanese corpus, *Shonagon*, restricting the texts to books, newspapers, magazines, textbooks, and Yahoo blogs used in the 2000s. The number of tokens of loanwords in each text was different, but the number of types was set at 15 to see the effect of loanwords on comprehension. Table 1 displays a summary of these components for the four types of texts.

Table 1

Four Types of Readings

Title	F/E	Readability	Words	Types	LW token	LW type
Ninja	+F+E	8.1	130	82[a]	17	15
C labor	-F+E	8.1	134	80	21	15
J food	+F-E	10.4	138	80[b]	27	15
Bones	-F-E	10.3	139	80	17	15

Note. *J food*=Japanese food; *C labor*=Child labor. [a]Four Japanese proper nouns and [b]two Japanese words were excluded.

As shown in Table 1, the baseline for loanwords was rather strict, as mentioned above, but there were some other loanwords which did not meet this criterion. When these words were chosen by students, they were also counted, because it shows the student's sensibility to loanwords, and thus it was considered to be appropriate to include them.

For RQ3, 10 reading comprehension questions were made for each text. They were true/false test items written in Japanese. The Japanese questions were used to avoid misunderstandings caused by English-written questions. See the appendix for a sample text and questions.

At the end of the comprehension questions, students were asked the degree of topic familiarity (1: not familiar ~ 4: familiar) and text difficulty (1: easy~4: difficult) with a 4 point Likert scale, as shown below. This was provided to see how their feedback related to their comprehension of the texts.

(1) How familiar did you feel this topic was?

(2) How difficult was it to understand the story?

3.4 Procedure

Students from four intact classes responded to the questionnaire in the first week of the semester and took the vocabulary size test in the second or third week. During the semester, one of the four reading texts was given in the space of two to four weeks. To minimize sequence effects, the presentation order of the tasks was randomized. Every time students received one reading text, they had a brief explanation on how to mark words they think coexisted with *kataka-na* words in common usage (e.g. big= ビッグ、world= ワールド). After marking, they were told to read the text carefully for 5 minutes and answer 10 true-false questions. Immediately after the comprehension test, they indicated how familiar and difficult they found the reading. All the data were analyzed by STAR.

4. Results and Discussion

4.1 How Did Learners Perceive Loanwords When Learning English?

Descriptive statistics for the questionnaire are shown in Table 2. Results are based on learners' vocabulary sizes, learners with larger vocabularies (upper group) and those with smaller vocabularies (lower group).

Table 2

How Learners Use Loanwords in Learning (1: rarely ~ 4: very often)

	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
Upper *M*	2.80	2.43	2.73	3.20	3.10	1.70	2.93	2.70	2.97	3.57
SD	0.83	0.88	0.57	0.54	0.83	0.94	0.73	0.64	1.02	0.67
Lower *M*	2.90	2.67	2.47	2.97	2.97	2.97	2.80	2.83	3.13	3.43
SD	0.79	0.91	0.72	0.84	0.75	1.11	0.75	0.58	0.76	0.67

Note. Q1=recall of LWs in reading; Q2=recall of LWs in writing; Q3=different meaning; Q4=different pronunciation; Q5=LWs for word learning: W6=*katakana* for leaning pronunciation; Q7=checking of meaning; Q8=similar meaning; Q9=using LWs; Q10=seeing/hearing LWs

A mixed model two-way ANOVA was conducted, using group as be-tween-subject and question as within-subject factors. A main effect was found in question with a large effect size ($F(9)$=11.85**, partial η^2=.169), but not in group ($F(1:58)$=0.98ns, partial η^2 =.016), and there was an interaction between them having a medium effect size ($F(9:522)$=5.44** partial η^2=.085).

The analysis of interactions indicated that there was a significant differ-ence in Q6 (*katakana* for learning pronunciation) between the upper and lower groups. The lower group (M=2.97) responded significantly higher than the upper group (M=1.70)($F(1,58)$=22.06, p<.01).   No other questions yielded any significant differences between the two groups. Both groups also exhibited sig-nificant differences in responses among these 10 questions.

For the upper group, the lowest score was Q6 (*katakana* for pronunciation) (M=1.70) which was significantly different from all the other nine questions. In contrast, the highest score was Q10 (seeing & hearing loanwords), which was significantly higher than Q1 (recall of loanwords in reading), Q2 (recall of loanwords in writing), and Q3 (different meaning). The second highest was Q4 (different pronunciation). Results for the correlation analysis indicated some interesting tendencies. Q4 (different pronunciation) negatively correlated with Q1 (recall of loanwords in reading) (r= −.577), Q3 (different meaning: r= −.415), Q6 (*katakana* for learning pronunciation: r= −.408), Q8 (similar meaning: r= −.404) and Q2 (recall of loanwords in writing: r= −.391), all of which were significant.

To sum up, learners with larger vocabularies see and hear loanwords very frequently, but they were conscious of the modified pronunciations in the loan-words. Possibly due to this consciousness, they rarely made use of *katakana* for learning pronunciation. Those who were conscious of the different pronuncia-tions rarely recalled *katakana* loanwords in reading and writing or rarely thought that *katakana* loanwords were similar to or different from English base words.

For the lower group, on the other hand, the highest score was found in Q10 (seeing & hearing loanwords) followed by Q9 (using *katakana*) both of which were significantly different from Q2 (recall of loanwords in writing). The low-est score was in Q3 (different meaning), showing they were rarely conscious of differences in meaning entailed in loanwords. The highest correlation (r=

.672) was found between Q9 (using loanwords) and Q10 (seeing & hearing loan-words). Regarding word learning (Q5: loanwords for word learning), there was a significant correlation with Q6 (*katakana* for learning pronunciation) *r*= .598 as well as with Q9 (using loanwords) *r*= .472. Unlike the upper group, no negative correlations were found in the lower group.

It can be summarized that students with smaller vocabularies frequently see, hear, and use loanwords but rarely think of differences in meanings or recall loanwords when writing. Those who learn vocabulary by relating to loanwords make use of *katakana* for learning pronunciation and use loanwords themselves. The lack of negative correlations imply that they have positive attitudes towards loanwords.

4.2 How Often Did Learners Recognize Loanwords When Reading?

Table 3 presents descriptive statistics for the average number of loan-word types recognized in each text. A mixed model 2 (group) and 4 (text) ANOVA was carried out on the number of loanwords recognized by each group. The results indicated that there was a main effect for group ($F(1:58)=4.19^*$, par-tial $\eta^2=.078$), in favor of the upper group. There was also a main effect for text ($F(3)=4.16^*$, partial $\eta^2=.067$), indicating that recognition of loanwords differed in the four texts. No interaction was found between them ($F(3:174)=2.12$, partial $\eta^2=.040$).

Table 3

The Number of Loanword Types Recognized in Four Text Types

	Ninja (+F+E)	J food (+F-E)	C labor (-F+E)	Bones (-F-E)
Upper group *M*	15.93	16.63	19.50	14.83
SD	7.84	8.01	8.54	10.43
Lower group *M*	12.43	14.13	13.07	12.3
SD	6.98	5.62	5.05	6.32

Focusing on the upper group alone, multiple comparisons by Holm indicated that loanword recognition for *Child labor* (+F-E) was significantly higher than that for *Ninja* (+F+E) and *Bones* (-F-E) (*Child labor>Ninja=Bones*). The latter two texts were, in fact, contrastive in topic familiarity and text difficulty, but upper students recognized loanwords equally.

On the other hand, the lower group did not show any significant differences in the number of recognized loanwords, whether the texts were familiar or difficult. For those students with smaller vocabularies it seems that topic familiarity and text difficulty had no effect on noticing loanwords.

It is of interest that although the number of loanword types was fixed (k=15), the number of recognized words by the upper group varied according to the text, but that of the lower group did not. The fact that those students with larger vocabularies noted more loanwords than those with smaller vocabularies implies that when students knew more words, they were more likely to associate these English words with corresponding *katakana* loanwords. However, it is not certain which factor, topic and/or difficulty plays an effective role in the recognition of loanwords.

In order to examine how students' attitudes to loanwords in learning shown by the questionnaire related with loanword recognition, the total number of recognized loanwords were compared with the total scores of the questionnaire responses. This is because these numbers imply that students were sensitive to loanwords in reading texts and learning in general. The results revealed that the lower group showed a significant correlation (*r*= .44) between them, but the upper group did not (*r*= .12). This finding suggests that those lower students who are making use of loanwords in learning tended to recognize more loanwords when they read English passages.

4.3 How Did Loanwords Affect Reading Comprehension?

After the students finished checking loanwords in each text, they were asked to read the text carefully and answer 10 questions. Table 4 presents the results of the comprehension tests for four reading texts.

Table 4

Average Scores for Reading Comprehension of Four Text Types

	Ninja	*J food*	*C labor*	*Bones*
Upper group *M*	7.73	8.67	8.53	7.23
SD	1.28	1.07	1.28	1.35
Lower group *M*	6.90	7.70	8.27	6.87
SD	1.51	1.53	1.06	1.56

As shown in Table 4, the mean scores and standard deviations varied with Cronbach's alpha at .533. Since the alpha value is not high, it can be considered that the power to detect significant differences becomes weak. However, Murayama (2019) states that even though the reliability is low, the results are still meaningful if there are significant differences. Bearing this in mind, the results should be interpreted with caution.

In order to see if there are any differences in comprehension scores between the two groups and between the four texts, a mixed model 2 (group) x 4 (text) ANOVA was conducted. The results indicated main effects both for group ($F(1:58)=8.44$**, partial $\eta^2=.127$) and text ($F(3:174)=15.82$**, partial $\eta^2=.214$) with a large effect size, and no interaction was found ($F(3:174)=1.09$, partial $\eta^2=.018$). These findings show that comprehension scores of the upper group were significantly higher than those of the lower group, and the scores differed among the four texts. The results for multiple comparisons of the texts indicated that the scores for *Child labor* and *Japanese food* were not significantly different, and they were significantly higher than the scores for *Ninja* and *Bones*, the latter of which were also not significantly different (*Child labor=Japanese food > Ninja=Bones*).

It should be noted that there was no significant difference in comprehension between *Ninja* (+F+E) and *Bones* (-F-E), although they were contrastive in the degree of topic familiarity and text difficulty. It is generally assumed that the former might be easier than the latter. This might be partly due to the low reliability for the test items, so the question is left open as to how loanwords would play a different role in the two different factors of topic familiarity and text difficulty.

To see how reading comprehension related with loanword recognition mentioned earlier, a series of Pearson correlation coefficients were computed between the scores of comprehension and the number of recognized loanwords for each text. No significant correlations were found either for the upper group (r=.11~.16) or the lower group (r=.01~.26). These results suggest that recognition and comprehension were relatively independent when reading L2 texts.

Finally, to examine how students felt about each text, the study examined their feedback; how familiar or difficult they found it after each reading task. Table 5 presents how students assessed on a four-point scale the degree of familiarity and difficulty.

Table 5

Students' Perceptions on Familiarity and Difficulty after Reading

	Topic familiarity				Text difficulty			
	Ninja	*J food*	*C labor*	*Bones*	*Ninja*	*J food*	*C labor*	*Bones*
Upper *M*	2.50	2.83	2.93	2.23	2.26	2.28	2.30	3.06
SD	0.80	0.68	0.62	0.66	0.62	0.51	0.78	0.62
Lower *M*	2.76	3.03	2.44	2.26	2.76	2.74	3.05	3.33
SD	0.76	0.60	0.75	0.67	0.71	0.49	0.57	0.59

A mixed model 2 (group) x 4 (text) ANOVA was carried out again for topic familiarity and text difficulty, separately. For familiarity, a main effect was found only in text (F(3, 174)=12.73**, partial η^2=.179) but not in group (F(1:58)=0.00ns, partial η^2=.000). There was, however, an interaction between group and text (F(3)=4.62**, partial η^2=.073). The analysis of interaction indicated that the upper group responded that *Child labor* was more familiar than the lower group did. The upper group showed that familiarity for *Bones* was significantly lower than *Japanese food* and *Child labor* (*Bones<Japanese food=Child labor*) but there was no significant difference between *Bones* and *Ninja* and (*Bones=Ninja*).

On the other hand, the lower group responded that familiarity for *Bones* was lower than *Ninja* and *Japanese food*, but that the latter two were not significantly different (*Bones<Ninja=Japanese food*). Moreover, no significant difference was found between less familiar topics (*Bones=Child labor*). Thus, it is fair to say

that students with smaller vocabularies clearly made a distinction between more familiar and less familiar topics.

Regarding text difficulty, there yielded main effects for both group ($F(1;58)=32.63**$, partial $\eta^2=.360$) and text ($F(3)=16.36**$, partial $\eta^2=.220$), and there was no interaction between them ($F(3)=1.57$, partial $\eta^2=.026$). The upper group indicated they found the texts easier than those in the lower group did, and *Bones* was more difficult than the other three texts   (*Bones<Ninja=Child labor=Japanese food*).

The lower group also indicated that *Bones* was significantly more difficult than *Ninja* and *Japanese food* (*Bones<Ninja=Japanese food*), the latter two texts not being significantly different. There was also no significant difference between *Bones* and *Child labor* (*Bones=Child labor*). From these findings, it is highly likely that the students with smaller vocabularies were susceptible to topic familiarity or to how familiar the story was rather than text difficulty.

5. Conclusion, Pedagogical Implications, and Future Studies

The present study investigated how loanwords were perceived in English learning in general, and how they were recognized in English reading texts and affected reading comprehension, focusing on the students with different vocabulary sizes. The reading texts were also manipulated by the number of loanword types, topic familiarity, and text difficulty.

It was found that there was a clear difference between the students with larger vocabularies and those with smaller vocabularies in making use of loanwords in learning and noting them in reading. The former students were very conscious of different pronunciations and hence rarely used *katakana* for learning pronunciation, but the latter students utilized *katakana* for learning pronunciation and vocabulary.

It was also found that the more vocabulary the students had, the more loanwords they recognized, and their recognition varied among the four types of texts. Those with smaller vocabularies did not show any differences in text type. These lower students who utilized loanwords in learning tended to recognize more loanwords in the text. However, it was not clear how loanwords

embedded in the texts affected comprehension, although there was a strong tendency that topic familiarity was more crucial in reading for students with smaller vocabularies.

These findings provide several pedagogical implications. First, pronunciation should be more focused on when introducing English words and corresponding *katakana* words in common usage. Particularly, for learners with smaller vocabularies, loanwords could be one of the tools to increase their vocabularies, because they usually have difficulty learning new words. Second, it would be also useful for these learners to be more conscious about linguistic clues of loanwords and to associate them with corresponding Japanese meanings. It goes without saying that teachers should pay attention to the gap in phonological and semantic differences between English base words and corresponding *katakana* loanwords. Third, since it was found that lower students were keen on familiar topics, it would be helpful for teachers to provide a lot of familiar and comprehensible readings to motivate them to read, hence facilitating reading comprehension.

Several drawbacks and limitations should be mentioned for future research. First of all, the comprehension test items were low in reliability probably due to the shortness of reading materials which lead to the facility of the true-false test form. This dichotomous test form involves varying degrees of correctness, ranging from confident answering to guessing. Longer reading texts along with more questions in more elaborate test forms could highlight the effect of loanwords on comprehension. Second, for logistic reasons, the four reading tasks were conducted in regular classes, where the time was very limited. Therefore, the study examined only one text of each type. In order to obtain reliable data, multiple texts with differing degrees of topic and difficulty should be examined. Third, although the present study set the number of loanword types at 15, it would be of interest to see the effect of the different ratio of loanwords in the text on reading comprehension. Fourth, familiarity must be carefully defined, because *Child labor* was perceived as a familiar topic by the upper group. Finally, text difficulty in this study was based on the Coleman-Lieu Index, but this index alone might not be sufficient to determine read-

ability level.

　　Vocabulary acquisition is a long, gradual and sometimes painstaking process, and this is typically true for learners of English when they learn that English-speaking university students are likely to have around 15,000 word families (Nation 1990). Considering the rapid increase of loanwords today, there might be ways to make practical and effective use of loanwords to develop not only learners' vocabulary knowledge but also their reading skills.

Appendix

A sample of the text, comprehension questions, and feedback
(Boldfaced words are loanword with high frequency in the corpus *Shonagon*.)

カタカナ語を活用して語彙力を高めよう！　No.　　　　Name

(1) 次の英文を読んで、カタカナ語として日本語の中にあると思われる英単語（その１部も含めて）を〇印で囲んでください。何となく見たり聞いたりするなと思うものでも〇印で囲んでください。例：good グッド、oranges オレンジから、walk ウォーキングから

"Ninja"

The ninja were **real,** but we know **little** about them. There are many **stories** about the ninja. Here is what we know for sure. The ninja were **spies** and trained **killers.** They could sneak into the protected castles of the enemy. Most ninja came from Iga Province and Koga **village**. They were active from 1450 to 1650. It is the Warring States Period, a **time** of **great** instability in Japanese history. When Tokugawa Ieyasu unified **Japan** in 1603, the ninja became less important. Can you learn to be a ninja today? Probably not. There is very little written **information** about their **training methods**. Today the eight major nin-

ja **schools** say they can trace their history back to the 12th century. But many scholars say the **first** real ninja appeared hundreds of years later.

(2) 今度は意味を理解しながら読んで英文の内容に合った番号に○印をつけてください。

1．忍者は城に忍び込んで、敵から城を守っていた。

2．忍者は戦国時代に活躍した。

3．忍者は１２世紀に始まるというのは間違いである。

4．多くの人は忍者について良く知らない。

5．伊賀と甲賀は忍者のごく一部である。

6．徳川家康が統一した時、忍者はますます重要になった。

7．訓練方法については多くが書物に書かれている。

8．現在でも忍者になることができる。

9．忍者は 17 世紀中ごろまで活躍していた。

10．忍者はスパイだが、人は殺さなかった。

(3) 下記の質問の番号に○印をつけて下さい。

・内容を理解するのはどの程度難しかったですか　　易　1　　2　　3　　4　　難

・話のテーマはどの程度親しみがありましたか　　なし　1　　2　　3　　4　　あり

Reference

Banta, F. (1981). Teaching German vocabulary: The use of English cognates and common loan words. *Modern Language Journal, 65*, 129-136.

Brown, J. B., & Williams, C.J. (1985). Gairaigo: A latent English vocabulary base? *Tohoku Gakuin University English Language & Literature, 76*, 129-146.

Carrell, P. L. (1987). Content and formal schemata in ESL reading. *TESOL Quarterly, 21*, 461-481.

Chihara, T., Sakurai, T., Oller, J.W. (1989). Background and culture as factors in EFL reading comprehension. *Language Testing, 6*, 143-151.

Daulton, F. E. (1998). Japanese loanwords and the acquisition of English vocabulary. *The Language Teacher, 20*(1), 17~26.

Daulton, F. E. (1999). English loanwords in Japanese: The built-in lexicon. *The Internet TESL Journal, 5*(1). Retrieved from http://iteslj.org/Articles/

Daulton-Loanwords

Daulton, F. E. (2007). Japanese learners' built-in lexicon of English and its effect on L2 production. *The Language Teacher, 31*(9), 15-18.

Daulton, R. E. (2008). *Japan's built-in lexicon of English-based loanwords.* Clevedon: Multilingual Matters.

Daulton, F. E. (2011). Feature article: On the origins of Gairaigo bias: English learners' attitudes towards English-based loanwords in Japan. *The Language Teacher, 35(6)*, 7-12.

Garcia, G. E. (1991). Factors influencing the English reading test performance of Spanish-speaking Hispanic children. *Reading Research Quarterly, 16*, 371-352.

Ito, K. (1993). Shinbunn-no gairaigo bunseki: Eigo kyoiku e no sisa [Analysis of loanwords in newspapers: Implications on English teaching], *Eigaku Ronko, 24*, 1-14.

Iwata, Y. (2015). *Nepaljin Nihongo gakushusha-no katakanago gakushu strategy-to eigo-no kakawari* [Learning strategies for English loanwords by Nepalese learners of Japanese and their relations to English]. (Unpublished master's thesis). Kurume University, Fukuoka, Japan.

Jiang, N. (2004). Semantic transfer and development in adult L2 vocabulary acquisition. In P. Bogaards & B. Laufer (Eds.), *Vocabulary in a second language: Selection, acquisition, and testing* (pp. 101-126). Amsterdam: John Benjamins.

Kawauchi, C. (2014). Receptive and productive knowledge of Gairaigo: Word length, learners' vocabulary levels, prior information, and learning effects. *Annual review of English Learning and Teaching, 19*, 1-16.

Kawauchi, C (2015). Effects of loanwords on productive vocabulary knowledge: Influence on loanword frequency, length, learners' vocabulary sizes, and prior information. *The Kyushu Academic Society of English Language Education, 43*, 21-29.

Kawauchi, C. (2017). Familiarity, frequency, and recall of loanwords. *Annual Review of English Learning and Teaching, 22*, 19-34.

Kawauchi, C. (2019). Daigakusei-no gairaigo ishiki: Gairaigo sinmitsudo ya eigo

goisaizu tono kankei [Attitudes towards loanwords by Japanese college students: Relationships with loanword familiarity and students' vocabulary sizes]. *Kurume University Bulletin of the Institute of Foreign Language Education, 26*, 47-62.

Laufer, B. (1992). How much lexis is necessary for reading comprehension? In P. Arnaud & H. Bejoint (Eds.), *Vocabulary and applied linguistics* (pp. 126-132). London: Palgrave Macmillan.

Laufer, B., & McLean, S. (2016). Loanwords and vocabulary size test scores: A case of different estimates for different L1 learners. *Language Assessment Quarterly, 13*, 207-217.

MacGregor, L. (2003). The language of shop signs in Tokyo. *English Today, 73,* 19(1), 18-23.

Mochizuki, M., Aizawa, K., & Tono, Y. (2003). *Eigo goi-no shido manual* [Manual for teaching English vocabulary]. Tokyo: Taishukan.

Murayama, K. (2019). *About Reliability.*   Retrieved from https://koumurayama. com/ koujapanese/ reliablility.htm.

Nation, I. S. P. (1990). *Teaching and learning vocabulary.* Boston: Heinle & Heinle Publishers.

Nation, I. S. P. (2001). *Learning vocabulary in another language.* Cambridge: Cambridge University Press.

NINJAL (National Institute of Japanese Language) (Ed.). *Shonagon (Balanced corpus of contemporary written Japanese).* Retrieved from http://www.kotono-ha.gr.jp/shonagon

Stubbe, R. (2014). Do Japanese students overestimate or underestimate their knowledge of English loanwords more than non-loanwords on yes-no vocabulary tests? *Vocabulary Learning and Instruction*, Advance online publication. doi: 10.7820/vli.v03.1.stubbe.

VELC Material Development Group (2018). *Ambitions: Elementary & Pre-Intermediate*. Tokyo: Kinseido.