**ARTICLES**

# College Students' Vocabulary Learning Strategies in an English-Medium Content Course*

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**Abstract**

Learner strategies, actions that learners take to make their learning more efficient, has been a useful field of research, though there has been relatively little research on vocabulary learning strategies, particularly with Asian EFL students. Such research as has been done suggests that Asian students at all levels of English proficiency depend primarily on rote learning strategies such as repetition. In this study, we looked at the vocabulary learning strategies of second-year English majors in a selective program. In the first half of the semester, students studied learner strategies and evaluated their own. In the second half of the semester, they learned about non-verbal communication and were assigned to choose new words to learn and to write an essay about how they learned their chosen words. The results indicated that, though rote strategies were most common, students used a variety of other strategies as well and some recognized the need to further expand their strategies.

## 1. Introduction

Learner Strategies (LSs), which can be defined as "specific actions taken by the learner to make learning easier, faster, more enjoyable, more self-directed, more effective, and more transferable to new situations" (Oxford, 1990, p. 8), has been a consistent bright spot in the field of second language acquisition over the past thirty years. It is because they are one of the important factors affecting individual differences of foreign/second language learning as well as motivation, language aptitude, learner styles (Ellis, 2008; Skehan, 1989, 1991), and because LSs have held important roles in the trend of communicative language teaching, where learners' roles are more emphasized as learners are believed to participate in language activities with more positive attitudes if they are allowed to participate more actively in their learning (Nunan, 2000).

Research on LSs has extended to various fields of study, such as strategies of speaking, listening, writing, reading, test taking, and those of general English learning habits, which has shed light on what learners are actually doing when learning those

skills, which is useful information to both learners and teachers. However, in the field of vocabulary learning, scant research has been done to date, especially in an Asian EFL context. One reason is that while learners whose first languages are Indo-European language families can utilize a variety of LSs such as strategies of using cognates (Harley, 1993, 1996) due to the similarities between first and second languages, repertoires of Asian English learners are supposed to be limited. This is partially true: majorities of junior or high school students in Japan are using rote-memory strategies to remember words (Fujimura, Takizawa, and Wakamoto, 2010), and the most frequently used LSs for Taiwanese university students was reported to be repeatedly-writing strategies (Ying-Chun Lai, 2009). Rote-memory strategies can be thought of as bedrock strategies (Green & Oxford, 1995) for Asian EFL learners, which can be widely used regardless of learners' level of English proficiency. However, it does not necessarily mean that rote-memory strategies are the only option for Japanese learners of English. Do Japanese college students also use rote-memory strategies most frequently when they need to remember English words? This simple question leads us to explore the repertoire of vocabulary learning strategies of Japanese learners of English. Before moving into research questions of this study, we would like to illustrate the classifications of LSs.

LSs could be classified into three categories, cognitive, metacognitive, and socio-affective strategies, when focusing on on-line processing of language learning (O'Malley & Chamot, 1990). In regard to vocabulary learning, quadripartite system, where communication strategies are added, is more reasonable (Wakamoto, 2009),[1] because learners can increase vocabulary through actual communication in the target language. Characteristics of the four strategy groups are summarized in Table 1.

Cognitive strategies are for retrieval, rehearsal, comprehension or production of words or phrases (Cohen, 1998). Memory strategies, also called mnemonics, which help students store and retrieve new information (Oxford, 1990), are included in this group. Communication strategies are employed to speak English despite limitations in knowledge (Oxford, 1990), and learners can reinforce their knowledge of words while maintaining communication in English. Metacognitive strategies, also called self-regulation strategies (Dörnyei, 2005), are used for self-management (Wenden, 1991): setting goals, planning, monitoring, and self-evaluation strategies are the representatives of this group. Socio-affective strategies are related to controlling emotions, attitudes and motivations (Oxford, 1990) or are helpful to

Table 1. Four types of LSs.

| Strategies | Purpose | Example |
|---|---|---|
| Cognitive | storage/retrieval of new information; rehearsal, comprehension or production of words and phrases | repetition |
| Communication | maintaining communication | circumlocution |
| Metacognitive | controlling language learning | monitoring |
| Socio-affective | controlling emotions and social relationships | keeping a diary, cooperative study |

facilitate interaction with other people to assist learning (Oxford, 1990).

In general, most classroom teachers may think their students are employing only rote-memory strategies represented oral repetition of words or repeatedly writing down new words. However, it is not always true. O'Malley, et al. (1985), for example, interviewed high school students and their teachers about which strategies students were employing. Students reported using an average of 33.6 strategies in the classroom, but teachers identified only 25.4 strategies that they thought students were using. Such a discrepancy points to the fact that teachers are not fully aware of their learners' ways of learning.

One more important question about LSs is strategy instruction. The goal of LSs research has been two-fold: to identify the process of second/foreign language learning by describing learners' use of strategies and to teach useful strategies to unsuccessful language learners. In fact the issue of strategy training, or strategy-based instruction (SBI: Cohen, 1998) is still a controversial area (Rees-Miller, 1993). To date, although there is an accumulation of empirical studies about teaching strategies, research literature has observed mixed results about its effects. Yang (2003), for example, investigated the effectiveness of strategy training by encouraging Taiwanese college students to use metacognitive strategies by keeping portfolios to self-reflect on their learning plans and to monitor their progress in English. He concludes that his attempt was successful in improving listening proficiency and students' awareness of strategy use. On the other hand, Wenden (1987) reported a project to increase the metacognitive awareness of advanced ESL

learners by providing them a chance to read and discuss materials adapted from materials about language learning. The questionnaire after the training was less encouraging: More than half of the participants answered that training was not useful.

The goal of this study is two-fold: (1) to ask whether Japanese college students are employing only rote-memory strategies, and (2) to identify the impact of strategy instruction on learners' use of strategies. Thus the research question of study is as follows:

**Research Question 1.** What are the characteristic LSs of Japanese college students regarding vocabulary learning?
**Research Question 2.** Can we see any effect of instruction on learners' use of vocabulary learning strategies?

## 2. Methods

### 2.1 Overview

We team taught a content course in English three years in a row, which was divided into two sections, language learner strategies and nonverbal communication. In the learner strategies section, students studied the four-part typology of learner strategies described above and considered their own past, present, and future use of strategies. In the nonverbal communication section, students chose new words to learn or learn to use from assigned readings and wrote a short essay on the strategies they used. We analyzed the essays to find out what strategies they used, what strategies they found effective, and how it worked to have students learn about strategies and then apply them.

## 2.2 Participants

The participants in the study were second-year students in Studies in English, a content course covering topics related to linguistics and communication, over a period of three years (2009-2011) at a Kansai-area women's college. These students were in the Accelerated English Studies (AES) program, a selective program for English majors with high motivation and English proficiency. There were 35 students in 2009, 37 in 2010, and 37 in 2011. Two students in 2009 and four students in 2011 apparently misunderstood the assignment and wrote about their past use of vocabulary learning strategies and were not included in the analyses. Therefore, essays from 103 students were included in the study.

## 2.3 Organization of the Course

The course was divided into two sections of seven weeks each, one for linguistics and one for communication. The topic of the linguistics section was language learner strategies, and the topic of the communication section was nonverbal communication.

In the language learner strategy section, students learned about different types of strategies and evaluated their own past and present strategy use, based on the work of Oxford (1990). They also practiced some strategies through group and pair interaction, and they generated ideas for strategies and evaluated the effectiveness of their strategy use.

In the communication section of the course, students learned about nonverbal communication in general and specific areas such as haptics (the study of touch as nonverbal communication), paralanguage (how the sound of the voice communicates, e.g., though loudness) and clothing. Students learned though class discussions, lectures, and readings. Students were assigned to answer content questions about the readings and also to chose between 5 and 10 words from each reading that they either didn't know or didn't use and to learn/learn to use those words. They were assigned to write a 1-2 page essay on the words they chose and what strategies they used to learn them.

## 2.4 Analyses

We analyzed the students' essays and found references to which strategies students used to learn/learn to use the words and their opinions of the effectiveness of the strategies they used, as well as their general comments on the experience of learning new vocabulary in English. Strategies identified by two researchers were categorized according to Oxford's (1990) inventory. The strategies related to vocabulary learning that were included in the inventory were as follows:

Part A (Cognitive strategies [Memory strategies])

1. I think of relationships between what I already know and new things I learn in English.
2. I use new English words in a sentence so I can remember them.
3. I connect the sound of a new English word and an image or picture of the word to help me remember the word.
4. I remember a new English word by making a mental picture of a situation in which the word might be used.
5. I use rhymes to remember new English words.
6. I use flashcards to remember new English words.
7. I physically act out new English words.

8. I review English lessons often.

9. I remember new English words or phrases by remembering their location on the page, on the board, or on a street sign.

Part B (Cognitive strategies)

10. I say or write new English words several times.

19. I look for words in my own language that are similar to new words in English.

21. I find the meaning of an English word by dividing it into parts I can understand.

Part C (Communication strategies)

24. To understand unfamiliar English words, I make guesses.

27. I read English without looking up every new word.

Strategies from the list that were not specifically related to learning vocabulary but which could be applied to learning vocabulary include:

Part B (Cognitive strategies)

12. I practice the sounds of English.

14. I start conversations in English.

17. I wrote notes, messages, letters, or reports in English.

Part D (Metacognitive strategies)

37. I have clear goals for improving my English skills.

## 3. Results and Discussion

A total of 31 different strategies were used by 103 students to do the assignment. Strategies used two or more times are found in Table 2.

In addition, strategies that were mentioned only once were: studying the etymology of words, thinking of the word every day, teaching the words to someone, translating sentences using the words rapidly between English and Japanese, writing the Japanese translation over the word in text, rereading the passage to check comprehension of the words, pretending to explain the words to others and checking her correctness, and testing herself periodically on the words.

Analyzing the strategies students used in terms of strategy modes (Cognitive, Communication, Metacognitive, Socio-affective), we found out that nearly 90% of the strategies were categorized as Cognitive strategies, but we also confirmed the occurrence of other modes (Table 3).

Table 3. Strategies categorized by mode.

| Mode | Type | Token | (%) |
|---|---|---|---|
| Cognitive | 24 | 314 | (89.7) |
| Communication | 1 | 21 | (6.0) |
| Metacognitive | 1 | 5 | (1.4) |
| Socio-affective | 5 | 10 | (2.9) |

Some students also commented on the usefulness of the strategies that they used. While a number of students wrote down the words repeatedly, often speaking them aloud while they did, they were divided on the usefulness of this strategy. Some found it useful, and one of these 2011 students wrote, "...unless we ... repeat using the words constantly, it is very difficult to remember them. I believe repetition plays a vital role in the language study, specifically, to remember the new words." Repeating words aloud was particularly considered useful in learning pronunciation, and students liked it because it combined different senses. However, others didn't find it useful at all or thought that while the strategy helped in the short term, it did not help in the long term. A few students

**Table 2. Strategies used to learn new words.**

| Category | Mode | Strategy | Token | Comments |
|---|---|---|---|---|
| B-10 | Cog | Write word down repeatedly | 46 | Students often said words out loud while writing. |
| | Cog | Use a dictionary to check meanings | 41 | Many students used English-English dictionaries, usually before using an English-Japanese dictionary. |
| A-2 | Cog | Make sentences with new words | 32 | Some students read the sentences aloud or memorized them. |
| B-21 | Cog | Analyzing parts/root of a word | 32 | |
| | Cog | Keep notebook of new words | 30 | Students included a variety of information, including definitions, illustrations, sample sentences, and pronunciation. |
| C-24 | Com | Figure out meaning of word from context | 21 | Students often made it a policy to read to the end of the passage before using a dictionary. |
| A-6 | Cog | Using green transparency with English words and translations/flash cards | 20 | Some students appreciated being able to review new words easily. |
| B-10 | Cog | Say words aloud | 19 | Some students check the pronunciation beforehand. |
| | Cog | Make lists of/find/consider synonyms/ antonyms | 19 | This allows students to learn more words. |
| | Cog | Use words in real conversation/other classes/writing/diary | 18 | |
| A-3 | Cog | Paint/draw pictures related to words | 17 | While some students liked this strategy, many felt that it was too time-consuming or that too many words are difficult to draw. Some started using mental images instead. |
| | Cog | Learning different parts of speech together | 7 | |
| | Cog | Look at examples of usage in dictionary | 6 | |
| A-7 | Cog | Act out physically | 6 | |
| | Cog | Put new words on cards in various places in her house where she sees them often | 5 | This allow students to review new words frequently. |
| D-37 | Meta | Have a goal | 5 | Goals included learning a specific number of words or improving scores on standardized tests. |
| | SA | Working with friends – quizzing each other, etc. | 4 | |
| | Cog | Look at the word over and over | 3 | |
| | Cog | Read a little about the field to get more knowledge | 3 | |
| A-9 | Cog | Remember the location on the page | 2 | |
| | Cog | Read sentence with the target word over and over | 2 | |
| | SA | Ask for help in understanding words from professor or native English speaker | 2 | |
| | SA | Consult friends about how to learn words | 2 | |

*Note:* Cog (Cognitive strategies); Com (Communication strategies); Meta (Metacognitive strategies); and SA (Socio-affective strategies)

read entire sentences with the new word repeatedly, which they felt was helpful in not only learning the word but in remembering its usage.

Some students liked to draw pictures representing the words they were learning, at least for words that lent themselves to a pictorial representation, because it helped them fix words in their minds, while others felt that this was too time consuming, and they often substituted mental pictures, which they called up when reviewing the words.

Students felt that making sentences with the new words helped fix the words in their minds as well as helping them learn the usage of the words.

The reason that some students liked to learn synonyms and antonyms along with the new words or to learn parts of speech together was that they felt this was efficient—it allowed them to learn multiple words.

Some of the students had been assigned vocabulary notebooks by a writing teacher, and many of them who listed this found it useful because a notebook (along with flashcards or lists of words used with transparencies) was portable, and they could review new words whenever they had a few minutes. As one of the 2011 students wrote, "When I have time, I review them, particularly for 15 minutes between classes, before go to bed, during taking a bath, and so on. I don't take much time to review because I might give up learning vocabulary and review every day if I spend much time to do."

Checking a dictionary was one of the most common strategies, and many of the students specified that they used and English-English dictionary, usually before they used an English-Japanese dictionary.

They felt that they could understand the nuances of new words better based on a definition in English rather than a translation into Japanese. (About half of the students had a writing teacher who emphasized the use of English-English dictionaries.)

On the other hand, although it was the only Metacognitive strategy, having a goal of learning vocabulary was noticeable, because unlike junior or high school students, learners would have difficulty finding meaning in memorizing words. In fact, many college students stop learning words after entering college because they were not forced to study vocabulary by teachers or did not have pressure to pass the entrance examinations (Fujimura, Takizawa, and Wakamoto, 2010). With a combination of planning, self-monitoring and self-evaluation, this strategy would work more effectively.

As to Communication strategies, many learners tried to guess the meaning of words from the context before consulting a dictionary. We expected similar strategies used in oral conversation but did not confirm any; it might be because they were learning in an EFL context and had fewer opportunities to speak or listen to English in person compared to studying abroad.

With regard to Socio-affective strategies, relatively few students made use of these strategies, though a variety were confirmed: They needed friends or professors to check their memorization or to understand words, sometimes to know how to learn words better. However, considering that these students are in five English classes with the same classmates, it is surprising that they do not take more advantage of working together to study vocabulary.

Some students recognized the limitations of the strategies they were using and expressed a desire to use a wider variety of strategies, to find strategies that suited them better, and to find strategies that helped them gain a deeper understanding of words. As one of the 2009 students wrote, "I like the strategies that I am using, but to improve my English skills I should try to find some more effective strategies. And I would like to get more vocabularies as much as I can." Another wrote, "The common thing to three strategies which I said in this essay is to read carefully, and look the word carefully. If I use electronic dictionary, I can know the meaning in few seconds, very easily. But it is not good. I should think over the word in order to develop my vocabulary skill. In addition, I have to write or speak the words positively not to forget them. Then, I will be able to develop my vocabulary skill." One of the 2010 students recognized the importance of both input and output as vocabulary learning strategies when she wrote, "I found that it is important to understand words' meaning and usage, and after that, I can acquire those words perfectly by using those words in daily study or conversation. Input and output are connected closely, so I think I can easily master new words by combining input and output effectively."

## 4. Conclusion

We started doubting the assumption that rote-memory strategies such as writing down words repeatedly or saying words aloud are the only repertoire for Japanese college students. In fact, the most frequently used strategies were those mechanical repetition strategies. We have confirmed that Japanese college students also make use of rote-memory strategies when they need to remember words. In this sense, rote-memory strategies are bedrock strategies for Japanese learners of English as they are for other Asian learners or for Japanese junior or senior high school students (Fujimura, Takizawa, and Wakamoto, 2010; Ying-Chun Lai, 2009). However, participants of this study used a variety of strategies in addition to bedrock strategies, and many expressed a desire to broaden their use of strategies. This might be the effect of strategy awareness phase of our instruction, but we did not examine why they used these strategies. This is a limitation of our study, which needs to be modified in the future study. As the choice of these strategies, various learners' factors such as learner styles are confirmed to be influential (Wakamoto, 2007), a closer look at those factors will be also needed.

The results of this study suggest that some directions for future research. As mentioned above, we do not know why students chose the strategies that they use, so future research might be designed so that we can find out what strategies students use at the beginning of the course and, if they change the strategies, what it is that incites them to change their strategies. In addition, it may be useful to look at how students can be encouraged to broaden their strategy use more. Almost all the strategies that students reported using were cognitive strategies, and among the cognitive strategies the majority involved rote learning. Future research may also focus on how students can be encouraged to broaden their strategies and whether a broader range of strategies is more effective in improving the development of students' vocabulary.

Learning vocabulary is time-consuming

learning journey, and learners must continue to make an effort to develop their vocabulary throughout their learning career. As this study shows, Japanese learners of English can expand their repertoire by trying out various strategies to find best-fit strategies for them, something that students themselves recognized. As one student from 2009 expressed it, "In conclusion, I meet new words every time I read or listen to English, so I should increase new words and use them more. Memorizing new words helps me improve English skills. Therefore, I use and think my strategy to remember new words, and I would like to improve my English."

### Note

1 ) Oxford (1990) proposes six-component classification system, though memory strategies can be regarded as part of Cognitive strategies and social and affective strategies can be combined as Socio-Affective strategies.

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**Appendix**
Essay Content Analysis

**1. strategy used for this assignment**
**2. comments on usefulness of a strategy**
**3. strategy used in the past**
**4. future plans for strategy use**
**5. general comments**