Vocabulary Learning Strategies Among Japanese EFL Students: A Literature Review

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The vocabulary size of a learner is a factor influencing scores in high-stake exams such as the Test of English for International Communication (TOEIC) and Test of English as a Foreign Language (TOEFL). Beglar and Hunt (2005) stated that "vocabulary acquisition is a crucial, and in some senses, the central component in successful foreign language acquisition" (p. 7). Students of English as a Foreign Language (EFL) inherently have limited exposure to English and despite this lack of exposure they must still acquire enough vocabulary skills to pass these high-stake exams.

Although the lack of English exposure is not limited to Japanese EFL students, my familiarity to how Japanese EFL students in my Kumon class acquire English vocabulary made me think of the different ways other Japanese EFL students might approach vocabulary learning, what strategies they use, and what are the outcomes. Therefore, in this literature review I analyze the different vocabulary learning strategies (VLSs) among Japanese EFL students. First, I will provide an overview of different VLSs. Second, I will describe the different VLSs Japanese EFL students use. Third, I will describe the relationship from using such VLSs in high-stake proficiency exams such as the TOEIC, and in vocabulary size tests.

VLSs Overview

In the 1960s, vocabulary learning strategy (VLS) research centered on behaviorist type strategies focusing on single strategies like rehearsal strategies, repetitions needed to learn a word list, and the amount of words that could be learned at a certain time (Gu & Johnson, 1996). Atkinson (1975) researched mnemonic strategies in second-language learning, and Ahmed (1988) was one of the first researchers that used a combination of VLSs to identify good and poor learners. During the 1990s, various researchers attempted to categorize VLSs in different

forms and these attempts stemmed from the Strategy Inventory for Language Learning (SILL), a questionnaire created by Rebecca L. Oxford in the 1990s. This questionnaire identified six sub scales: memory strategies, cognitive strategies, compensation strategies, affective strategies, and social strategies (Mizumoto & Takeuchi, 2009).

Yamada (2018), defined *vocabulary learning strategies (VLSs)* as "the special thoughts or behaviors that individuals use to help them comprehend, learn or retain new vocabulary" (p. 932), Gu and Johnson (1996) stated that they "refer to a wide spectrum of strategies used as part of an on-going process of vocabulary learning" (p. 669) and O'Malley and Chamot (1990, as cited in Zokaee et al., 2012) defined it as "the special thoughts or behaviors that individuals use to help them comprehend, learn or retain new information" (p. 138). In sum, there seems to be agreement that VLSs include an approach that individuals follow when learning new vocabulary words. Although there is a VLS definition agreement there is no agreement as to a single VLS categorization scheme (e.g., Gu & Johnson, 1996; Schmitt, 1997) that conveniently describes the different VLSs available. This paper will use the categorization scheme used in reference to Mizumoto (2010) to give an overview of the different VLSs available and will focus on describing two of these strategies more in detail: cognitive strategies and metacognitive strategies.

Cognitive strategies can be summarized as different actions that learners perform to learn new vocabulary (Mizumoto, 2010). Mizumoto (2010) referred to cognitive strategies as consolidation strategies meaning that upon encountering a word a learner would use different types of cognitive strategies to learn it, encode it, and activate it. Verbal rehearsal strategies (Gu & Johnson, 1996; Little & Kobayashi, 2014; Mizumoto, 2010; Mizumoto & Takeuchi, 2009) and written rehearsal strategies (Little & Kobayashi, 2014; Mizumoto, 2010; Mizumoto & Takeuchi,

2009) are often listed as cognitive strategies. In addition, visually-based strategies (Mizumoto, 2010; Mizumoto & Takeuchi, 2009), note-taking strategies, activation strategies, and encoding strategies (Gu & Johnson, 1996; Mizumoto, 2010) are also mentioned across studies.

Other strategies, like association strategies, have been categorized differently. They were subcategorized as encoding strategies (Gu & Johnson, 1996) but treated as a main category in other studies (Mizumoto & Takeuchi, 2009), while guessing strategies and dictionary strategies have been mentioned only in a particular study (Gu & Johnson, 1996).

Metacognitive strategies are those that plan, monitor, and evaluate cognitive strategies (Gu & Johnson, 1996; Mizumoto, 2010; Mizumoto & Takeuchi, 2009; Yamada, 2018).

Mizumoto (2010) based his VLS classification scheme by combining VLSs classifications from previous studies (e.g., Gu & Johnson, 1996; Schmitt, 1997). Mizumoto (2010) classified VLSs between consolidation strategies—cognitive strategies were classified within consolidation strategies—and metacognitive strategies.

VLSs Japanese EFL Students Use

There are a number of instruments used to determine which VLSs people use (Yamada, 2018). These instruments are interviews, observations, think-aloud protocols, diary and dialogue journals, recollective narratives, computer tracking, and questionnaires (Yamada, 2018). However, Mizumoto and Takeuchi (2009) stated that the questionnaire developed by Gu and Johnson (1996) to assess VLSs included constructs which may not be considered strategic. For that reason, Mizumoto and Takeuchi (2009) stated that a psychometrically valid questionnaire, a questionnaire that measures what they are designed to measure, should be developed.

Mizumoto and Takeuchi (2009) created a psychometrically valid questionnaire to find the VLSs university students use. Mizumoto and Takeuchi (2009) developed the questionnaire in

three different phases. The first phase was the development of the item pool, the second phase was about piloting the instrument, and the third phase was about administering the final instrument.

In the first phase, Mizumoto and Takeuchi (2009) asked 122 Japanese EFL female university students (aged 18–21) who had started studying English in junior high school and had spent less than 10 months studying abroad to list the types of VLSs they used to memorize words both in context and from a word list. The students listed 89 strategies, and those that were not cognitive nor metacognitive strategies were eliminated, and as a result, Mizumoto and Takeuchi (2009) chose 47 strategies.

In the second phase, Mizumoto and Takeuchi (2009) administered a questionnaire based upon the 47 strategies to 410 university EFL students (137 males and 273 females; both groups aged 18–22) to find which vocabulary strategies they typically used. Mizumoto and Takeuchi (2009) administered statistical screening processes and deleted strategies rarely used leaving the questionnaire with 25 items.

In the third phase, Mizumoto and Takeuchi (2009) administered the 25-item questionnaire to 283 Japanese university EFL students (126 males and 157 females; both groups aged 18–22) to investigate the reliability and validity of the questionnaire.

Mizumoto and Takeuchi (2009) organized the 25-item questionnaire (see Appendix A) into six different sub-categories: Self-management, input-seeking, imagery, writing rehearsal, oral rehearsal, and association. Mizumoto and Takeuchi (2009) labeled self-management and input-seeking as metacognitive strategies and imagery, writing rehearsal, oral rehearsal, and association as cognitive strategies.

Mizumoto and Takeuchi (2009) investigated the relationship between the VLSs students used and TOEIC scores as they prepared to take a TOEIC test. Mizumoto and Takeuchi (2009) administered the 25-item questionnaire to 244 Japanese university students (118 females and 126 males; both groups aged 18–22), and who had lived overseas for less than 10 months. The researchers administered the questionnaire after a 4-month TOEIC preparation course to find the type of VLSs the students used. The results indicated that the students could be divided into three clusters. Mizumoto and Takeuchi (2009) referred as Cluster 1 to less frequent strategy users, Cluster 2 as active strategy users, and Cluster 3 as moderate strategy users. Students in Cluster 1 and Cluster 3 relied mostly on cognitive strategies (e.g., writing rehearsal); students in Cluster 2 used more metacognitive strategies (e.g., self-management and input-seeking) (Mizumoto & Takeuchi, 2009).

Mizumoto (2010) replicated Gu and Johnson's (1996) study with 139 Japanese EFL female university students to find the type of VLSs average-proficiency Japanese EFL university students use. Mizumoto (2010) administered a 91-item questionnaire about VLSs. Mizumoto stated that he used this instrument because Gu and Johnson (1996) had administered it to a large sample of 850 EFL Chinese university students and Mizumoto (2010) thought that "a comparison of results obtained from Japanese counterparts would be considered possible and informative" (p. 59). Gu and Johnson (1996) categorized VLSs as metacognitive regulation, guessing, dictionary, note-taking, memory (rehearsal), memory (encoding), and activation strategies. Mizumoto (2010) found that the most frequently used VLS were guessing strategies and dictionary strategies.

Yamada (2018) investigated the relationship between metacognitive VLS and vocabulary knowledge by administering a 23-item questionnaire and a 130-item vocabulary size test to 132

Japanese EFL junior high school learners (68 males and 64 females; both groups aged 14–15), and who had lived for less than 10 months in an English-speaking country. Yamada (2018) categorized the questionnaire items into six factors: input-seeking, planning, selective attention, spaced learning, guessing with confidence, and note making. Yamada (2018) found that input-seeking was a positive predictor of test scores.

Little and Kobayashi (2014) aimed to find which VLSs Japanese university science students were already familiar and perceived as useful. The authors administered VLS instructions on vocalization, imagery, writing rehearsal, association, mnemonics, and word card strategies to 38 university students (14 males and 24 females). Little and Kobayashi (2014) found that the students were already familiar with vocalization, writing rehearsal, and word cards, from these, the students were more familiar with writing rehearsal. Little and Kobayashi (2014) also administered the questionnaire in Appendix A before and after the instructions and found an increase in self-management and input seeking.

In summary, the participants in Mizumoto and Takeuchi (2009) and Yamada (2018) used metacognitive strategies, while Mizumoto (2010) did not indicate that they used metacognitive-type strategies. Little and Kobayashi (2014) did not even include metacognitive strategies on their VLSs instructions. However, as I show on the next section, metacognitive strategy use has been shown to be positively related to test outcomes.

Metacognitive Strategies and Tests

Although there seems to be agreement in VLS definitions, it has been more difficult to find agreement in a vocabulary strategy categorizing scheme that can be correlated to test scores. There have, however, been at least a couple of studies that have used questionaries as an

instrument to assess VLSs that are correlated to test scores and vocabulary size tests (e.g., Mizumoto & Takeuchi, 2009; Yamada, 20018).

Mizumoto and Takeuchi (2009) examined the relationships between VLSs, motivation, study time, and TOEIC scores. To determine a relationship strength between questionnaire items and test scores, a correlation score is determined (Mizumoto & Takeuchi, 2009). Dörnyei and Ushioda (2001) suggested that a correlation score above .30 represents a significant relationship.

Mizumoto and Takeuchi (2009) identified metacognitive VLSs to be highly correlated with TOEIC scores, they found input-seeking strategies with correlation coefficient (r = .39) demonstrating a significant relationship with TOEIC scores. The correlation score for self-management (r = .18), imagery (r = .11), oral rehearsal (r = .17), and association strategies (r = .13) with TOEIC scores were low and writing rehearsal strategies (r = -.04) were uncorrelated with TOEIC scores. Mizumoto and Takeuchi (2009) reported correlations that were similar to Gu and Johnson (1996) as well as similar findings as reported by Pintrich et al. (1993), who based their study on the Motivated Strategies for Learning Questionnaire (MSLQ).

Overall, Mizumoto and Takeuchi (2009) stated that because the correlations in their study "are in the expected directions and consistent with these studies, the strategic vocabulary learning scale consisting of six subscales can be judged as a valid measure for assessing strategic vocabulary learning behaviors" (p. 14).

Yamada (2018) administered a vocabulary test to determined that the vocabulary size test items consisted of five frequency levels (from the 1,000-word level to the 5,000-word level) and each level had 26 items. Yamada (2018) found that input seeking was a positive predictor of test scores from the 1,000-word level to the 4,000-word level, spaced learning a positive predictor for test scores in the 2,000-word level to the 3,000-word level, guessing with confidence a positive

predictor for test scores from the 2,000-word level and 5,000-word level, and note making a positive predictor for the 5,000-word level. Yamada (2018) found that planning and selective attention were neither positive nor negative predictors.

In sum, Yamada (2018) found that input seeking was a positive predictor of test scores, and that "as a whole, there were no negative predictors, which means using metacognitive VLSs does work as an effective way of learning" (p. 939).

Summary

Japanese EFL students take different approaches when learning new vocabulary words and researchers have used instruments such as questionnaires as the preferred tool to identify these different approaches.

However, one of the challenges researchers have experienced with the different reported approaches has been finding agreement with a common VLSs classification scheme and finding a psychometrically valid questionnaire that allows researchers to establish relationships of reported learning strategies to TOEIC scores.

Mizumoto and Takeuchi (2009) combined previously reported VLSs and classification schemes that would allow them to identify the VLSs Japanese EFL learners use and created their own psychometrically valid questionnaire to find a relationship with TOEIC scores. They found that metacognitive strategies were significantly related to TOEIC scores.

Other researchers, such as Yamada (2018) focused his research on the type of metacognitive strategies and the relationship to vocabulary test scores. Using his own questionnaire, he found that input seeking, a type of metacognitive strategy, was a positive predictor of test scores.

The works of Mizumoto and Takeuchi (2009) and Yamada (2018) suggest that Japanese EFL students who wish to take tests such as the TOEIC or vocabulary tests would benefit if they focus on metacognitive strategies when learning vocabulary. I think more research deserves attention into how teachers can prepare students to learn about the different metacognitive strategies that they can use as they prepare to take those tests.

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Appendix A

Strategic Vocabulary Learning Scale for Japanese EFL Learners (Mizumoto & Takeuchi, 2009).

Self-management

1. I regularly review the vocabulary I learned to check if I remember it.
2. I keep a vocabulary book or word list to check the vocabulary anytime I wish.
3. I try to make it a rule to memorize a certain number of words in a specific time period (e.g., "I will memorize 10 words a day").
4. I try to learn extra vocabulary in addition to what I am taught in class.
5. I try to take time for vocabulary learning.
6. I consciously set aside time to study vocabulary in order to prepare for tests (such as TOEIC, TOEFL, or Eiken: English Proficiency Test).
7. I use my own methods for remembering, checking, or reviewing vocabulary.

Input-seeking

8. I try to expose myself to English vocabulary by reading or listening a lot.
9. I try to manage the learning environment so as to expose myself to English vocabulary.
10. I try to make use of the media (TV, radio, Internet, mobile phone, or movies) to learn vocabulary.
11. I study vocabulary with the intention of using it.

Imagery

12. When I try to remember vocabulary, I make a mental picture of what can be associated with a word's meaning.
13. When I try to remember vocabulary, I link my personal experiences to it.
14. When I try to remember vocabulary, I create an image of the spellings or orthographic forms.
15. When I try to remember vocabulary, I use the keyword method (keyword mnemonic technique).
16. When I try to remember vocabulary, I imagine whether the meaning of the word is negative or positive.

Writing Rehearsal

17. When I try to remember vocabulary, I write it repeatedly.
18. When I try to remember vocabulary, I write it on a note or a card.
19. When I try to remember vocabulary, I remember not only the meaning but also the spelling of the word by writing it.

Oral Rehearsal

20. When I try to remember vocabulary, I say it aloud repeatedly.
21. When I try to remember vocabulary, I vocalize it to remember not only the meaning but also the pronunciation of the word.
22. When I try to remember vocabulary, I say the sample sentence aloud.

Association

23. When I try to remember vocabulary, I associate it with the synonyms (e.g., begin and start) or antonyms (e.g., positive and negative) I already know.
24. When I try to remember vocabulary, I also memorize the synonyms or antonyms of the word.
25. When I try to remember vocabulary, I memorize words similar to it (in meaning, sound, or shape) or the related words in a group.