The aim of this case study is to investigate the deliberate vocabulary learning strategies Japanese university learners use at different levels of their vocabulary size. A semi-structured interview with six female university students was conducted on low-intermediate, intermediate, and high-intermediate learners in this study. Analyses of the data suggest that learners’ initial vocabulary levels affected the choice of strategies and learning processes used. Even though low-intermediate and intermediate learners employed the same strategies and learning processes, high-intermediate learners employed them differently. While memorization was popular among all the levels, high-intermediate learners memorized them productively through oral and written repetition. They also employed more varieties of cognitively demanding strategies, and their vocabulary learning process was more structured than other learners.

本事例研究では、日本人大学生を対象に、語彙レベル別に意図的語彙学習におけるストラテジーの違いについて調査した。低中級、中級、中上級レベルの6名の女子大学生を対象に半構造的インタビューを実施した。分析の結果、初期の語彙レベルの違いは、ストラテジーの選択や使用する学習プロセスに影響を与えることが判明した。低中級、中級レベルの学習者と同様のストラテジーや学習プロセスを用いていたが、中高上級レベルにおいては用いる方法に違いが見られた。全てのレベルにおいて、暗記は人気が高かったが、中上級レベルの学習においては、繰り返し口に出したり、書いたりして産出的に暗記をする傾向が見られた。また、他のレベルの学習者と比べより多くの認知的に高度なストラテジーを用い、語彙学習プロセスはより構造的なものを構築していることが明らかとなった。
There is no universal, one-size-fits-all strategy that will result in acquiring vocabulary for all learners with different levels. Even though there are individual variations, by examining the tendencies of different level groups of language learners, we can better understand how learners are able to learn vocabulary more effectively and efficiently. With strategy training, students can choose and select those which work best for them. Rubin (1987) stated that “making learning decisions conscious can lead both poorer and better learners to improve the obtaining, storing, retrieving and using of information, that is, can lead them to learn better” (p. 16).

In the earlier studies, the focus was on the relationship between vocabulary learning strategies and lexical growth (Horst, Cobb, & Meara, 1998; Nation, 2001; Saragi, Nation, & Meister, 1978; Waring & Takaki, 2003) and the effect of various factors such as motivation, age, gender, learning environments and culture on the choice of vocabulary learning strategies (Kojic-Sabo & Lightbown, 1999; Mizumoto, 2010; Nakamura, 2002; Nyikos & Fan, 2007).

Studies showed that students who use different vocabulary learning strategies and who practice repeatedly would outperform the students who used limited strategies and spent less time on practicing (e.g., Horst, Cobb, & Meara, 1998; Nation, 2001; Saragi, Nation, & Meister, 1978; Waring & Takaki, 2003). Researchers have also found that previous learning experience and culture have a strong impact on strategy choice and use. For instance, Stoffer (1995) found that the more the learner’s first language is lexically different from their second language, the greater the tendency of more frequent use of vocabulary strategies. Other studies focused on certain groups of nationalities. For instance, Japanese English as a Foreign Language (EFL) learners often use mechanical rote learning and avoid using a cognitively demanding strategy such as creating mental images (Nakamura, 2002), whereas Chinese learners show a negative view on rote memorization except for oral repetition (Gu & Johnson, 1996).

However, not much research has been done to find out how L2 vocabulary level influences vocabulary learning strategies in deliberate vocabulary learning situations. Deliberate vocabulary learning refers to the learning of target words in an intentional learning condition (Hulstijn, 2003) that is completely out
of context such as by using word cards or word lists. It is especially useful for independent learning in a condition where students are in class for a limited amount of time, such as in EFL countries like Japan.

The main purpose of this study is to clarify whether there are any differences of vocabulary learning strategies among low-intermediate, intermediate, and high-intermediate learners while they are engaged in vocabulary list learning.

**Methods**

**Participants**

Six students at a private women’s university volunteered for the study. They were first-year students majoring in Social Sciences. Since they had specific reasons to study the vocabulary list such as for studying abroad and improving their English skills, they were highly motivated, intermediate EFL learners in Japan.

In order to diagnose the vocabulary level of the individual students, the Vocabulary Levels Test (VLT; Schmitt, 2000; Schmitt, Schmitt, & Clapham, 2001) was used. The test is constructed so that the results show the learners’ vocabulary size based on the General Service List (GSL; West, 1953). It is divided into five levels: (a) the 2,000-word level (high-frequency words), (b) the 3,000-word level (low-frequency words), (c) the academic vocabulary level (high frequency for academic studies), (d) the 5,000-word level (low-frequency words), and (e) the 10,000-word level (low-frequency words). All the sections except for the academic vocabulary level and 10,000-word level were used in the present study. The test took about 10 minutes for each level.

Their total mean scores were converted to estimated word families¹ as defined by Nation (2001). Students were then classified into three levels (Table 1): low-intermediate (scores less than 3,000), intermediate (scores of 3,000-3,900), and high-intermediate (scores higher than 3,900). All participants’ names used in this study are pseudonyms.

**Lesson Procedure**

Data collection took place during a one-year 90-minute weekly writing course, which focused on the development of general writing ability. The course was
mandatory for first-year students. The Academic Word List (Coxhead, 2000) was used in the study since the majority of students were planning to apply to a short-term study abroad program mostly in English-speaking countries during the second semester of their second year. Thus, academic words were considered essential for these students.

The list was compiled from a corpus of 3.5 million words from 28 different types of academic texts including Arts, Commerce, Law and the Sciences. Of those words, the most frequent 570 word families were chosen. On the first day of class, students were given the list divided up into 10 sublists; the students were to complete tables as homework in which they wrote the Japanese translation and example sentences for words on the lists.

Sublists 1 to 9 contained 60 words each, and Sublist 10 had 30 words, matching the total of the 570 words on the AWL. However, they were given the option to use the columns, change the headings, or simply leave the column blank. The purpose of the study was to check their natural vocabulary learning habits so neither vocabulary strategy training nor dictionary training was given before and during the class hours. They were simply asked to learn unknown vocabulary items from each AWL sublist from 1 to 10 to prepare for in-class quizzes. In each quiz, learners were asked to produce the target items within a given context in the form of crossword puzzles or to find the word in word searches. Table 2 shows

<table>
<thead>
<tr>
<th>( \text{Vocabulary Levels Test} )</th>
<th>2,000</th>
<th>3,000</th>
<th>5,000</th>
<th>( \text{WF} )</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hina (S1)</td>
<td>23</td>
<td>17</td>
<td>11</td>
<td>2,933</td>
<td>Low-intermediate</td>
</tr>
<tr>
<td>Azusa (S2)</td>
<td>24</td>
<td>13</td>
<td>14</td>
<td>2,950</td>
<td>Low-intermediate</td>
</tr>
<tr>
<td>Yuko (S3)</td>
<td>24</td>
<td>19</td>
<td>19</td>
<td>3,500</td>
<td>Intermediate</td>
</tr>
<tr>
<td>Eri (S4)</td>
<td>23</td>
<td>17</td>
<td>19</td>
<td>3,333</td>
<td>Intermediate</td>
</tr>
<tr>
<td>Yuri (S5)</td>
<td>29</td>
<td>24</td>
<td>19</td>
<td>4,083</td>
<td>High-intermediate</td>
</tr>
<tr>
<td>Kaori (S6)</td>
<td>24</td>
<td>25</td>
<td>22</td>
<td>3,950</td>
<td>High-intermediate</td>
</tr>
</tbody>
</table>

*Note.* WF = Estimated Word Families
Comparing Initial L2 Vocabulary Size Differences, OnCUE Journal, 9(1), pages 21-38

the class schedule for each round of word lists. For each sublist, students had two weeks to prepare for the in-class vocabulary quizzes.

**Interviews**

The interviews took place individually during the interviewee’s free time between May and June during the spring semester. Each interview averaged 40 minutes in length, and all the interviews were recorded on an IC recorder. The responses were translated by the author, and the English translations were checked by a native English speaking university teacher.

In order to encourage diverse answers, relatively open questions were used (Appendix). Warm-up questions were asked at the start of each interview to make sure that interviewees felt comfortable and willing to share their views and experiences. The interview consisted of three main parts. First, students were encouraged to talk about independent learning strategies for studying the list. Second, participants answered questions concerning their dictionary use. Lastly, they demonstrated the processes of vocabulary learning in front of the author when they encountered unknown words.

**Results**

**Data Analysis**

The interview responses were transcribed manually, and then using a qualitative analysis software package (ATLAS.ti, Version 6) each interview was coded and analyzed. Using the transcripts, words and phrases that appeared several times were coded to visualize the relations between them.

*Codes* refer to quotations that are important or interesting segments taken out from the primary data. If the words or phrases are repeated in the text, the audio-coding feature automatically assigns a code to them. Codes serve as a means of

<table>
<thead>
<tr>
<th>Table 2</th>
<th>Class Schedule</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>In-class activities</td>
</tr>
<tr>
<td>Vocabulary quiz</td>
<td>Writing</td>
</tr>
<tr>
<td>(20 min)</td>
<td>(70 min)</td>
</tr>
</tbody>
</table>
capturing the meaning in the data. They also create sets of units to compare the concepts. Codes are clustered by forming families known as code families (CF) and then conceptualized by structuring sets of similar elements by linking codes in a visual diagram (Figures 1, 2) to show relationships between codes.

In the diagram, codes are followed by two numbers. The first number shows how often a code appeared across documents, and the second number shows the amount of relations that exist between the code and other codes.

**Interview Results**

For all three vocabulary levels, all the learners used memorization (Figure 1, {7-4}) while they were studying the vocabulary list. This was also confirmed by previous studies (e.g., Nakamura, 2002). Jiang and Smith (2009) found that learners’ strategies were influenced by teachers’ method of instruction which is a reflection of national language educational policy. In fact, several students talked about their high school and cram school teachers. One student described her high school experience in the following way:

> *I focused on words that I couldn't say the Japanese translation for within 3 seconds. While I was studying for the university entrance exam, my cram school teacher told me that if I cannot say the Japanese translation within 3 seconds, that means I don't know the word.* (Hina, S1)

In the case of the interviewee’s individual vocabulary learning processes while they were studying the vocabulary list, students had their own systematic way of vocabulary learning regardless of their initial vocabulary levels. The learners mainly followed the pattern of 1) checking the dictionary, 2) memorizing and 3) rehearsing. One student reported:

> *First, I wrote the Japanese translations, example sentences, parts of speech on the list and reviewed them several times. Then, I tested myself using the list by writing the vocabulary words by looking at the Japanese translation.* (Yuko, S3)

Regardless of their vocabulary levels, they all consulted the dictionary to reconfirm the correct use of all the target items (‘look up the dictionary’, {17-0}). Similar to previous findings (e.g., Cohen & Dörnyei, 2002; Kojic-Sabo & Lightbown, 1999; Mizumoto, 2010; Nakamura, 2002; Nyikos & Fan, 2007),
female interviewees tend to avoid taking risks. Some of the key words depicted in Figure 2 were ‘no confidence’ {1-0}, ‘to confirm’ {6-0}, and ‘worries’ {3-0}.

Checking the meanings of all the target words in the dictionary could have been also driven by extrinsic reason of getting good grades in class since they were expecting to have quizzes in class. For instance, one student reported:

*I checked all the words in the dictionary. Even if I thought that I knew them, since they would be on the test, I didn’t want to remember the wrong meanings and I wasn’t totally confident whether I knew them in the first place so I looked them up in the dictionary to confirm their meanings.* (Yuko, S3)

**Low-Intermediate and Intermediate Level Learners**

Even though memorization was used for all the levels, the way of memorization varied depending on students’ vocabulary level. For low-intermediate and
intermediate learners, their productive use of memorization which involves speaking and writing (e.g., reading the target words out loud or spelling out the words) was rather limited compared with their receptive use which involves listening and reading (e.g., checking the pronunciation of electronic dictionary).

For instance, Azusa (S2) explained:

*First, I checked the Japanese translations in the dictionary and wrote them down on the vocabulary list. Then I covered the words and tested myself. I remembered the ones that I made mistakes on, so when I made the same mistake for the second time, I put a check mark next to the word. For spelling mistakes, I circled the words. For example, the spelling for ‘correspond’ was not ‘l’, but ‘r’.*

Furthermore, low-intermediate learners tended to use limited strategies in general. For instance, when Hina (S1) consulted a dictionary like other interviewees, she mainly checked the Japanese translation and example sentences to see how they were used in context. She also checked the pronunciation using the audio function on her electronic dictionary, but only when she didn’t feel
confident. When she encountered a long word, she checked the origin of the word. She went over the list only one or two days before the test and studied intensively for 2.5 hours. She did not practice them productively using oral and written repetition. During self-tests, she simply put a check mark next to the word for the ones she got wrong.

Another important thing to note was their dictionary use. The learners viewed all the target items as equally important and had trouble identifying and selecting the appropriate definition for the target academic words in the dictionary. For instance, Hina (S1) reported, “Since there are many entries, I am not sure which ones I should remember”. Having difficulties selecting the appropriate meaning in the dictionary was also found among intermediate learners. Eri (S4) explained:

Finding the academic meaning of words was hard. Because there are different meanings for each word, I was a little worried if the definition that I had chosen would be the same as the definition given on the quiz. However, if the teacher simply gave me the vocabulary list with the definitions, I think I would have just looked at the list, and by not looking up the words myself in the dictionary, I probably would have easily forgotten them.

Yet, to my surprise, both learners preferred not to have a list with definitions. By not giving the definitions, I believed it would encourage the learners to think more deeply about a word’s meaning because they would have to check each word in the dictionary and also search other sources of information. However, by not being given enough instructions on how to select the appropriate meaning, students simply chose the “easiest” definition from the dictionary. Eri (S4) further explained:

If there was a meaning that I knew, I chose it. If I couldn’t find any that I knew, I would choose the easiest one to understand. For example, when I looked up the word “identify”, I found many Japanese translations that were long and difficult to understand. So, I chose the simplest translation which was “douitsushi” (identification).
Intermediate and High-Intermediate Level Learners

Intermediate learners showed both the low-intermediate and high-intermediate learners’ characteristics. As shown in Figure 1, during the process of vocabulary acquisition, a lot of time was spent on memorizing through visual (‘look at the list’, {1-1}), written (‘write repeatedly’, {12-1}), and oral repetitions (‘pronounce repeatedly’, {8-1}). In contrast to low and low-intermediate learners, the productive use of memorization was seen especially clearly among intermediate and high-intermediate learners. Eri (S4) said:

> On weekdays, I checked the vocabulary when I was on the bus and on the weekends, I wrote them down repeatedly while saying them out loud.

While memorization was the most frequent strategy used among all levels, there were several strategies that were unique among high-intermediate level learners. One was memorizing the root and associating them with the word (Figure 1, ‘origin of words’, {5-2}). Kaori (S6) used imagery as one of the learning strategies to memorize words. She explained, “I read all the example sentences and tried to picture the meaning of the words from them”. Other than memorizations, high-intermediate learners tended to learn them in context such as by reading all the example sentences in the dictionary (Yuri, S5; Kaori, S6), whereas low-intermediate learners simply checked the meaning and even if there were several example sentences, they read only the example sentence on top. The list may have served as an impetus to review the words as well as deepen their vocabulary knowledge.

Similar to previous findings (e.g., Mizumoto, 2010; Nyikos & Fan, 2007), instead of using specific limited strategies, the students used a variety of strategies (Table 3). Kaori (S6) employed a variety of vocabulary learning strategies such as consulting a dictionary, memorizing strategies through visual, written, and oral repetition, and rehearsing. Her dictionary use was extensive in that she checked the L1 translation, example sentences, pronunciation, collocation, and parts of speech and when she encountered polysemous words with different meanings, she read all the example sentences and pictured the word’s meanings. Compared with other interviewees who made only simple bilingual lists with translations, she provided each word’s collocation and example sentences.
For their vocabulary learning processes, high-intermediate level learners also had a strict way of organizing their own learning. They developed their own way of monitoring and reviewing the target words. Yuri (S5) recalled:

*I studied it for 30 minutes every day. I looked up the meanings that I didn’t remember in the dictionary. The day before the quiz, I studied the vocabulary list for two hours. For example, I tested myself on the Japanese translations and the correct spelling of all the words. I wrote down the words repeatedly while saying the words out loud.*

Kaori (S6) also had a systematic way of vocabulary learning. She checked the meanings in the dictionary, wrote the Japanese translation, example sentence, collocations, pronunciation and parts of speech, listened to the pronunciation from the electronic dictionary, memorized the spellings, and reviewed and tested the meaning.

When consulting a dictionary, high-intermediate learners were more sensitive to the way a word could be used compared to other learners. Kaori (S6) checked the related information of a word, including its syntactic and semantic aspects. For example, she stated:

*When I looked up a word in a dictionary, I checked the Japanese translations, example sentences, collocations, pronunciation and parts of speech. I checked the example sentence so that I would be able to use the words in practice.*

Another interesting thing to note is that intermediate and high-intermediate
learners had a tendency to focus on target words that they were especially struggling with. This was usually related to spelling difficulty while they were practicing for the quizzes. Whereas both intermediate learners (Yuko, S3; Eri, S4) focused on learning the target words that they didn’t know the Japanese meaning of, high-intermediate learners focused on words that presented spelling and pronunciation difficulties. Kaori (S6) mentioned, *I focused on words that had similar spellings and/or pronunciation such as ‘regulate’ and ‘relevant’. And words that have a different spelling, such as ‘resource’. Yuri (S5) also focused on words she had difficulty spelling. She stated, There were a lot of words starting with ‘C’ and ‘P’ so I focused on them, especially words that looked similar like as ‘previous’ and ‘primary’. In fact, as Milton (2009) stated: A foreign language word is thought likely to be easier to learn if: it is like its first language translation; it is relatively short; it is concrete and imaginable; it is different in sound and appearance from the other new words.* (p. 37)

### Conclusions and Future Directions

In support of other studies (e.g., Gass & Mackey, 1999; Klapper, 2008; Saito, 2008) students’ perceptions of the importance of memorization revealed that they regarded repetition as an essential component for vocabulary learning regardless of their levels. The use of memory strategies was seen to be affected by factors of cultural differences and past language learning experience. For instance, students’ heavy reliance on memorization may have been due to the strong influence of vocabulary learning strategies taught in high school or cram school while studying for university entrance exams. Also, as studies have shown that certain vocabulary learning strategies can be transferred from other subject areas (Porte, 1988), it could be assumed that the Japanese learners’ habit of repetitively writing out the target words could have been transferred from the study of learning Japanese kanji characters.

However, the use of strategy was not always culturally conditioned. Even though previous studies showed that Japanese learners tend to avoid using a cognitively demanding strategy such as imagery (e.g., Nakamura, 2002), higher level learners tend to actively use mental images as one of the strategies for learning
the target words. This suggests that while cognitively less demanding strategies may be more appropriate for beginner levels, cognitively more challenging strategies could be suitable for intermediate and/or advanced learners.

At all levels, the vocabulary learning process followed a certain pattern of 1) checking the dictionary, 2) memorizing and 3) rehearsing. However, there was a tendency for higher level learners to develop their own way of vocabulary learning by following an even more structured approach. They were also more sensitive to the way they used the dictionary compared with other learners. Nation (2008) reported the importance of encountering words repeatedly to “strengthen and enrich the previous learning” (p. 113). However, instead of simply repeating the words many times without having a break, the timing for repetition also needs to be taken into account (Mukoyama, 2004). Repetition needs to be spaced systematically and this may also largely contribute to better retention.

There is no intention to imply that the results of the six participants could be generalized to other learners. Yet, the results can be used to shed light on the relationship between deliberate vocabulary learning strategies and initial L2 vocabulary size.

**Acknowledgments**

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**Notes**

1 “A word family consists of a headword, its inflected forms, and its closely related derived forms” (Nation, 2001, p. 8). For example, “accept”, “acceptability”, “unacceptable”, “accepted”, accepting”, “accepts”, and “acceptance” are all counted as one word family.
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**Author Bio**

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Appendix

Interview Guide

1. What was your incentive to study the vocabulary list?
   言葉リストを勉強しようと思った動機はなんですか。

2. How long did you study the vocabulary list every day?
   毎日どれくらいの時間勉強しましたか。

3. Which vocabulary words did you focus studying?
   どの単語に焦点を当て、勉強しましたか。

4. How did you study the vocabulary list?
   どのように語彙リストを勉強しましたか。

5. Which strategies have you used?
   どのストラテジーを使用しましたか。（複数回答可）
   - □ 英英辞典で調べる  Look up in the English-English dictionary
   - □ 英和辞典で調べる  Look up in the English-Japanese dictionary
   - □ 知り合いに日本語訳を尋ねる  Ask others
   - □ 単語カードを作る  Make a vocabulary card
   - □ 日本語訳を書く  Write the meaning in Japanese
   - □ 発音記号・カタカナを書く  Write the pronunciation (in katakana)
   - □ 例文を書く  Write an example sentence
   - □ 名詞、動詞、形容詞などの区別を書く  Write the parts of speech
   - □ 同じ意味の英単語を書く  Write a synonym
   - □ その他  Others

   どのように復習しましたか。
   （いつ、どこで、どのように、どれくらいの頻度で、どれくらいの長さ）

7. Did you actually try to use them in practice? If yes, when and how?
   実際に習った単語を使用しようと試みましたか。
   「はい」の場合、いつどのようにして使用しましたか。

8. How many words on the list did you look up in the dictionary? (Total 60 words) どれくらいの数の語彙を辞書で引きましたか。（合計60語）

9. When you used the dictionary to check the unknown words, what kind(s) of dictionaries did you use?
分からない語彙があった際、どのような辞書を使用しましたか。（複数回答可）

- electronic dictionary 電子辞書
- English–English dictionary 英英辞典
- Bilingual dictionary 英和辞典
- Others その他

10. When you looked up a word in the dictionary, what did you look for? Why?

辞書を引いたとき、辞書のどのセクションを見ましたか。（複数回答可）どうしてですか？

- Translation 日本語訳
- English synonym 英語で同じ意味の単語
- Example sentence 例文
- Collocation コロケーション
- Frequency 頻度
- Pronunciation 発音記号
- Others その他

11. There are a number of different meanings for each word in the dictionary. How did you select the most appropriate meaning? 一つの単語につき、いくつか違う意味がある単語があります。どのようにして最も適切な意味を見つけましたか。

12. Imagine that you encountered an unknown word on the list. Please demonstrate what you would do. 単語リストにわからない単語があったと想定し、実際にどうするか口に出して、実践して見せて下さい。