

## Research paper

### *Comparing the efficacy of digital flashcards versus paper flashcards to improve receptive and productive L2 vocabulary*

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#### Abstract

Several researchers have compared the efficacy of digital flashcards (DFs) versus paper flashcards (PFs) to improve L2 vocabulary and have concluded that using DFs is more effective (Azabdaftari & Mozaheb, 2012; Başıoğlu & Akdemir, 2010; Kiliçkaya & Krajka, 2010). However, these studies did not utilize vocabulary learning strategies (VLSs) as a way to support the vocabulary development of those using PFs. This is significant because DFs often offer a range of features to promote vocabulary development, whereas PFs are much more basic; thus, learners who study via paper materials are at a disadvantage compared with those who use DFs. Given the success that VLSs have had in fostering L2 vocabulary enhancement (e.g., Mizumoto & Takeuchi, 2009), their incorporation could have influenced the previous studies. Therefore, one of the primary aims of this study was to find if there were significant differences in receptive and productive L2 vocabulary improvements between students who used PFs in conjunction with 3 VLSs – dropping, association, and oral rehearsal – and those who used the DF tools Quizlet and Cram. Additionally, the researchers examined the learners' opinions to see if there was a preference for either study method. A total of 52 EFL students at two Japanese universities participated in the 12-week study. Pre- and post-tests were administered to measure the vocabulary gains in the PF group (n = 26) and the DF group (n = 26). Results from a paired t-test revealed that both groups made significant improvements in receptive and productive vocabulary. However, the difference between the gains was not significant, which contrasts with past comparison studies of DFs and PFs and highlights the importance of VLSs. A 10-item survey with closed and Likert-scale questions was also administered to determine the participants' opinions towards the study methods. Higher levels of agreement were found in the experimental group, indicating that the students viewed DFs more favorably than PFs.

**Keywords:** L2 vocabulary, flashcards, computer-assisted language learning, EFL.

#### 1. Introduction

Technological advancements have touched on every aspect of our lives, and vocabulary acquisition is no exception. Increasing affordability and accessibility to the Internet and personal computing devices now means learners have a wide variety of digital flashcard (DF) tools, such as Quizlet and Cram, at their disposal. However, research into the efficacy of DFs versus paper flashcards (PFs) in L2 vocabulary acquisition has not been widespread. Of these studies, most have found DFs to be more effective than PFs (Azabdaftari & Mozaheb, 2012; Başıoğlu & Akdemir, 2010; Kiliçkaya & Krajka, 2010); however, these studies did not incorporate vocabulary learning strategies (VLSs), which might have leveled the playing field considering PFs are relatively simple compared with

the numerous features that are offered through most DF systems. Thus, one of the primary quantitative aims of this paper was to fill this gap in the literature by examining what, if any, vocabulary gains are made when learners use VLSs together with PFs, in comparison to learners who use DFs. Qualitatively, the authors also wanted to systemically survey learners via a questionnaire to ascertain if the ubiquity, convenience and entertainment value of DFs are seen as advantages in the Japanese EFL context, as they were in other studies (e.g., Başıoğlu & Akdemir, 2010). Once again, very limited research exists in the East Asian context, where populations have widespread Internet access and use of digital devices.

## **2. Literature review**

### *2.1. Receptive vs. productive L2 vocabulary learning*

Previous research has shown several differences between receptive vocabulary (RV), i.e., written or spoken words that a learner can understand (Burger & Chong, 2011) and productive vocabulary (PV), words learners can produce when they write or speak without external stimuli (Meara, 1999; Schmitt, 2000). The first is that a student's RV is larger than her or his PV (Laufer, 1998; Fan, 2000; Webb, 2005, 2008). Additionally, studies have also been carried out to determine why such gaps exist. Laufer and Paribakht (1998) found EFL students, who had smaller RV-PV gaps compared to ESL students, benefited from learning differences, such as directly seeking out new words to use in authentic settings.

Another widely observed research outcome is that a learner's RV improves faster than their PV. In a study over one year, Laufer (1998) found that a learner's RV progressed very well, while little to no improvements were made in PV. Similar findings were made by Fan (2000), whose research indicated a slower rate of progress for PV. Again, Webb (2005) made similar observations; however, he also noted that learners with a larger RV were also more likely to know more PV. What was interesting with the Webb study is how the gains were achieved –via RV tasks (reading) or PV tasks (writing). He found that when equal time was spent on both tasks, RV proved more beneficial; however, when time was given according to the amount of time needed to complete a task, PV proved superior.

### *2.2. Digital flashcards vs. paper flashcards*

Most comparison studies of DFs versus PFs have revealed that incorporating computer-assisted language learning (CALL) is more effective at enhancing L2 vocabulary learning. Başıoğlu and Akdemir (2010) looked at the use of DFs on mobile phones versus PFs with a group of L2 English students at a Turkish university. While both groups were able to make significant gains, the DF group made greater significant improvements. In another study involving Turkish university students, Kiliçkaya and Krajka (2010) compared the usefulness of DFs via Wordchamp versus vocabulary notebooks and PFs. Not only did the DF group outperform the notebook and PF group on the post-test, but they also made greater significant gains on a delayed post-test. Azabdaftari and Mozaheb (2012) also looked at the use of DFs with L2 English students at an Iranian university. The participants in the experimental group used a combination of DFs over mobile phones, short-message service (SMS) and the Internet to study the target vocabulary, while those in the control group used PFs. According to the post-test results, the use of mobile-learning and DFs had a greater positive effect on vocabulary learning than PFs. These studies demonstrate that DFs may help students better remember L2 vocabulary in the short-term, as well as support future recall to a greater degree than paper materials such as PFs and notebooks.

Despite the positive findings regarding DFs outlined above, not all comparison studies have resulted in superior gains by the DF group. Nikoopour and Kazemi's (2014) study with university students in Iran had mixed results concerning the use of DFs to improve L2 vocabulary learning. Three learning methods were involved in the study: mobile phone flashcards, computer-based flashcards and PFs. While a significant difference was

not found between the paper and mobile phone flashcard groups, the computer-based group had significantly lower gains when compared to the PF group on a vocabulary post-test. The researchers posited that the ubiquity of mobile phones and PFs was the main reason for the discrepancy in vocabulary gains.

In regards to learner attitudes towards DFs to enhance vocabulary learning, there seems to be a preference for their use over PFs. The participants in Başıoğlu and Akdemir's (2010) research viewed DFs as the preferred method of studying vocabulary due to their efficacy, ubiquity, and entertainment value. Azabdaftari and Mozaheb (2012) found similar results in their research. They discovered three main benefits of DFs: ubiquity, convenience and vocabulary learning as entertainment. Similar to the aforementioned studies, Nikoopour and Kazemi (2014) also found that learners preferred DFs to PFs. On the other hand, there was no statistical difference in the learners' opinions between the DF and PF group. Based on these findings, it seems that L2 students prefer the ubiquity and convenience of mobile learning with DFs to paper materials.

In short, not only do students seem to prefer DFs, but they have also been found to be more effective than traditional vocabulary learning methods. However, one limitation of the previously mentioned research is that the students using paper materials were not taught any VLSs to maximize the effectiveness of their learning. Given the positive effect that VLSs can have on L2 vocabulary acquisition (Kornell & Bjork, 2007; Mizumoto & Takeuchi, 2009), the lack of VLS instruction in those studies could have affected the results. Thus, the following research questions were investigated to fill this gap in the literature, as well as strengthen the limited empirical research of CALL-based flashcards in Japan:

- Were there any significant differences in receptive and productive L2 vocabulary improvements between a group of Japanese EFL learners which studied with PFs in conjunction with 3 VLSs, and another group which used DFs?
- How much time did each group spend studying the target vocabulary outside of class?
- What were the students' opinions of each vocabulary learning method?

### **3. Methodology**

#### *3.1. Participants*

The participants in this study were chosen via convenience sampling. They included a total of 52 1st-year EFL students at two private universities in Japan who were enrolled during the spring semester of 2016. The learners were divided into two equal groups: the PF group, which used PFs (n = 26), and the DF group, which used DFs (n = 26). The PF group was comprised of learners from only one of the universities, while the DF group was made up of students from both colleges. Students were placed in each group according to the availability of PCs in their respective classes. Vocabulary was a component of the grading criteria for all the classes involved; therefore, the use of PFs and DFs was an appropriate way to meet the specific needs of the students.

#### *3.2. Target vocabulary*

The New General Service List (NGSL) was designated as the target vocabulary for this study for several reasons. First, the NGSL provides learners with the most important high frequency words in English (Browne, 2013); thus, it can be considered as an essential component of L2 English learning. In addition, it offers a more modern and much larger corpus than its predecessor, the General Service List (GSL), which was developed more than 60 years ago by West (1953). Moreover, the NGSL affords learners more coverage with fewer words compared with the GSL. In other words, the NGSL provides students with a valuable resource to greatly expand their L2 vocabulary in an efficient manner without having to study multiple forms of a particular word (Browne, 2013).

### 3.3. Treatment

Aside from the differing study methods, both groups followed the same treatment procedure during the 12-week study. Each individual flashcard included the target vocabulary word and L1/L2 definitions. Students were given 15 minutes in class to study a new word list each week. The sole exception to this was the final week of the study, when the learners had the opportunity to review all the target vocabulary words. While studying outside of class was encouraged, it was not required nor was it tracked by the researchers.

The PF group was taught three VLSs to help enhance L2 vocabulary learning. Two of the VLSs, specifically oral rehearsal and association, were adopted from Mizumoto and Takeuchi's (2009) research of VLSs with Japanese EFL learners. The researchers found that these two VLSs resulted in the greatest vocabulary improvements by the students, thus they were incorporated in the present study. The third VLS, dropping, was adopted from Kornell and Bjork's (2007) research of flashcards. According to the researchers, dropping has the potential to promote memory recall, particularly if students do not have enough time to study. Because of this, dropping was seen as a useful strategy for the learners in the PF group. All three of the VLSs were taught and modeled prior to the start of the treatment. In addition, the VLSs were reviewed at the start of week two in order to reinforce the studying procedures.

The DF group studied via Quizlet and Cram, two popular online study tools. As of August of 2016, Cram had over 2.5 million members and more than 150 million user-created flashcards (Cram, 2016). Quizlet had even larger numbers – 40 million users per month with over 125 million user-created flashcard sets (Quizlet, 2016). Another important determining factor in choosing Quizlet and Cram is the fact that they are freely available for use on the web, in addition to offering free mobile apps through the iTunes' App Store and the Google Play Store. As Bateson and Daniels (2012) note, the financial constraints of language instructors and students must be considered when incorporating CALL. Therefore, the results from this study have pedagogical implications to those who have limited financial resources and cannot afford paid or subscription-based vocabulary study services such as WordEngine and Anki.

Similar to the PF group, the students in the DF group received learner training to increase familiarity with the flashcard study tools before the start of the treatment. The researchers explained how to log in and use the specific features of each site. Tables 1 and 2 below show the features of the study tools in relation to RV and PV. Although the DF systems are similar, Quizlet offers slightly more PV tasks as well as additional corrective feedback based on the students' responses. It is important to note that the participants were free to use Quizlet, Cram, or a combination of the two during the treatment. Furthermore, they were not encouraged to use one study tool over the other.

<b>Feature</b>	<b>RV activity</b>	<b>PV activity</b>
Word list	✓	
Flashcards	✓	
Test	✓	✓
Spell		✓
Learn		✓

Matching game	✓	
Asteroid game		✓

Table 2. Features of Cram		
Feature	RV activity	PV activity
Word list	✓	
Flashcards	✓	
Test	✓	✓
Memorize		✓
Jewels of Wisdom game	✓	
Stellar Speller game		✓

Not only do Quizlet and Cram offer both RV and PV learning activities, but these features also involve specific types of VLSs to help promote vocabulary recall. In a study of L2 VLSs, Lawson and Hogben (1996) categorized several types of strategies that learners used, two of which are relevant to the use of DFs in this study: repetition and word feature analysis. Tables 3 and 4 below detail the different forms of each VLS (p. 115). It is important to note that all of the strategies listed in the tables were incorporated in at least one or more of the features that Quizlet and Cram offered.

Table 3. Repetition strategies	
Forms of repetition	
<i>Reading of Related Words</i>	The student reads words that are related to the meaning of the word, e.g., L1/L2 definitions of the target word.
<i>Simple Word Rehearsal</i>	The student repeats the word and/or its meaning. In the case of DFs, this can be done by the online tools themselves as a listening activity.
<i>Writing Word and Meaning</i>	The student writes out the target word and/or its definition.
<i>Cumulative Rehearsal</i>	The student reviews words that were previously studied.
<i>Testing</i>	The student tests himself/herself by generating either the target word or its definition.

Table 4. Word feature analysis strategies	
Forms of word feature analysis	
<i>Spelling</i>	The student spells out the word.

### 3.4. Data collection and analysis

Quantitative data was obtained via vocabulary assessments administered at the outset and completion of the treatment (Appendices 1 and 2). The tests were administered to determine which study method – PFs or DFs – was more effective at enhancing the two dependent variables: 1) RV knowledge of the NGSL, and 2) PV knowledge of the NGSL. The RV assessment, which was modeled after the Vocabulary Size Test (Nation & Beglar, 2007), was developed by Stoeckel and Bennett (2015). Because there was no PV test of the NGSL, the researchers created a PV assessment which adapted the same format as the productive vocabulary levels test by Laufer and Nation (1999). For each target word, a meaningful context sentence was provided as well as the first few letters of the term in order to eliminate any other possible answers. The test items were chosen randomly from levels 1 and 2 of the NGSL. Correct answers on the RV test were excluded from the PV assessment to ensure that there were no duplicate responses. Initially, the participants took tests based on the first two word levels of the NGSL. However, both the PF and DF group did not show mastery, i.e., a score of at least 80-85%, at either level of the RV test (Stoeckel & Bennett, 2015). Therefore, the groups studied level 1 of the NGSL during the 12-week treatment.

Qualitative data was collected through L1 surveys which were administered after the completion of the post-test. The first question on each questionnaire asked the students to report their estimated vocabulary study time outside of class. Items two through nine were comprised of Likert-type questions asking the students to rate their views towards the study methods according to a scale ranging from strongly disagree (1) to strongly agree (5). The final question related to the study preferences of each method, namely, which VLS the PF group found most useful and the preferred DF study tool for the experimental group.

## 4. Results

An independent t-test was used to compare the pre- and post-test results between the two groups. However, it is important to note that the groups were found to be unequal, i.e., there was a significant difference in RV between the PF group (M = 12.65, SD = 4.1) and the DF group (M = 15.38, SD = 3.13) at the beginning of the treatment,  $t(50) = 2.7, p = .009$ . Similarly, differences were found in PV with the PF group (M = 6.96, SD = 2.31) producing significantly lower scores than the DF group (M = 8.77, SD = 2.75)  $t(50) = 2.5, p = 0.13$ . A paired t-test was used to analyze gains made within each group. Descriptive statistics are also provided to show the vocabulary improvements from the pre- to post-test as well as the results from the post-treatment survey.

	Pre-test		Post-test	
	Receptive	Productive	Receptive	Productive
PF	12.65	6.96	15.19	10.08
DF	15.38	8.77	17.85	12.08

Table 5 above shows the results of the pre- and post-tests of each group. A paired t-test indicated that the PF group was able to make a significant improvement in RV from the pre-test (M = 12.65, SD = 4.10) to the post-test (M = 15.19, SD = 2.74),  $t(25) = 2.81, p = .009$ . The DF group also had a significant increase in RV from pre-test (M = 15.38, SD = 3.13) to the post-test (M = 17.85, SD = 2.36),  $t(25) = 4.15, p = .0003$ . While both groups were able to make significant gains, an independent t-test revealed the gains were not significantly different between the PF group (M = 2.54, 4.61) and the

DF group ( $M = 2.46$ ,  $SD = 3.02$ ),  $t(50) = .071$ ,  $p = .94$ . Similar results were also found in relation to PV improvements. A paired t-test showed that the PF group made significant gains in PV from the pre-test ( $M = 6.96$ ,  $SD = 2.31$ ) to the post-test ( $M = 10.08$ ,  $SD = 2.23$ ),  $t(25) = 4.86$ ,  $p = .0001$ . The DF group made significant improvements as well from the pre-test ( $M = 8.77$ ,  $SD = 2.75$ ) to the post-test ( $M = 12.08$ ,  $SD = 2.17$ ),  $t(25) = 7.4$ ,  $p = .0001$ . However, there was not a significant difference between the PV increase between the PF group ( $M = 3.12$ ,  $SD = 3.27$ ) and the DF group ( $M = 3.31$ ,  $SD = 2.28$ ),  $t(50) = .24$ ,  $p = .81$ .

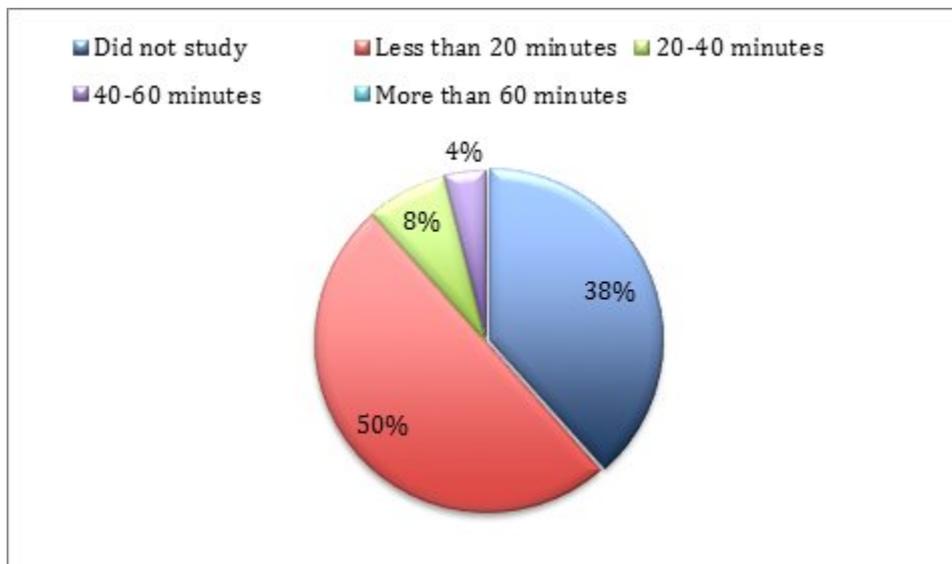


Figure 1. Amount of time the PF group studied target vocabulary outside of class.

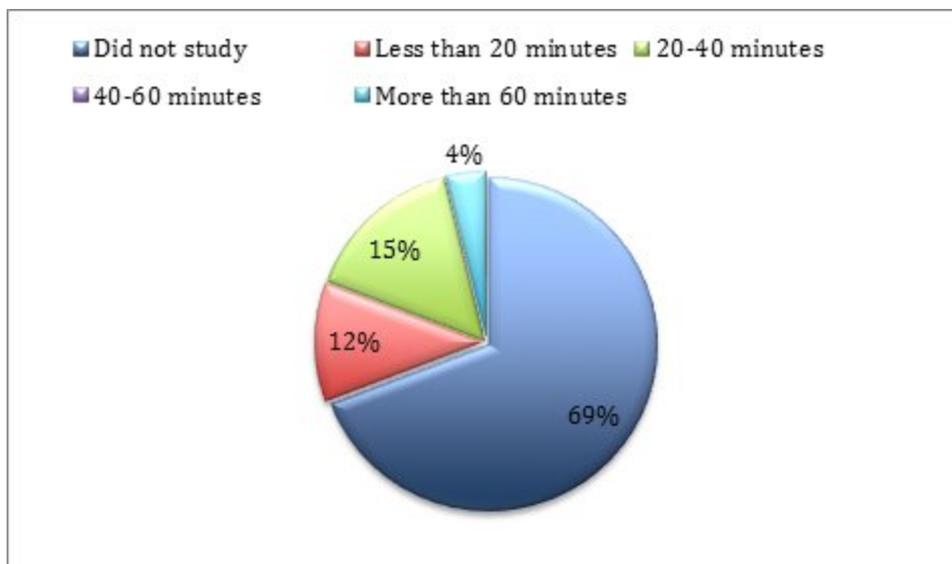


Figure 2. Amount of time the DF group studied target vocabulary outside of class.

Figures 1 and 2 above show a breakdown of the amount of time groups spent studying the target vocabulary outside of class. A much larger percentage of the students in the PF group (62%) took advantage of the opportunity to study the words outside of class compared with the DF group (31%). In fact, more than two-thirds of those studying with DFs did not study the vocabulary at all, which is nearly two times more than those who chose not to study with PFs.

#	Statement	PF group	DF group
1	I was able to learn English vocabulary more quickly with paper/digital flashcards.	50.0%	53.8%
2	Using paper/digital flashcards improved my English vocabulary.	65.3%	57.9%
3	Using paper/digital flashcards made it easier to learn English vocabulary.	61.5%	65.3%
4	I think paper/digital flashcards were useful in my class.	53.8%	69.2%
5	It was easy for me to study English vocabulary with paper/digital flashcards.	50.0%	69.2%
6	It was easy for me to become skillful at studying English vocabulary with paper/digital flashcards.	61.5%	69.2%
7	Learning how to study English vocabulary with paper/digital flashcards was easy for me.	42.3%	73.0%
8	I prefer studying English vocabulary with paper/digital flashcards to digital/paper flashcards.	53.8%	69.2%

Table 6 shows the percentage of agreement towards the statements on the questionnaire. Besides statement two, "Using paper/digital flashcards improved my English vocabulary," there were higher levels of agreement in the DF group. In particular, items four, five, seven, and eight illustrated more favorable views towards DFs, with these statements receiving at least 15 percent or more agreement in the DF group than the PF group. Overall however, opinions of both PFs and DFs were generally positive, with only one statement receiving lower than 50% agreement (PF group, item seven).

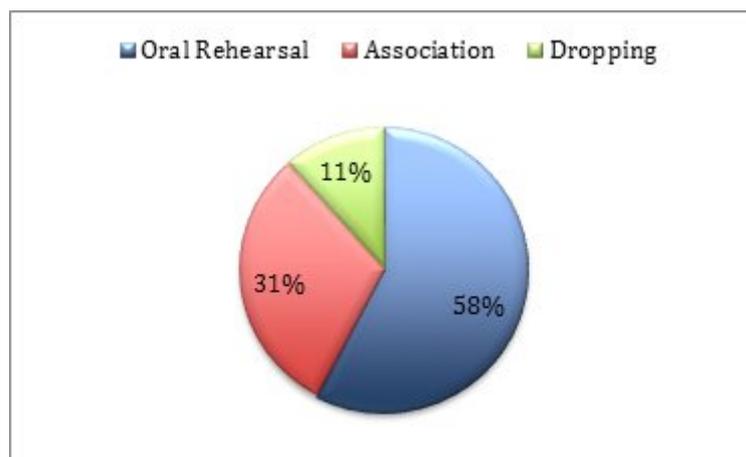


Figure 3. Perceived usefulness of the vocabulary learning strategies.

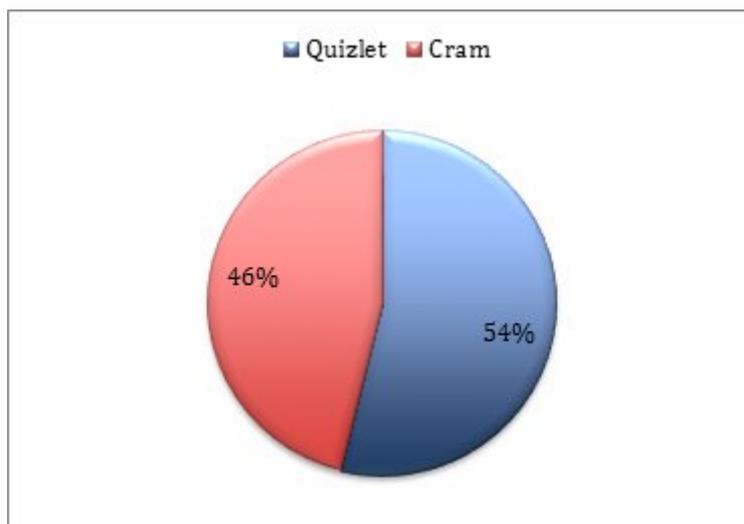


Figure 4. Preferred digital flashcard system.

Figures 3 and 4 show the study preferences of each group, i.e., the VLS which had the highest percentage of perceived usefulness as well as the preferred DF system. Over half of the participants in the DF group stated that they found oral rehearsal to be most useful (58%). This was followed by association (31%) and dropping (11%). In terms of DFs, there was a slight preference for Quizlet over Cram among the students in that group, with more than half of them selecting the former as their preferred study tool.

## 5. Discussion

While both the PF and DF group were able to make improvements in receptive and productive vocabulary, the gains made within each group did not significantly differ. This is in contrast to previous research (Azabdaftari & Mozaheb, 2012; Başıoğlu & Akdemir, 2010; Kiliçkaya & Krajka, 2010) concluding that traditional forms of vocabulary learning, including PFs, were not as effective as DFs. However, as aforementioned, the students using PFs in these studies were not taught any VLSs. While DF systems often provide learners with a variety of ways to study, PFs are a much more basic form of vocabulary learning. Therefore, students ought to be taught VLSs in order to maximize the effectiveness of PFs to retain new vocabulary. Another interesting finding based on these results is that learners' PV can improve at the same pace as their RV. This differs from previous research which showed that L2 students made little to no progress in PV (Fan, 2000; Laufer, 1998; Webb, 2008).

While the ubiquity and convenience of DFs seem to make them an appealing vocabulary learning method for students (Azabdaftari & Mozaheb, 2012; Başıoğlu & Akdemir, 2010), students in the DF group reported much lower levels of vocabulary study time. These results indicate that these variables may not be as influential in a student's decision to study a L2 outside of class. Factors such as learner motivation, attitudes towards the target language, as well as other external variables may play a greater role in the amount of time a learner chooses to study.

The participants' responses to the survey signify that the DF group preferred their method of studying to a greater degree than the PF group. Notably, ease of use seems to be a distinct advantage of DFs over PFs, as shown by the high levels of agreement towards statements five through seven. The ability to study DFs anytime and anywhere via smartphone may have contributed to these results, whereas PFs are much more inconvenient to use on the go, thereby decreasing their value. These findings indicate that the DF group was more satisfied with their method of vocabulary study and as a result, would be less likely to switch to PFs if given the opportunity.

Out of the three VLSs taught to the participants in the PF group, oral rehearsal was found to be the most useful strategy in the eyes of the learners. Association was also perceived to be useful by a significant percentage of the students (31%). These results coincide with the findings of Mizumoto and Takeuchi (2009) that showed Japanese L2 English learners had favorable views towards the perceived usefulness of oral rehearsal and association to improve vocabulary learning, as well as the research of Kornell and Bjork (2007), which showed that it may be difficult to effectively utilize the strategy of dropping in vocabulary learning. Although DF systems have built-in features that promote the use of VLSs, PFs are much more simplistic; therefore, teachers ought to encourage the use of VLSs in order for L2 students to maximize their vocabulary development, especially with paper materials.

In terms of DFs, there was a slight preference in favor of the use of Quizlet. While Cram has similar features, the fact that Quizlet offers more PV activities as well as additional corrective feedback may have led to greater interest in the program. Another possible explanation for the preference may be due to the games, as they have been positively received in a previous study which incorporated Quizlet (Jackson III, 2015). Despite these findings, more research needs to be done in order to compare not only the views L2 learners have towards different DF systems, but also the potential vocabulary improvements that can be made.

## **6. Conclusion**

One of the primary goals of this study was to compare the effectiveness of DFs and PFs to improve RV and PV knowledge in a L2. In this regard, both methods have been found to be equally as effective, which goes against most previous research on the topic of L2 vocabulary learning and DFs (Azabdaftari & Mozaheb, 2012; Başıoğlu & Akdemir, 2010; Kiliçkaya & Krajka, 2010). Unlike those studies however, the present study incorporated VLSs in the PF group to help promote vocabulary learning due to the simplistic nature of the study tool when compared with more sophisticated DF systems. These findings highlight the importance of VLSs as a way to enhance vocabulary learning with PFs when DFs are not a viable option. In terms of learner opinions, the participants in this study preferred DFs over PFs, with ease of use being one of the key factors. Nevertheless, the PF group spent more time studying the target vocabulary outside of class, indicating that the advantages inherent to DFs may not be enough to motivate students to study in their own time. Thus, language teachers must stress the benefits of vocabulary learning and encourage students to take full advantage of any opportunities to study the target language outside of class, regardless of whether or not it's a CALL-based activity.

One of the limitations of this study is the fact that the groups were not equivalent as it pertains to the dependent variables. This was unavoidable due to the incorporation of convenience sampling. Future studies should examine these variables with homogenous groups of students who are chosen via random sampling. Additionally, it is not known if external variables affected the results of the study. Therefore, future research ought to administer a pre-treatment survey to take into account other factors such as smartphone ownership or Internet access. Furthermore, it is unclear how much of an impact the VLSs had in supporting L2 vocabulary development in the PF group. Thus, it may be worthwhile to employ a future study with a PF group, a PF & VLS group, and a DF group in order to understand how much of a role VLSs played in enhancing vocabulary. Lastly, although Quizlet and Cram are comparable in terms of their features, it would be interesting to compare the efficacy of the two DF systems to improve L2 vocabulary among L2 students.

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## Appendix 1

Level 1 of the Test of Written Receptive Knowledge of the New General Service List. (Stoeckel and Bennett, 2015).

**1 charge:** They are the **charges**.

- a. important things to think about
- b. prices for a service
- c. good things
- d. reasons

**2 case:** This is a good **case**.

- a. place to study
- b. way something works
- c. example of something
- d. plan for the future

**3 different:** They are **different**.

- a. easy to see
- b. large
- c. not easy
- d. not the same

**4 room:** Where is the **room**?

- a. thing we read
- b. thing to drive
- c. place to buy things
- d. space in a building

**5 lead:** I will **lead** you.

- a. take you to a place
- b. meet you
- c. let you
- d. give something to you

**6 policy:** That is a good **policy**.

- a. kind of school
- b. story
- c. place to visit
- d. way to act

**7 rise:** They will **rise** next week.

- a. become higher
- b. change
- c. become better
- d. finish

**8 sure:** I am **sure**.

- a. young
- b. early
- c. certain
- d. new

**9 health:** **Health** is important.

- a. learning in a school or college
- b. having no problems with your body
- c. learning by doing something a lot
- d. having help from other people

**10 expect:** I **expected** this.

- a. thought this would happen
- b. said this idea
- c. put this into something
- d. took this to a place

**11 include:** We are **including** it.

- a. paying
- b. changing
- c. adding
- d. reading

**12 building:** Where is the **building**?

- a. group of people working together
- b. road
- c. middle part
- d. place to live or work

**13 true:** that is **true**.

- a. correct
- b. different
- c. interesting
- d. natural

**14 teacher:** They are **teachers**.

- a. people with children
- b. workers in schools
- c. leaders in a company
- d. young people

**15 well:** You did that **well**.

- a. fast
- b. in a good way
- c. by yourself
- d. often

**16 return:** Please **return** it.

- a. talk about it
- b. sell it
- c. show it
- d. take it back

**17 result:** We had the same **results**.

- a. questions
- b. thoughts
- c. rules for doing something
- d. things that happened at the end

**18 among:** He was **among** them.

- a. after
- b. behind
- c. together with
- d. not far from

**19 consider:** She **considered** it.

- a. could not find
- b. needed
- c. thought about
- d. said

**20 approach:** We like your **approach**.

- a. way of doing something
- b. part of a book
- c. house and land
- d. facts and information

## Appendix 2

Level 1 of the Test of Written Productive Knowledge of the New General Service List.

Complete the underlined words. The example has been done for you.

He was riding a bicycle.

1. Bo\_\_\_\_\_ my mother and father are teachers.
2. Please sh\_\_\_\_\_ her how to use the computer.
3. The children sat in the ce\_\_\_\_\_ of the room.
4. I like to take pic\_\_\_\_\_ of my family and friends.
5. You need to p\_\_\_\_\_ for these movie tickets.
6. I left my phone at home. I think i\_\_\_\_\_ is on the kitchen table.
7. He is a baker. He ma\_\_\_\_\_ bread.
8. She works at an org\_\_\_\_\_ which helps poor children.
9. Students must obey many ru\_\_\_\_\_ at school.
10. He would like to tr\_\_\_\_\_ around the world.
11. I don't und\_\_\_\_\_ what he is saying.
12. I'm looking for my sunglasses. Did you see th\_\_\_\_\_?
13. The weather is very b\_\_\_\_\_ today. It's raining hard.
14. She fol\_\_\_\_\_ him into the house.
15. John and Alice are a nice cou\_\_\_\_\_.