

# The Effects of Corpus Use on Learning L2 Collocations of Light Verbs and Nouns

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In data-driven learning (DDL), learners explore a corpus to understand vocabulary and grammar. Although many studies have emphasized the role of DDL in second language (L2) acquisition, L2 light verbs have been largely under-explored. To bridge this gap, this study focused on the learning outcomes of L2 light verbs among 29 intermediate-level Japanese university students. The research zeroed in on six prevalent light verbs in English: “make,” “do,” “take,” “have,” “give,” and “get.” Over nine weeks, the participants engaged with verb–noun collocations using worksheets that juxtaposed Japanese translations of the target collocations with their English equivalents, with the verbs omitted. With the aid of Wordbanks Online, they filled in the blanks and constructed accurate sentences. Before this activity, a 20-minute tutorial was given to the participants on how to interpret the concordance lines. The effectiveness of the DDL method was evaluated using pre-tests, immediate post-tests, and delayed post-tests. The results showed that DDL significantly improved the participants’ knowledge of the target collocations of light verbs and nouns; the post-test and delayed post-test scores were significantly higher than the pre-test scores. The results showed that, overall, DDL contributed to memorizing the collocations of light verbs and nouns; however, DDL had different effects on the memorization of collocations across different light verbs. The extent of work on the worksheet is not the only factor in its retention, and observing concordance lines may promote learners’ memorization of light-verb collocations.

**Keywords:** Data-Driven Learning (DDL), Collocations, Light Verbs, Corpus Linguistics, English Language Teaching

## 1. Introduction

Corpus linguistics emphasizes the study of language through vast collections of authentic language data and offers a unique platform for exploring linguistic phenomena. Data-driven learning (DDL) is an innovative approach in this discipline. DDL is an inductive discovery learning paradigm in which learners actively delve into corpora to identify, categorize, and understand vocabulary and grammatical structures (Boulton & Cobb, 2017). They are not passive recipients of language input; they immerse themselves in real-world language examples to derive their own rules and interpretations (Pérez-Paredes, 2022).

This technique has been increasingly lauded for its benefits in second language (L2) learning. Numerous studies (e.g., Boulton & Cobb, 2017; Lee et al., 2019; Mizumoto & Chujo, 2015) have reported the positive outcomes of DDL in the acquisition of various lexical and grammatical structures. While the efficacy of DDL in teaching general vocabulary and grammatical structures in L2 learning has been well-documented, its effectiveness in aiding learners to comprehend and use light verbs remains a relatively under-explored area. With its focus on learner-driven exploration of authentic language examples, DDL could offer unique insights into the nuanced usage of light verbs, which often deviate from their core meanings and present challenges to L2 learners. Light verbs, as characterized by Butt

(2010), are those in which the primary semantic content is shouldered mainly by the noun that follows rather than the verb itself. Examples of these verbs include “do,” “get,” “give,” “have,” “make,” and “take.” Given their inherent intricacy to L2 learners, it is significant to understand their usage.

Considering that light verbs often operate differently from their core meanings, they can be a point of contention for English learners. Therefore, this study seeks to bridge the existing research gap by investigating the efficacy of DDL in enhancing the understanding and application of light verbs among L2 learners. Should DDL be a potent tool in this field, it could contribute to pedagogical strategies and provide learners with an empowered approach to navigate the intricacies of light verbs in English. This study, therefore, aims to investigate two primary questions: First, how effective is DDL in enhancing L2 learners' understanding of light verbs? Second, does DDL facilitate a more accurate and confident application of light verbs in practical language use?

## 2. Literature Review

DDL is an instructional approach in which learners are exposed to vast quantities of authentic data from a corpus, which encourages them to autonomously explore the language and infer its patterns. The concept of DDL can be traced back to Johns (1991). Since then, its application in L2 learning and teaching has gained momentum. With the advancements in computer technology and the increasing accessibility of the Internet, the application of corpora in L2 learning and teaching has attracted significant academic attention.

The foundation of DDL can be linked to the noticing hypothesis, which posits that language learning does not internalize input unless it is consciously noticed (Schmidt, 1990, 2001). Specifically, DDL aligns with inductive learning in second language acquisition (SLA), where learners notice patterns through interactions with language data (e.g., Ellis, 2006; Robinson, 2003). Frequency information from corpora helps learners notice the form of the target language (e.g., Granger, 2002). Thus, the noticing hypothesis is realized in DDL.

Numerous studies have demonstrated the effectiveness of DDL in various aspects of language learning. Meta-analyses have consistently highlighted the effectiveness of DDL in language learning (Boulton & Cobb, 2017; Lee et al., 2019; Mizumoto & Chujo, 2015).

Studies have reported significant findings regarding the specific effects of DDL on vocabulary learning. Yao (2019) evaluated the efficacy of DDL versus dictionary-based learning (DBL) in Spanish vocabulary acquisition among Chinese students. In a study with 32 participants divided into two groups, the group exposed to DDL performed significantly better than the DBL group on vocabulary learning and retention tests. Satake (2022a) examined the benefits of using a corpus over a dictionary in English collocation learning. A total of 55 Japanese English learners were divided into two groups using a corpus or dictionary for a two-week collocation task with pre- and post-tests. The results show that corpus users were more effective in outputting collocations and focused on high-frequency collocations, indicating the advantages of corpus data for enhancing collocational knowledge. Even in the context of on-demand classes where DDL was used to teach learners verb–noun collocations, DDL promoted the memorization of target collocations (Satake, 2022b). Nineteen participants in the experimental group participated in the study, in which they referred to a corpus of 14 verb–noun collocations and answered fill-in-the-blank questions. The post-test and delayed post-test results were significantly higher than the pre-test results. Compared to the 21 participants in the control group who only took the tests, the results of the post-test and delayed post-test for the experimental group were significantly higher.

Light verbs, coined by Jespersen (1954), are verbs with little independent meaning and establish a predicate primarily with another element, typically a noun (Butt, 2010). Light verbs are difficult for learners to use for several reasons. First, the abstract nature of their meanings often hinders

straightforward word-by-word translation. This is further complicated when learners' native language (L1) negatively influences their comprehension and production. Moreover, the vast lexicogrammatical diversity associated with light verbs can be perplexing. Polysemy and idiomatic nuances can also characterize their meanings, making it especially difficult for students (e.g., Dongjin, 2011; Gilquin, 2007; Suñer & Roche, 2021). Therefore, pedagogical approaches that promote learners' comprehension of light verbs are required.

As mentioned previously, various studies have highlighted the effectiveness of DDL in L2 vocabulary acquisition. However, very few studies have examined the acquisition of light verbs using this method (e.g., Marinov, 2016, Satake, 2022b). If DDL proves to be a viable approach for light verb acquisition, it could expand the options available to learners and teachers and help them acquire vocabulary. Therefore, this study investigated the effects of DDL on light-verb learning.

### **3. Methods**

#### **3.1. Aim and Research Questions**

This study explored the effects of DDL on the learning of collocations of light verbs and nouns. The following research questions were addressed:

- (1) How does observing the concordance lines of a corpus affect memorizing the collocations of English light verbs and nouns?
- (2) How do writing findings affect the memorization of collocations of English light verbs and nouns?

#### **3.2. Participants**

The participants included 29 university students in Japan with intermediate English proficiency. They were freshmen intermediate Japanese learners of English at a private university in Tokyo, Japan. The participants were in the 18–20 age range, and the ratio of female to male students was one to two, with the majority being male. They had studied English for eight years in school: two years in elementary school, and six years in junior high school and high school. Their scores on the Test of English for International Communication (TOEIC) averaged approximately 600, which is roughly equivalent to B1 in the Common European Framework of Reference for Languages (CEFR). The participants took a compulsory English writing course taught by the author. Before commencing this research, the author explained the study in Japanese and ensured the participants that their identities would remain confidential. They were informed about their right to withdraw from the experiment and that their decision to participate or not would not influence their grades. The author sought their consent to use their data and obtained written permission from 29 of the 31 participants. Finally, the analysis was based on the data of 18 participants who completed the entire experiment.

#### **3.3. Instruments**

##### **3.3.1. Corpus**

Wordbanks Online was selected for this study due to its comprehensive and diverse collection of contemporary English texts, making it a large, balanced, and benchmark corpus for English learners. Its database, comprising approximately 600 million words, spans a wide range of written and spoken genres and incorporates English variants such as British, American, Australian, and Canadian English, primarily from the late 20th century. This diversity is essential for studying light verb collocations, as it offers a rich linguistic context across various genres and registers, enabling learners to explore and understand light verbs in multiple real-life scenarios.

The study utilized the Shogakukan Corpus Network (SCN) platform for easy access, allowing users to explore Wordbanks Online and other corpora. SCN's user-friendly interface supports efficient word and phrase queries, demonstrated in concordance lines (see Figure 1), and is particularly beneficial for learners new to corpus-based learning. This feature helps focus on linguistic analysis rather than navigating complex search processes. The participants using Wordbanks Online underwent a 20-minute tutorial on corpus tools before the tasks, where they received detailed guidance on searching for collocations of light verbs and nouns and interpreting concordance lines.

The choice of Wordbanks Online, renowned for its user-friendly interface and advanced search functionalities, ensures efficient extraction of relevant examples. These aspects of Wordbanks Online make it an ideal choice for enhancing comprehension and application of light verbs among L2 learners through DDL.

|    |   |   |
|----|---|---|
| 1  | Middlesex <b>do</b> <b>utmost</b>   | to provide national service :PERSON: and :PERSON2: scored s |
| 2  | I will be <b>doing</b> my <b>utmost</b>                                   | to do the very best that I can for Wales .                  |
| 3  | We will <b>do</b> our <b>utmost</b>                                       | to send you tickets for your preferred date period .        |
| 4  | ps in recent games at Buckley Park and we 'll <b>do</b> our <b>utmost</b> | to upset Derry too . "                                      |
| 5  | And while Arkins and co. will be <b>doing</b> their <b>utmost</b>         | to defeat newly-crowned champions Cliftonville at Shamrock  |
| 6  | to be , but there were some at Wembley who <b>did</b> their <b>utmost</b> | to sour proceedings before they had even begun .            |
| 7  | Bill bosses <b>did</b> their <b>utmost</b>                                | to help Kevin beat his chronic booze problem .              |
| 8  | But Doherty vowed last night : ` I 'll be <b>doing</b> my <b>utmost</b>   | to change that .  |
| 9  | nd expectations on me as England captain and I <b>do</b> my <b>utmost</b> | to live up_to them .  |
| 10 | lieved that was the right decision and I shall <b>do</b> my <b>utmost</b> | for him .   |
| 11 | Her dotting parents <b>did</b> their <b>utmost</b>                        | to give her the best of everything and her life was full of |
| 12 | gs that he and his half-witted cronies will <b>do</b> their <b>utmost</b> | to wreck the World Cup .                                    |
| 13 | e know Arsenal have been very good but we 'll <b>do</b> our <b>utmost</b> | to challenge them all the way . `                           |
| 14 | muel Maguire , do solemnly swear , that I will <b>do</b> my <b>utmost</b> | to establish the national independence of Ireland , that I  |
| 15 | alone , health professionals have a duty to <b>do</b> their <b>utmost</b> | to help .   |
| 16 | the job as his rightful inheritance and will <b>do</b> his <b>utmost</b>  | to stake his claim early .                                  |
| 17 | I will <b>do</b> my <b>utmost</b>   | and will work as hard as I have ever done to get a result . |
| 18 | er-protected players reward the man who had <b>done</b> his <b>utmost</b> | to serve their best interests ?                             |
| 19 | Shakhtar Donetsk side and we are now going to <b>do</b> our <b>utmost</b> | to qualify . `  |

**Figure 1.** Example of Wordbanks Online Concordance Lines through SCN

### 3.3.2. Task

The learning targets were 30 collocations of light verbs and nouns, focusing on six frequently used light verbs in English: “make,” “do,” “take,” “have,” “give,” and “get” (see Table 1). The collocations were selected at the CEFR C1–C2 level by referring to the English Vocabulary Profile Online, which provides reliable data regarding the words—and crucially, the specific meanings of those words—and expressions with which learners are familiar at each CEFR level. The author chose collocations from the C1–C2 level, presuming that the participants at the B1 level were unfamiliar with them. This made these collocations suitable for this research, which aimed to assess whether DDL learning promoted memorization of these collocations. For ten weeks, the participants tackled three of these verb–noun collocations weekly. They were given a worksheet in which the English collocations omitted the verb, accompanied by their Japanese translations (see Figure 2). The participants could consult the corpus, and within 15 minutes, they had to fill in the blanks with light verbs, write examples of the usage they referred to, compose an English sentence using each collocation, and write their findings.

Regarding the cognitive load on B1 level learners when engaging with advanced C1–C2 level collocations, several measures were integrated into the study design to mitigate this challenge. Recognizing that the leap from B1 to C1–C2 collocations represents a significant increase in difficulty, the study incorporated a scaffolded learning approach. This included the provision of structured worksheets and limited, focused exposure to only three verb–noun collocations per week. This gradual,

paced approach was intended to prevent cognitive overload, allowing the participants to assimilate new collocations in manageable segments. Additionally, the provision of Japanese translations alongside English collocations aimed to lessen the cognitive burden by providing linguistic bridges for comprehension.

**Table 1.** Target Collocations of Light Verbs and Nouns

| Do                           | Get                          | Give                            | Have                        | Make                    | Take                       |
|------------------------------|------------------------------|---------------------------------|-----------------------------|-------------------------|----------------------------|
| do everything in one's power | get a grip                   | give ~ a hard time              | have an edge                | make a name for oneself | take a dim view of         |
| do justice                   | get a move on                | give rise to                    | have a word                 | make a point of doing ~ | take (/make) a stand       |
| do the job                   | get (/have) ~ out of the way | give ~ the benefit of the doubt | have (/get) one's (own) way | make one's day          | take a turn for the better |
| do the trick                 | get the ball rolling         | give way                        | have the upper hand         | make one's mark         | take its toll              |
| do one's utmost              | get the picture              | give ~ one's word               | not have the faintest idea  | make way for            | take shape                 |

#### Worksheet

Light verbs (do, get, give, have, make, take) are verbs used in a variety of ways and form predicates with other words such as nouns. They are often difficult for non-native speakers, but if you can master them, you can write and speak native-like English. Study three advanced-level light verb collocations each week. Fill in the blanks below; find the target verb and noun collocations in the corpus, and look at the concordance lines for examples.

|                     |   |
|---------------------|---|
| Fill-in-the-blanks  | ( make ) a point of doing something ~することになっている                                       |
| Referenced sentence | But I make a point of having a meeting with the players from squad to squad an        |
| Composition         | He made a point of taking a walk before breakfast.                                    |
| Findings            | Various words can be used for the "doing something" part.                             |
| Fill-in-the-blanks  | ( do ) one's utmost 全力を尽くす  |
| Referenced sentence | We will do our utmost to send you tickets for your preferred date period              |
| Composition         | I will do my utmost to win the tournament.  |
| Findings            | Similar to "do one's best."   |
| Fill-in-the-blanks  | ( give ) rise to ~ ~を起こす  |
| Referenced sentence | challenge to last weekend 's result would probably give rise to more negative comment |
| Composition         | High unemployment can give rise to crimes.  |
| Findings            | Similar to "cause."   |

**Figure 2.** Example of Worksheets

### 3.3.3. Pre-, Post-, and Delayed Post-Tests

Pre-, post-, and delayed post-tests were performed. The test comprised gap-fill exercises in which Japanese translations of the target collocations and English collocations with omitted verbs were provided. The participants were given 10 minutes and instructed to fill in the blanks with the appropriate light verbs. The following are examples of the test questions:

- (1) (            ) way for 道を譲る  
 (2) (            ) way 崩れる、屈する  
 (3) (            ) your way 好きなようにする、意思を貫徹する

Before the tasks, the author gave the participants a pre-test for the 30 target collocations. One point was awarded for each correct answer, with a maximum possible score of 30 points. The post-test was conducted at the end of each lesson, covering the three collocations learned that week. The weekly post-test, covering three collocations each time, was administered to ensure a consistent duration between learning the collocations and completing the post-test for all collocations. The participants were given one minute to complete the post-tests. After completing the post-tests over ten sessions, the results were aggregated and treated as a test with a maximum score of 30 points, consistent with the pre-test and delayed post-test. The delayed post-test was conducted three weeks after the participants had learned the last three collocations. The pre-test and delayed post-test were identical. The participants were given 10 minutes for the delayed post-test. In judging correctness, even if a different light verb was used than that of the target collocation, it was considered correct if that usage appeared frequently in Wordbanks Online.

The decision to allocate a one-minute time frame for each weekly post-test was based on specific pedagogical considerations. This time limit was intentionally set to assess the immediate recall ability of the participants, a crucial aspect of memorization. The rationale behind this approach is grounded in the concept of retrieval practice, which posits that the ability to quickly recall information shortly after learning it is a strong indicator of effective memorization and internalization. By limiting the time to one minute, the test aimed to simulate a realistic scenario where the participants needed to recall language structures promptly, as required in actual communicative situations. This approach also aimed to reduce the likelihood of participants resorting to guessing, thereby ensuring that the responses reflected a genuine understanding and memorization of the collocations. Besides, the brief duration was balanced by the simplicity of the task—filling in a single word for each of the three collocations—making it a feasible challenge within the given time.

### 3.4. Procedure

The procedure for this study was as follows:

1. Pre-test (10 minutes)
  2. Wordbanks Online instruction (20 minutes before the first task)
  3. Worksheet (15 minutes).
  4. Post-test (1 minute)
- Steps 3 and 4 were conducted ten times.
5. Delayed post-test (10 minutes)
  6. Analysis

To verify the effects of the worksheets, an analysis of variance (ANOVA) was conducted on the pre-test, post-test, and delayed post-test for all the verbs and for each target light verb. To evaluate the effect size  $\eta^2$  of the ANOVA test, the author followed Mizumoto and Takeuchi (2010). If the ANOVA results showed significant differences between tests, a post-hoc Tukey test was conducted to clarify which tests had significant differences. To evaluate the effect size  $d$  of the Tukey test, the author followed Plonsky and Oswald (2014), who suggested a scale for L2 research to interpret effect sizes. The intragroup comparison criterion was applied for the test results, whereas the intergroup comparison criterion was used for the worksheet items. Additionally, to analyze how the worksheets affected the test results, each entry on the worksheets by the participants was allocated one point, and

the total number of points for the entries was analyzed by worksheet item and light verb. A qualitative analysis of the participants' findings was also performed. The author collected the participants' findings to create and analyze the corpus. The concordance software AntConc was used for the corpus analysis.

In selecting a three-week interval for the delayed post-test, the study aimed to balance the need for assessing long-term retention while also considering the practical constraints often encountered in educational research settings. This time frame is long enough to surpass the immediate memory effects observed in the immediate post-test, yet short enough to feasibly maintain the participant engagement and minimize external factors that could influence their performance over a more extended period. While it is acknowledged that a longer interval might provide a more robust measure of long-term retention, the three-week period offers a pragmatic compromise, allowing for insights into the durability of the learning outcomes within a manageable timeframe.

## 4. Results

### 4.1. Test Results

#### 4.1.1. Overall Results

The average score for the pre-test was 12.0, the post-test averaged 16.6 points, and the delayed post-test averaged 18.6 points (see Figure 3). The ANOVA results revealed a significant difference with a large effect size ( $F(2,51)=8.93$ ,  $p=.00$ ,  $\eta^2=.26$ ). The post-hoc Tukey test results showed significant differences between the pre-test and post-test with a large effect size ( $p=.02$ ,  $d=1.85$ ) and between the pre-test and delayed post-test with a large effect size ( $p=.00$ ,  $d=2.66$ ). However, no significant difference was found between the post-test and delayed post-test ( $p=.43$ ,  $d=.63$ ). Higher scores in the delayed post-test might be attributed to the testing effect—allocating a portion of the learning period to retrieving information from memory can enhance long-term retention (Roediger & Karpicke, 2006). Based on these results, one can state that the task effectively aided in recalling light verb collocations. The following sections present the test results for each light verb.

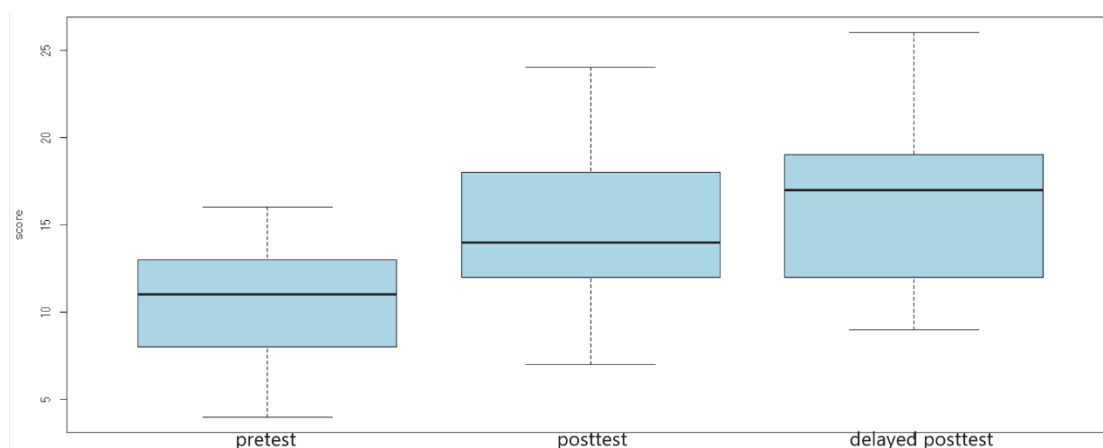
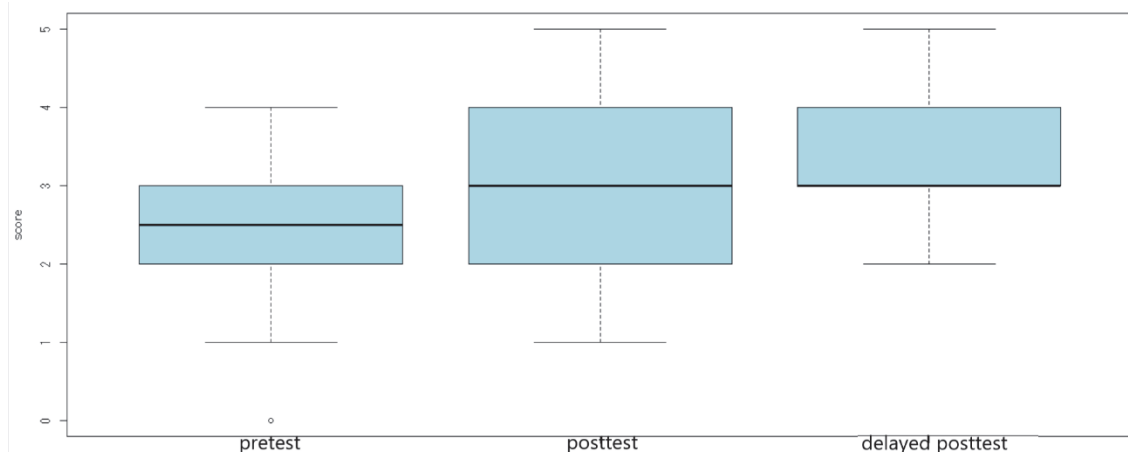


Figure 3. Pre-, Post-, and Delayed Post-test Scores

#### 4.1.2. Do

The average score for the pre-test was 2.2, the post-test averaged 3.1 points, and the delayed post-test averaged 3.3 points (see Figure 4). The ANOVA results revealed a significant difference with a large effect size ( $F(2,51)=5.68$ ,  $p=.01$ ,  $\eta^2=.18$ ). The post-hoc Tukey test results showed significant differences between the pre-test and post-test with a medium effect size ( $p<.05$ ,  $d=1.28$ ) and between the pre-test

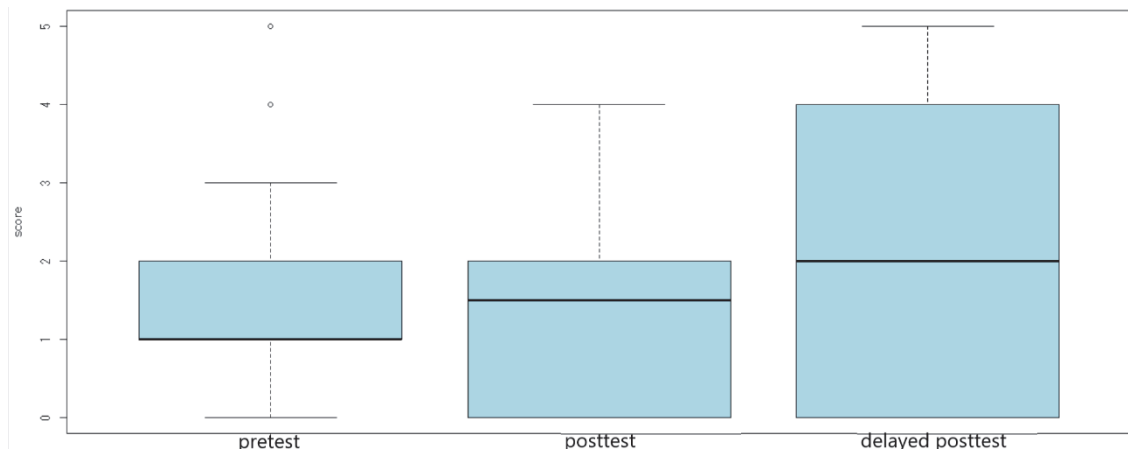
and delayed post-test with a large effect size ( $p=.01$ ,  $d=1.79$ ). However, no significant difference was found between the post-test and delayed post-test ( $p=.70$ ,  $d=.42$ ). Higher scores in the delayed post-test than in the post-test might be attributed to the testing effect (Roediger & Karpicke, 2006). The results showed that task learning significantly facilitated the participants' recall of collocations, and the testing effect would have significantly facilitated collocation recall during the post-test. Thus, the combined effects of the task and test facilitated the memory of do-noun collocations.



**Figure 4.** Pre-, Post-, and Delayed Post-test Scores for Do-noun Collocations

#### 4.1.3. Get

The average score for the pre-test was 1.7, while the post-test averaged 1.6 points, and the delayed post-test averaged 2.3 points (Figure 5). Although the mean score in the delayed post-test was higher than in the pre-test and post-test, the ANOVA results did not reveal a significant difference ( $F(2,51)=1.23$ ,  $p=.30$ ,  $\eta^2=.05$ ). Hence, the task had no significant effect on memorization of get-noun collocations.

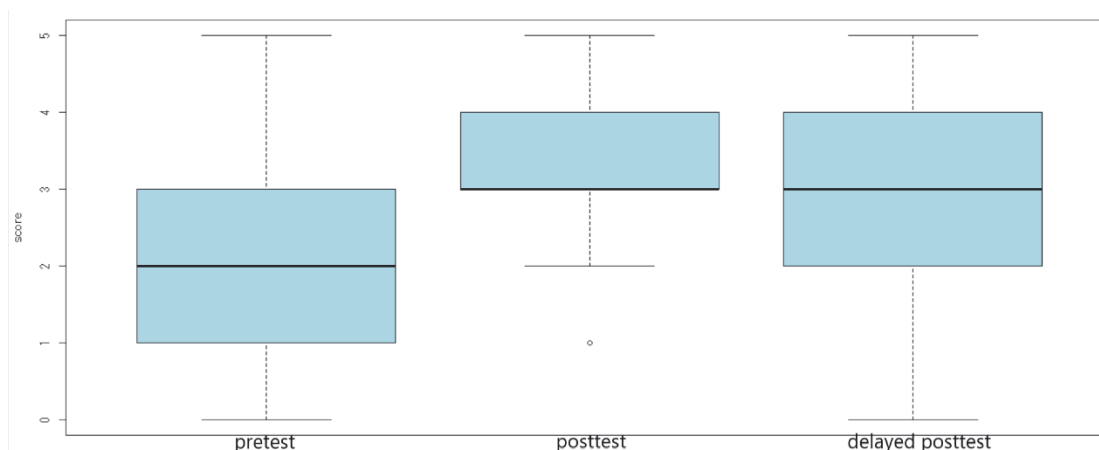


**Figure 5.** Pre-, Post-, and Delayed Post-test Scores for Get-noun Collocations

#### 4.1.4. Give

The average score for the pre-test was 2.0, the post-test averaged 3.3 points, and the delayed post-test averaged 3.1 points (see Figure 6). The ANOVA results revealed a significant difference with a large effect size ( $F(2,51)=5.34$ ,  $p=.01$ ,  $\eta^2=.17$ ). The posthoc Tukey test results showed significant differences between the pre-test and post-test with a large effect size ( $p=.01$ ,  $d=1.67$ ) and between the pre-test and delayed post-test with a large effect size ( $p=.04$ ,  $d=1.67$ ). However, no significant difference was found between the post-test and delayed post-test ( $p=.87$ ,  $d=.34$ ). Based on these results, we can conclude that the task effectively aided in the recall of give-noun collocations.

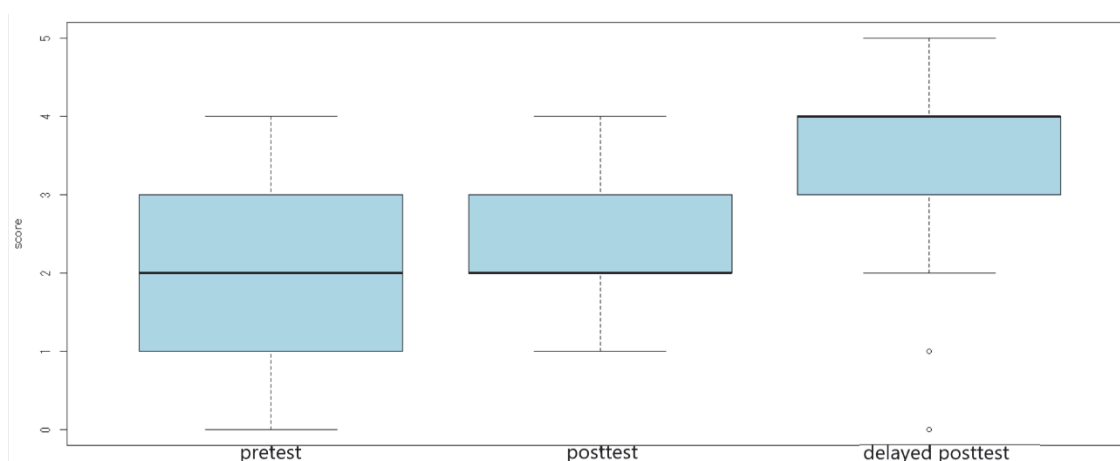




**Figure 6.** Pre-, Post-, and Delayed Post-test Scores for Give-noun Collocations

#### 4.1.5. Have

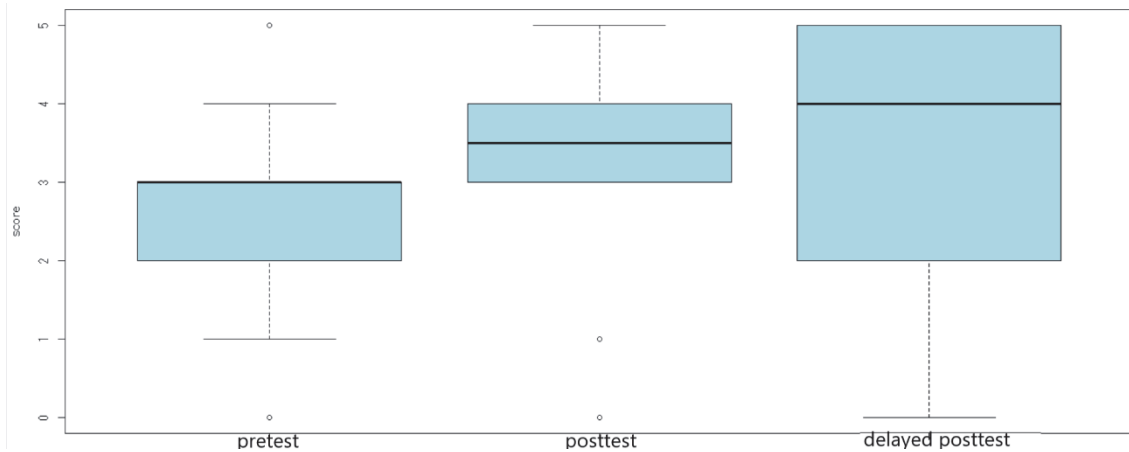
The average score for the pre-test was 1.9, the post-test averaged 2.3 points, and the delayed post-test averaged 3.4 points (see Figure 7). The ANOVA results revealed a significant difference with a large effect size ( $F(2,51)=6.83$ ,  $p=.00$ ,  $\eta^2=.21$ ). The post-hoc Tukey test results showed significant differences between the pre-test and delayed post-test with a large effect size ( $p=.00$ ,  $d=1.76$ ) and between the post-test and delayed post-test with a medium effect size ( $p=.02$ ,  $d=1.20$ ). However, no significant difference was found between the pre-test and post-test ( $p=.70$ ,  $d=.37$ ). Although the mean score in the post-test was higher than in the pre-test, the Tukey test results did not reveal a significant difference. Higher scores in the delayed post-test might be attributed to the testing effect (Roediger & Karpicke, 2006). The results showed that task learning did not significantly facilitate the participants' recall of collocations at the post-test, while the testing effect would have significantly facilitated collocation recall. Thus, the combined effects of task and test facilitated the memory of have-noun collocations.



**Figure 7.** Pre-, Post-, and Delayed Post-test Scores for Have-noun Collocations

#### 4.1.6. Make

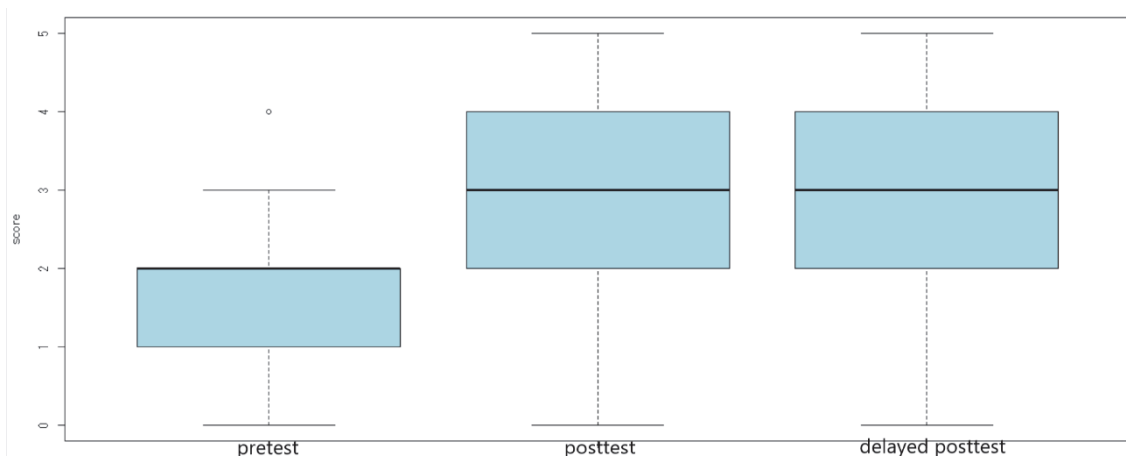
The average score for the pre-test was 2.6, the post-test averaged 3.4 points, and the delayed post-test averaged 3.7 points (see Figure 8). Although the mean scores in the post-test and delayed post-test were higher than that in the pre-test, the ANOVA results did not reveal a significant difference ( $F(2,51)=2.82$ ,  $p=.07$ ,  $\eta^2=.10$ ). Hence, the task had no significant effect on the memorization of make-noun collocations.



**Figure 8.** Pre-, Post-, and Delayed Post-test Scores for Make-noun Collocations

#### 4.1.7. Take

The average score for the pre-test was 1.6, the post-test averaged 2.9 points, and the delayed post-test averaged 2.7 points (see Figure 9). The ANOVA results revealed a significant difference with a large effect size ( $F(2,51)=5.54$ ,  $p=.01$ ,  $\eta^2=.22$ ). The posthoc Tukey test results showed significant differences between the pre-test and post-test with a large effect size ( $p=.01$ ,  $d=2.00$ ) and between the pre-test and delayed post-test with a medium effect size ( $p=.03$ ,  $d=1.24$ ). However, no significant difference was found between the post-test and delayed post-test ( $p=.86$ ,  $d=.29$ ). Based on these results, the task effectively aided the recall of take-noun collocations.



**Figure 9.** Pre-, Post-, and Delayed Post-test Scores for Take-noun Collocations

## 4.2. Worksheets

### 4.2.1. Fill-in-the-Blank Questions

The average scores for the verbs per student were as follows: “do” (3.6), “get” (3.6), “give” (3.7), “have” (3.1), “make” (4.6), and “take” (4.6) (see Figure 10). The ANOVA results indicated a significant difference with a large effect size ( $F(5,102)=7.71$ ,  $p<.001$ ,  $\eta^2=.27$ ). The subsequent posthoc Tukey test results showed significant differences between the pairs: “do” and “make” with a large effect size ( $p=.02$ ,  $d=1.16$ ); “do” and “take” with a large effect size ( $p=.02$ ,  $d=1.16$ ); “get” and “make” with a large effect size ( $p=.01$ ,  $d=1.09$ ); “get” and “take” with a large effect size ( $p=.01$ ,  $d=1.09$ ); “have” and “make” with a large effect size ( $p<.001$ ,  $d=1.59$ ); and “have” and “take” with a large effect size ( $p<.001$ ,  $d=1.59$ ). However, no significant differences were observed between other verb combinations. Given that the average scores of “make” and “take” are higher than those of “do,” “get,” and “have,” it can be said that

the points for “make” and “take” are significantly higher than those of “do,” “get,” and “have.”

#### 4.2.2. Examples of Usage

The average scores for the examples of usage the participants referred to were as follows: “do” (3.5), “get” (3.5), “give” (3.3), “have” (2.9), “make” (4.4), and “take” (4.4) (see Figure 10). The ANOVA results indicated a significant difference with a large effect size ( $F(5,102)=6.73, p<.001, \eta^2=.25$ ). The subsequent post-hoc Tukey test results showed significant differences between the pairs: “give” and “make” with a medium effect size ( $p=.03, d=.95$ ); “give” and “take” with a large effect size ( $p=.02, d=1.04$ ); “have” and “make” with a large effect size ( $p<.001, d=1.42$ ); and “have” and “take” with a large effect size ( $p<.001, d=1.56$ ). However, no significant differences were observed between other verb combinations. Given that the average scores of “make” and “take” are higher than those of “give” and “have,” it can be said that the points for “make” and “take” are significantly higher than those of “give” and “have.”

#### 4.2.3. Composition

The average scores for the composition using each target collocation were as follows: “do” (3.4), “get” (3.4), “give” (3.2), “have” (2.7), “make” (4.2), and “take” (4.2) (see Figure 10). The ANOVA results indicated a significant difference with a large effect size ( $F(5,102)=6.16, p<.001, \eta^2=.23$ ). The subsequent post-hoc Tukey test results showed significant differences between the pairs: “give” and “make” with a medium effect size ( $p=.03, d=.98$ ); “give” and “take” with a medium effect size ( $p=.03, d=.92$ ); “have” and “make” with a large effect size ( $p<.001, d=1.44$ ); and “have” and “take” with a large effect size ( $p<.001, d=1.38$ ). However, no significant differences were observed between other verb combinations. Given that the average scores of “make” and “take” are higher than those of “give” and “have,” it can be concluded that the points for “make” and “take” are significantly higher than those of “give” and “have.”

#### 4.2.4. Findings

The average scores for the entries of the findings per student were as follows: “do” (2.0), “get” (2.1), “give” (1.6), “have” (1.5), “make” (2.6), and “take” (2.4) (see Figure 10). The ANOVA results did not indicate a significant difference ( $F(5,102)=1.31, p=.27, \eta^2=.06$ ).

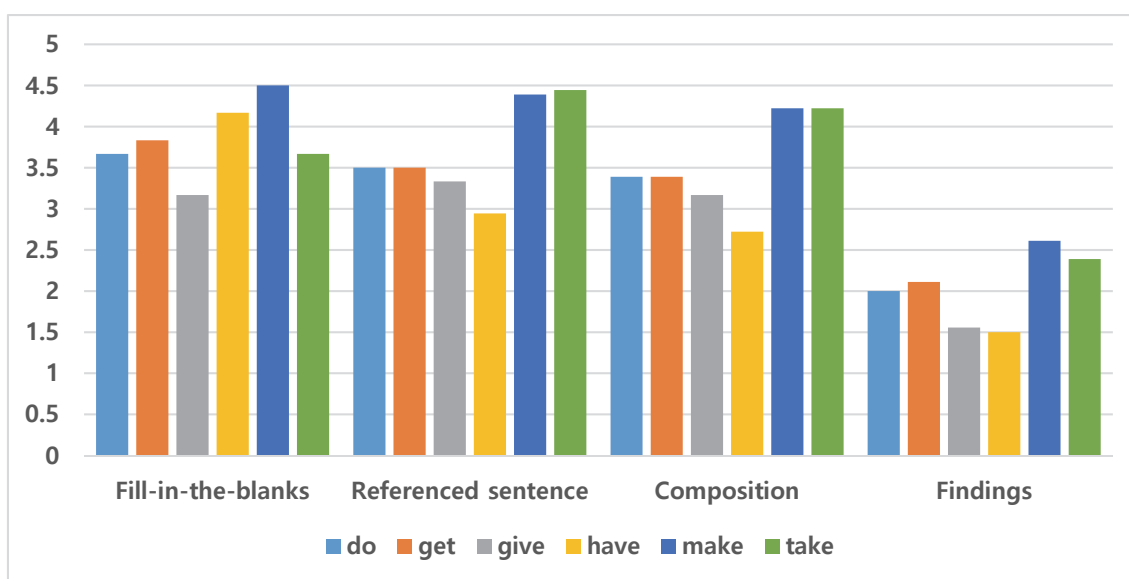


Figure 10. Average Number of Entries Per Student

### 4.3. Participants' Findings

The corpus of participants' findings comprised 1,439 words. The most frequent 4-gram was "I thought it was," which appeared 12 times. Figure 11 shows the concordance lines of "I thought it was." The most frequent word immediately following "I thought it was" was "similar" (1,2,6,12). Considering there was an example that its antonym "different" (7) followed "I thought it was," it can be concluded that the participants tended to focus on similarities as well as differences.

|    | File           | Left Context   | Hit              | Right Context                                 |
|----|----------------|--|------------------|---|
| 1  | Translated ... | to "does" in the third person singular. I knew that.       | I thought it was | similar to Do one's best.                     |
| 2  | Translated ... | broaden my range of expression if I could use it.          | I thought it was | similar to Do the best. I                     |
| 3  | Translated ... | is correct. The meaning of "grip" is "to hold," so         | I thought it was | derived from that and I understood            |
| 4  | Translated ... | useful when writing about social movements. I knew it.     | I thought it was | often followed by a negative word.            |
| 5  | Translated ... | non-living subject Give + person to condemn someone.       | I thought it was | quite figurative. None Person interjects. The |
| 6  | Translated ... | ould be quite difficult to understand at first sight. None | I thought it was | similar to "Have no idea. There               |
| 7  | Translated ... | seen this expression in my idiom book. I knew it.          | I thought it was | different from the Japanese image. The        |
| 8  | Translated ... | habit, like a routine It may have a futuristic nuance...?  | I thought it was | a useful expression. I knew it.               |
| 9  | Translated ... | for the first time. I learned it in high school!           | I thought it was | an unusual expression. Not particularly. I    |
| 10 | Translated ... | ymous with Became famous Often used in Made. None.         | I thought it was | strange that there is For oneself.            |
| 11 | Translated ... | ewhat understandable. Interpreted as for oneself None.     | I thought it was | unlikely to be used take a                    |
| 12 | Translated ... | way if you think of it as take in shape.                   | I thought it was | similar to Get in shape. Nothing              |

Figure 11. Concordance Lines of "I Thought It Was"

## 5. Discussion

Table 2 compares the scores for each verb in each item on the worksheet and the post-test and delayed post-test scores for each verb compared to the pre-test. The number of light verbs recorded on the worksheet did not necessarily correlate with the efficacy of memory retention for each verb. For instance, the verb "get," which had fewer entries, did not significantly affect memory, whereas "take," with a higher number of entries, showed a promising effect. Conversely, despite fewer entries, "do," "give," and "have" showed a positive effect, while "make," with multiple entries, did not. This suggests that the number of entries alone may not affect the memorization of light verb collocations.

These results did not clarify the worksheet items that have the most profound impact on memory retention. However, four of the six light verbs studied showed significant effects, suggesting that worksheet-based collocation learning tasks through consulting concordance lines could facilitate the acquisition of collocations of light verbs and nouns. This leads to the hypothesis that observing concordance lines might have promoted the memorization of collocations more than working on the worksheet tasks. If observing numerous example sentences of the target collocations through concordance lines promoted the memorization of the collocations more than the tasks that required deep attention to the collocations, the findings of this study do not support the Involvement Load Hypothesis (Hulstijn & Laufer, 2001), which posits that the degree of involvement in processing words influences the retention of unfamiliar words in L2. Instead, they support Folse (2006), which contends that it is not the involvement load, but the frequency of encounters that affects lexical retention.

Tasks are essential for implementing DDL in the classroom; without them, students may lack the motivation to observe collocations. However, as demonstrated in this study, having as many as four items may not be necessary, and a simpler format may suffice. Moreover, even when the difficulty of the collocations was standardized, there were differences in memory effects among the high-

frequency light verbs. This indicates that not all high-frequency light verbs should be treated uniformly.

While this study provides valuable insights into the efficacy of DDL in understanding and applying light verbs among L2 learners, there are limitations. The participant sample was relatively small and homogeneous, comprising 29 university students from the same institution. This limitation could potentially restrict the generalizability of my findings to broader populations. Therefore, future research endeavors should incorporate a more extensive and diverse participant pool.

**Table 2.** Comparison of Verb Scores on the Worksheet, Pre-test vs. Post-test, and Pre-test vs. Delayed Post-test

|                              | Do     | Get | Give  | Have  | Make | Take   |
|------------------------------|--------|-----|-------|-------|------|--------|
| Fill-in-the-blank            | low    | low | NS    | low   | high | high   |
| Examples of Usage            | NS     | NS  | low   | low   | high | high   |
| Composition                  | NS     | NS  | low   | low   | high | high   |
| Findings                     | NS     | NS  | NS    | NS    | NS   | NS     |
| Effects on Post-test         | medium | NS  | large | NS    | NS   | large  |
| Effects on Delayed Post-test | large  | NS  | large | large | NS   | medium |

NS: Not significant

## 6. Conclusions

This study aimed to explore the effects of DDL on the memorization of the collocations of light verbs and nouns. The results showed that, overall, DDL contributed to memorizing the collocations of light verbs and nouns; however, DDL had different effects on the memorization of collocations across different light verbs. Although certain light verbs, such as “take,” exhibited improved recall with increased worksheet entries, others, such as “make,” did not reflect a consistent trend. This suggests that the quantity of work on the worksheet is not the only factor in its retention, and observing concordance lines may significantly promote learners’ memorization of light verb collocations. This study has practical implications in classroom settings. When using DDL, simple tasks could work equally well as complex tasks, if not better. Additionally, this study shows that when teaching common light verbs, it is better to adjust the teaching method for each light verb rather than use the same approach for all verbs. While this research suggests that DDL is an effective option for learners to memorize L2 light verb collocations, its efficacy is contingent upon various factors.

This study’s limitations include its narrow focus on a single teaching method and a specific set of light verb collocations, potentially limiting the generalizability of its findings. Further research is required to explore how different types of corpus tasks influence memorization and understanding of light verbs, and how to observe concordance lines, and what to observe therein, to promote memory retention. Furthermore, the long-term retention of these collocations deserves attention. Investigating the durability of learning over extended periods, through longitudinal studies, would provide deeper insights into the lasting impacts of DDL on L2 vocabulary acquisition. Such research would refine our understanding of DDL’s effectiveness and guide language teachers in optimizing their teaching strategies for different linguistic structures.

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