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EFL Vocabulary Acquisition through Word Cards: Student Perceptions and Strategies

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Abstract

Vocabulary knowledge plays an important role in second language proficiency, and learners need to acquire thousands of words in order to become proficient in the target language. As numerous studies have shown that incidental vocabulary acquisition is not sufficient on its own, it is clear that learners must devote considerable time and effort to deliberate vocabulary study. Vocabulary cards are a commonly used technique for deliberate vocabulary study; however, there is currently a lack of qualitative research on learners' perceptions of word cards, or the extent to which individual learner preferences or study habits affect the efficacy of word cards. Therefore, this study investigates students' general perceptions of word cards, and examines individual learner habits and practices when studying from their cards. Results suggest that students view word cards positively and are aware of many of the benefits attributed to word cards. However, data also highlights the fact that some learner strategies may negate some of the benefits of word cards as set out in the literature.

Keywords: EFL, vocabulary, deliberate vocabulary learning, word cards, learner strategies

Introduction

There is little doubt that vocabulary knowledge plays an important role in second language proficiency, and it is believed that learners need to acquire between 3,000 and 10,000 words to become proficient in the target language (Hazenberg & Hulstijn, 1996; Hu & Nation, 2000; Laufer & Ravenhorst-Kalovski, 2010). Given the vast number of words that must be learned, it is clear that learners must devote considerable amounts of time and effort to vocabulary study. Although research suggests that some vocabulary can be learned incidentally (Elley & Mangubhai, 1983; Horst et al., 1998; Waring & Takaki, 2003), it is clear that learners must engage in deliberate vocabulary study if they are to make significant gains in relatively short periods of time (Laufer & Rozovski-Roitblat, 2014; Mondria & Mondria-de Vries, 1994; Nakata, 2008; Nation, 2013).

Vocabulary cards are a commonly used technique for deliberate vocabulary study, and the efficacy of this method is supported by a growing body of research (Laufer, 2003; Nation, 2013; Schmitt, 1997; and Wang, 2010). A variety of features have been given credit for the success of learning from word cards including the affordances they offer for (a) expanded spaced rehearsal, (b) active recall of the L2 word form and its meaning separately, and (c) eliminating list effects or serial learning (Nakata, 2008; Nation & Webb, 2011). However, there are currently very few, if any, qualitative studies concerning the extent to which individual learner preferences impact the efficacy of word cards in terms of the three points mentioned above. Currently, very little is known about what learners actually do with their word cards after initially making them, or whether the way they are used is in line with the recommendations or assumptions outlined in the word card literature. Therefore, this study aims to address this important gap in the literature.

Literature Review

Importance of Vocabulary

There is little doubt that vocabulary knowledge plays a vital role in a learner's ability to proficiently use a foreign language (Laufer & Rozovski-Roitblat, 2014; Laufer & Shmueli, 1997; Nation, 2013; Nakata, 2008). There is a growing body of research showing positive correlations between vocabulary size and L2 reading and listening ability (Anderson & Freebody, 1981; Bernhardt & Kamil, 1995; Durgunoglu, 1997; Koda, 1989; Laufer, 1991, 1992, 2014; Nation, 2006; Qian, 1999, 2002). It also follows that it will be impossible to express oneself clearly in spoken or written form without an adequate grasp of vocabulary (Astika, 1993; Engber, 1995; Olinghouse & Leaird, 2009; Laufer & Nation, 1995).

Number of Words Needed

Early research suggested that learners need to understand at least 95% of the words in a written text if they are to gain reasonable comprehension (Laufer, 1989). However, Hu and Nation (2000) concluded that 98% coverage was actually more suitable for successful comprehension of written texts. In order to be able to understand 95-98% of written or spoken texts, learners need a vocabulary size of anywhere between 3,000 and 10,000 words (Hazenberg & Hulstijn, 1996; Hu & Nation, 2000; Laufer & Ravenhorst-Kalovski, 2010; Nation, 2006). Therefore, it is clear that learners must devote considerable amounts of time and effort to learning foreign language vocabulary if they wish to be able to communicate effectively in the target language.

Incidental and Intentional (Deliberate) Vocabulary Learning

From a pedagogical point of view, vocabulary acquisition is usually seen to take place either incidentally or intentionally (Nation, 2013). Incidental vocabulary learning is defined as the learning of vocabulary as a by-product of carrying out other activities, most commonly extensive reading (Nation, 2013). On the other hand, intentional vocabulary learning involves learners carrying out activities with the sole purpose of acquiring vocabulary. Typical activities include using dictionaries before creating word lists, vocabulary notebooks, or word cards (Nation, 2013; Nation & Webb, 2011; Schmitt, 1997). Intentional vocabulary learning is also

often referred to as deliberate vocabulary learning (Elgort, 2011; Nation, 2013), and this is the term adopted in the rest of this paper.

Although research suggests that some vocabulary can be learned incidentally, the gains attributed to this method are quite small (Elley & Mangubhai, 1983; Horst et al., 1998; Waring & Takaki, 2003). However, numerous studies suggest that deliberate vocabulary learning can be an effective way to make substantial vocabulary gains in relatively short periods of time (Laufer & Rozovski-Roitblat, 2014; Nakata, 2008; Komachali & Khodareza, 2012; Schmitt & Schmitt, 1995). Therefore, incidental study alone is not enough and learners must also carry out regular and repeated deliberate vocabulary study if they are to master the thousands of words needed for success in the target foreign language.

Deliberate Vocabulary Learning with Word Cards

Vocabulary cards are a time efficient and easy-to-use method of deliberate vocabulary study (Nation, 2013). In their most basic form, word cards involve having the target language word written on one side, with the native language version on the other (Nation & Webb, 2011). However, depending on learner or teacher preferences, other information such as the part of speech, collocations, or example sentences can also be included on the cards. Many language teachers advocate the use of word cards as an efficient and effective method of deliberate vocabulary study, a position which is backed up by a growing body of research-based evidence (Komachali & Khodareza, 2012; Laufer, 2003; Nakata, 2008; Wang, 2010; Waring, 1997). Generally, although learning from lists has proven to be a successful deliberate learning technique (Hulstijn, 2001; Nation, 2013), studying from word cards has proven to be a more effective method (Laufer, 2003; Nakata, 2008; Schmitt & Schmitt, 1995; Waring, 2004).

The success of word cards as a method of deliberate vocabulary study can be attributed to a number of factors described by Nakata (2008) and nation (2013). Firstly, word cards allow for active recall of the L2 word form and its meaning separately because each form is presented on different sides. Secondly, expanded spaced rehearsal can be implemented more easily as learners are able to divide cards into several decks, allowing them to review difficult or unknown items more frequently than easy or better-known items. Thirdly, as words are presented separately, no inappropriate help is given via the list effect, something that Nation and Webb (2011) refer to as serial learning.

Gaps in the Literature

As can be seen from the literature review above, word cards have repeatedly proven to be an efficient and successful technique for the deliberate study of foreign language vocabulary. Much of this success has been credited to the characteristics of word cards and the affordances they offer. However, very little qualitative research has been carried out investigating word cards. To date, the research-based studies concerning word cards have almost all been quantitative, cross-sectional, and carried out under experimental conditions instead of within natural learning contexts (Nation & Webb, 2011). There are very few studies exploring learners' perceptions of vocabulary cards, and none examining the choices learners make when using them. Therefore, it is not clear if learners' perceptions or individual study choice support

or negate the theoretical benefits attributed to word cards. Currently, there are two main gaps in the literature that warrant specific attention:

1. No qualitative studies were found that provided detailed data regarding learners' general perceptions of word cards as a deliberate study method. Only one study was found to address the issue of learner perceptions in a somewhat qualitative way (Nakata, 2008), and even this study did not use qualitative interviews, and presented data quantitatively. This gap needs addressing because learner perceptions and feelings about a particular study method can affect learner motivation, and thus impact learning outcomes. If learners have a positive view of word cards, this could account for some of their success reported in the various quantitative studies, and could further justify their use in language learning programs. On the other hand, if learners display a lack of satisfaction towards word cards, it could show that the benefits of the method need to be better explained to students, or that learners should be given more autonomy in terms of which deliberate study method they use.

2. No studies have been found that have investigated the extent to which learners actually carry out expanded spaced retrieval by dividing their word cards into 'known' or 'unknown' packs. If qualitative data obtained from interviews, observations, and surveys shows that learners are regularly and systematically separating their cards into packs based on the extent to which words are perceived to be known, this would provide practical, classroom-based support for this theoretical benefit. Conversely, if learners prefer not to separate their packs, or do not focus more on new words, then no expanded spaced retrieval would take place, and this theoretical benefit would be called into question.

The Present Study

As seen above, there are currently very few if any studies showing how learners feel about word cards in general, and although the affordances for expanded spaced rehearsal and lack of serial learning are given a great deal of credit for the efficacy of word cards, there have been no qualitative investigations to back this up. Only through in-depth qualitative investigation and analysis can we begin to answer some important questions and better understand extent to which learner differences may alter the efficacy of using word cards as a deliberate vocabulary study method. The present study uses qualitative methods to answer the research questions below:

Research Questions

1. How do learners perceive word cards as a deliberate vocabulary study method?
2. How do learners' study choices relate to or affect the benefits of word cards described in the literature above?
   A. Expanded spaced retrieval
   B. List effect/serial learning

Setting

The research was carried out in a private university in Western Tokyo. The university curricula, regardless of faculty, has quite a strong emphasis on English as a Foreign Language (EFL) with all students having the opportunity to take EFL classes for four years. In addition, there are many study abroad opportunities, and the university has a variety of well-established self-access language programs and facilities.

Participants

The participants were 17 Japanese university students aged between 18 and 19 who had all studied English as a foreign language for at least six years before entering university. The participants were volunteers from an original pool of 100 students. Ultimately, seven students were selected to participate in the semi-structured interviews. This group of students had a good command of the English language (i.e., the interviews were to be conducted in English), had a balance of male and female participants, came from different departments, and had expressed high motivation to learn English.

All of the participants were first year undergraduate students and had used word cards as part of their course requirements for at least one semester. Within their course, the students' vocabulary level was pre-tested. They were given a level-appropriate section of the Corpus of Contemporary American English (COCA) and they self-selected words that they deemed to be unknown and entered the relevant information about that word (L1 meaning, L2 form, example sentence(s), and any other information they deemed as important) onto word cards. Overall, all of the participants followed this method and had learned from at least 250 word cards prior to the study.

Data Collection and Analysis

The primary method of data collection for the seven participants was one-to-one semi-structured interviews. The interview data was then transcribed, analysed, and coded. In addition, the interviewees' word cards were also examined during the interview stage. After analysis of the data, the remaining ten students, who were not interviewed, were emailed a short questionnaire to help shed more light on some of the points raised during the interviews. This questionnaire contained both Likert-scale and open-ended questions. Students were allowed to answer the open-ended questions in Japanese or English, and all Japanese answers were translated by a colleague.

Presentation and Analysis of Data

The following section presents interview and survey data, and provides interpretations of the data analysis.

Research Question 1: How do learners perceive word cards as a deliberate vocabulary study method?

General Perceptions of Word Cards. In terms of general perceptions of word cards as a deliberate vocabulary learning technique, the interview and survey data intimates that learners view word cards positively. The interview excerpts below represent some typical responses.

> P1. Word cards are good, I think, good, good for me. I like this system very much … I can learn many words quickly. … I can choose words I don't know, it is good.
>
> P2. It is good to learn new words and sentences, easy, quickly study many word. … I can learn many words quickly, … it is also convenient.
>
> P3. Cards are a good way to study quickly. I can learn word and sentence well … I can know many new words and the way of using. … English words and sentences.

Similar opinions were given by three of the other four interviewees. Survey data gained from a Likert-scale question asking participants to rate the efficiency of word cards supports the above interview data. When answering the question 'How efficient do you think word cards are to study vocabulary (time efficiency, ease of use, etc.)?' 70% of the participants rated word cards as highly efficient (Mean = 4.1 out of 5). Responses to an open-ended follow up question asking participants to provide reasons for their above ratings included similar answers to those provided by the interviewees, for example, *simple way to study*, *easy to make and carry*, and *can learn many words quickly*. One surprising point is that, despite the amount of time required to make the cards, all participants believed that the vocabulary card method was a quick way to learn new words. This finding is in line with the literature that views word cards as a relatively quick and efficient method of deliberate vocabulary study (Nation, 2013; Nation & Webb, 2011).

As learners appear to view the use of word cards positively, it was deemed important to find out what features the participants particularly like or find most beneficial. The main findings were that convenience and active recall were the two positive points most commonly stated by the participants.

Convenience. All of the participants interviewed said that they find the word card system convenient because they are easy to carry around and study from in various contexts. Typical responses were as follows: *they are convenient … easy to carry … I can study in bed*, *… in library*, *… in class and on train*. In addition, when asked to list the main advantages of word cards on the survey emailed to the other participants, 70% of the respondents mentioned that they felt they were convenient or easy to carry, and a number of participants specifically mentioned that they liked the fact that they could study from the cards anywhere, for example, on the train, or in the classroom before class.

Presentation of L2 form and L1 meaning separately. In addition to noting the convenience factor, many of the interviewees mentioned that having the L1 and L2 words presented separately (on different sides of the cards) was a positive feature of word cards.

P1. I have to see one side and remember the other, it is difficult but good for me … I can remember more easy next time. I see Japanese and have to remember word and sentence, is good.

P2. When I see Japanese word, I have to remember the English one, is difficult but helpful for me. … If I see together, like notebook, maybe I do not remember next time.

P5. I like this, must think hard … not easy … cannot see both sides at same time, is good. Remembering sentence is good.

P7. I have to think about, remember the word on the other side of the card, it is good. I remember words like this more. In textbook, words shown together, it is too easy … don't have to think.

The above results were also reflected in the survey data. When listing the advantages of word cards on the survey, 60% of students stated that they thought that it was very good that they could not see the Japanese and English forms of the words at the same time.

Research Question 2: How do learners' study choices relate to or affect the benefits of word cards described in the literature above?

The following data excerpts hopefully shed light on what it is that learners actually do when studying from word cards. Specifically, the results aim to show how learners' study choices affect the two theoretical benefits of word cards referred to as expanded spaced retrieval, and serial learning.

Expanded Spaced Retrieval. One of the main advantages or positive characteristics of word cards discussed in the literature is the issue of expanded spaced retrieval (Nakata, 2008; Nation, 2013; Nation & Webb, 2011). This refers to the process whereby word cards can be sorted into different packs, for example, known words, somewhat known, and unknown. Then, in principle, learners can focus less attention on better known words by extending the time between study periods of those words. The data excerpts below highlight some interesting issues regarding expanded spaced retrieval.

While some of the participants seemed to practice the principle of expanded spaced retrieval, it was not systematically expanded.

P3. Sometimes I only bring some cards, not all of them … If I know some words I can leave them at home for that day's study.

I. Ah, I see. What happens to the cards you leave at home, take out of the pack?

P3. I will study from them again at next, or next session, because, if I finish with them, I think I forget them again. So, um, if I study them today and know them, or um get good test score, maybe I not study for one week.

I. How often do you take cards out of your pack like this? Why?

P3. Um, not often, maybe twice in a semester (long pause; no more information given)

I. Do you keep cards in separate packs?

P3. Ah, no, I put them back like this (shows me her cards: they are all numbered and in order). I usually take out in group and then put back in same order. … Like this (shows cards), I take out from here to here (1-50), and then put them back later

I. Why do you keep them together in order, and in one pack, why not in known and unknown piles for example?

P3. I um, (laughs) I do not like shuffle so much. Like this way I have to, want to order so I know, um, so I see which are old and new easy … I like to have them together usually … because I can study all if have time … I like cards in time order.

It seems from the data above, that although Participant 3 does carry out spaced retrieval, it is not done in an organised or planned manner, and is not really *expanded* spaced retrieval for a number of reasons. The next data excerpt shown below provides more evidence to support these interpretations.

I. How long after making the cards do you study them, and which cards do you study?

P3. Uhm, for example, maybe make on Wednesday, then study same day, then make more on Friday or Saturday, then study new and old ones. Once a week, look at all. … But, when I make new cards, I study those ones, plus go back to early ones. … Not always have time to look at all, so I start with new ones and go backwards. But sometimes I study from last (new) ones and all others. … I try to look at all at least once a week. I spend more time on new cards, old ones I know so take less time, uhm, just check.

First, although she does not study older or more known words as often as newer ones, the maximum spaced retrieval seems to be around one week; it is not expanded to longer periods, which is the basic premise or definition of expanded spaced retrieval as stated in the literature (Nakata, 2008; Nation, 2013). Similar practices were also reported by four of the other participants interviewed, all of whom said they generally try to look through all of the cards at least once a week. In addition, the survey data gained from the question 'How often do you separate your cards into packs based on how well you know the words?' showed that less than 20% of the students regularly separated their packs.

Serial Learning. In addition to showing a lack of expanded spaced retrieval, as the data excerpts above also show that participant 1 always keeps the cards in order, and mostly in one pack, this theoretically could lead to some list effect or serial learning. The literature (Nation, 2013; Nation & Webb 2011) mentions that one of the main advantages of word cards is that they can be shuffled, or split into multiple decks, in order to prevent words from being presented

in the same order, thus avoiding serial learning. However, it can be seen above that this does not seem to be the case for most learners in this study. Another example comes from participant 2 who stated "*I do not like shuffling … I don't separate into packs … I want to keep in same order*." Further evidence of the risk of serial learning comes from another interviewee whose cards, which were brought to the interview, were numbered and in order. This participant also expressed an aversion to shuffling or separating into decks when he stated that he does not like shuffling but likes "keeping in one pack, keeping together in number order." Similar answers were given by all of the interviewees, and survey data gained from the question 'How often do you shuffle your cards' showed that only 2 students regularly shuffled their word card packs. This is very surprising because as their teacher, I have often stressed the importance and benefit of shuffling cards and not studying them in the same order each time.

This habit of keeping the cards in one pack, going through them in time or numerical order and not shuffling goes against what is discussed in the literature regarding word cards protecting against serial learning.

However, during interviews participants were tested for serial learning by asking if they could recall the next word after looking at the previous one. No participant was able to recall the word correctly, or even partially. Therefore, based on very rudimentary testing, it seems that even though the participants were largely studying from their cards in the same order each time, word cards are an effective way of avoiding serial learning.

Active Versus Passive Recall. Another of the advantages of word cards discussed in the literature is that as information is presented on two sides, not next to each other, active recall of the L2 form can be done after seeing the L1 meaning (Nakata, 2008; Nation, 2013). This is believed to be more cognitively challenging and therefore likely to lead to better learning outcomes than carrying out passive recall; looking at the L2 form and trying to recall the L1 meaning (Laufer & Hulstijn, 2001; Laufer & Rozovski-Roitblat, 2014; Nation, 2013, Nation & Webb, 2011).

Originally, this characteristic of word card design was not a focus of investigation in this study. However, it was added because many of the participants discussed the issue without specific prompting, and no previous studies were found that investigated whether learners carry out active or passive recall form word cards.

The interview data below shows that the learner is aware that active recall is more difficult than passive recall, and that she systematically chooses which type of recall to engage in.

> I. OK, when you are studying the cards, if you are studying? Do you always need to look at both sides?
>
> P5. Yes, even if I know, uh think I know, I always check. It is best part for me. I see English, I have to remember, um, then test, check other side to see if right, if I am correct. Or see Japanese, must turnover to see if my remember English word is correct.

I. Do you start with English word side or do you start with Japanese side)? Which side do you look at first?

P5. Firstly, uh, I look at side English side, a few times do this, so, few time later I start with side Japanese side.

I. When do you change from looking at the English side first to looking at the Japanese side? Uh, why do you change?

P5. Yes, um, when I think I maybe know the words more, … then I change to Japanese side.

I. Looking at the English and remembering the Japanese, or looking at Japanese and remembering the English, which is most difficult?

P5. Um Japanese to English is more difficult. I have to look at Japanese, um which I usually know, but then I have to think about English, um, mm, spelling, letters, uh pronunciation. It is more difficult. Seeing English, all, then thinking Japanese much easier.

From the above data, it can be seen that the student is consciously aware that active recall is more cognitively challenging, and due to this knowledge, she seems to progress from the easier method (passive recall) to the more difficult active recall method. She seems to do this in order to systematically increase her knowledge and memory of that word. This learning student-selected methodology was also reported by three other participants, for example:

P1. Yeah, first time is Japanese to English, then second time is same, but 3rd time is Japanese to English (in each session).

P3. English to Japanese is easier for me, so I start like this a few times and then change … start Japanese side to remember English word more.

P6. I don't like trying to remember the English word, it is too hard. Looking at English side is easy … but I do other way sometimes because I need it.

The above data intimates that not only are learners applying very good recall strategies, which are in line with the advice or benefits described in the literature, but that they are also doing it consciously with an understanding of the importance of doing so. Unfortunately, no survey data was collected regarding this point as it was not a planned variable in this study.

Summary of Results

The research outlined in this paper addresses a number of gaps in the literature regarding word card usage. Although much literature has cited expanded spaced retrieval, lack of serial learning, and the affordance to actively recall the L1 form of a word from its L2 meaning (Nakata, 2008; Nation, 2013; Nation & Webb, 2011), this is the first known study to provide

qualitative data regarding these issues. Therefore, although this study is very limited in terms of the number of participants, the qualitative data highlights some interesting findings:

Firstly, in terms of learner perceptions, all of the learners viewed word cards in a positive light. The majority of the participants interviewed and surveyed stated that they felt word cards were a quick and effective method. In addition, all of the participants listed convenience as a major benefit of word cards. Results also indicated that learners viewed being able to recall the L1 form and L2 meaning separately as an additional positive feature. Some participants specifically stated that this was a major benefit of word cards over word lists or notebooks.

Secondly, the data presented in this paper indicate that although learners are engaged in expanded spaced retrieval to an extent, they are not taking full advantage of this technique. For example, learners in this study admitted to rarely separating cards into packs of known and unknown words, and the period of spacing between the study of words perceived as known did not go beyond one week. Therefore, it may be that learner' study preferences could actually be limiting the benefit of word cards in terms of their affordance for expanded spaced retrieval.

In addition, based on data obtained during the interviews, although learners rarely separate or shuffle their pack when studying from them, this does not seem to result in any serial learning. This intimates that even when learners do not follow some of the basic guidelines regarding word card methodology, the design features of the card system are robust enough to prevent serial learning.

Finally, without being specifically asked, learners specifically mentioned the issue of active versus passive recall. Learners showed that (a) they are aware that active recall is more cognitively challenging, and (b) due to this, they most often begin studying new words passively before moving onto an active recall approach in subsequent study sessions.

Conclusions

From the qualitative data collected and analysed in this study, it appears that learners agree with many of the benefits cited in the word card literature. First, word cards were viewed as a convenient, time-efficient and effective method of deliberate vocabulary study. In addition, learners also cited being able to recall the L1 form and L2 meaning separately as a positive feature of word cards. However, some of the ways learners study from their cards goes against the advice cited in the literature. One example of this is that learners are very reluctant to shuffle or separate their word card packs. However, rudimentary testing indicated that there was no evidence of serial learning, something which is believed to occur from other methods such as lists or notebooks (Nation, 2013). Therefore, the design features of word cards seem robust enough to protect against serial learning, even when learners do not follow the protocols advocated in the literature. However, one of the most concerning results is that the practice of engaging in expanded spaced retrieval seems to be somewhat limited at best. While some of the participants seemed to practice the principle of spaced retrieval, it was not systematically expanded over time. Overall, the results of this study lend support for the use of word cards, but also indicate that significant and repeated learner training concerning how best to study from the cards may be needed.

Limitations of the Study

There are clearly a number of limitations with this study, the biggest being the small sample size, and the fact that all the participants were first-year Japanese students from one private university. These issues seriously limit the generalizability of the results, therefore, further research in different contexts is needed. In addition, the fact that learners had to complete interviews in their second language may have limited the level of detail of their answers.

About the Author

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