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Horses & Water: Two interventions designed to increase the use of peer-generated Keyword Method sentences

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馬と水：同僚生成キーワード法の文の使用ついて

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Abstract：Results from an investigation of student preferences for generating Keyword Method (KWM) sentences showed that peer-generated KWM sentences, which have the potential for being the best way of generating KWM sentences, were being greatly underused (Sustenance, 2025). This action research paper describes the results of two pedagogical interventions designed to help increase the use of peer-generated KWM sentences among second-year students at a national university in Japan. Experiment 1 substantially increased the number of peer-generated KWM sentences that students had access to, and Experiment 2 looked at whether having student-created images for KWM sentences with high concordance would increase the uptake of peer-generated KWM sentences. Adding images to high-concordance KWM sentences had a much bigger effect than increasing the pool of available KWM sentences, but neither intervention resulted in peer-generation becoming the most popular technique for generation of KWM sentences. In addition, as the complexity of the intervention increased, the overall use of the KWM decreased.

Key words：vocabulary acquisition, mnemonics, Keyword Method

1. Introduction

Being able to implement an effective strategy for acquiring unfamiliar words is an essential part of becoming a successful second-language (L2) learner (Beaton et al., 1995). However, the explicit teaching of vocabulary-acquisition strategies has traditionally “been treated as the cinderella of foreign language learning” (Beheydt, 1987, p. 55), meaning that students are often left to develop their own strategies for vocabulary acquisition (Oxford & Crookall, 1990). In the absence of instruction, students are most likely to choose a strategy that requires only shallow cognitive processing, such as rote repetition (Sagarra & Alba, 2006). Rote repetition is the act of memorizing the first language (L1) translation of the to-be-learned (TBL) L2 word using rehearsal (Van Hell

& Mahn, 1997), and it is the most common method for studying vocabulary in Japan (Fewell, 2010), despite the fact that over 60 studies have found that a mnemonic technique known as the *Keyword Method* is a more effective way of studying L2 vocabulary (Sommer & Gruneberg, 2002).

1.1. The Keyword Method

The Keyword Method (KWM) is a two-stage mnemonic technique (Atkinson, 1975). In the first stage, the auditory link, the student chooses a word (or words) in their first language (L1) that sounds like the TBL L2 word. This is known as the *keyword*. Atkinson (1975) felt that the keyword need only have one syllable in common with the TBL word, but Beaton et al. (2005) state that the more overlap of sounds there is between the two words, the more effective the technique will be, with complete overlap of the TBL being the goal. In addition, Raugh et al. (1977) argue that the best keywords are easy to picture in the mind's eye. For this reason, they believe that concrete nouns make the best keywords. For a native English speaker using the KWM to remember 仮説 (*kasetsu*), the Japanese translation of *hypothesis*, the English word *cassettes* could be an ideal choice because it contains all of the sounds of the TBL word and should elicit a concrete image for people of a certain age.

Figure 1. Using the KWM to remember the Japanese word for *hypothesis*.

Stage two of the KWM is the imagery link. The student must create a sentence that evokes a vivid image in the mind's eye of the keyword interacting with the L1 translation of the TBL

word. The more vividly this can be imagined, the higher the likelihood that the KWM will be effective (Levin, 1981). While the keyword, *cassettes*, should be easy to visualise, the translation, *hypothesis*, will most likely be more problematic due to its abstract nature. In such cases, Cohen (1987) recommends using a word or concept that is more concrete. Imagining the name of a famous hypothesis written on each of the cassettes is one way to make the abstract concept more concrete (see Figure 1). Turning this static image into a type of mental movie can make it even more effective (Shapiro & Waters, 2005). This could be done by imagining yourself inserting each cassette into a tape player and listening to each hypothesis being read out.

The deconstruction of the interactive image into its constituent parts (see Figure 2) allows the KWM to be used for either receptive or productive recall (Wyra et al., 2007). Receptive recall refers to being able to give the L1 translation of the L2 word. Being presented with the L2 word, *kasetsu*, should evoke the imagery link, the hypothesis cassettes. Removing the image of the keyword, in this case the cassettes, from the interactive image reveals the L1 translation, one *hypothesis* for each of the cassettes. For productive recall, the act of producing the L2 equivalent of an L1 translation, the process is reversed. Thinking of the word *hypothesis* should evoke the interactive image. Eliminating each hypothesis from the image leaves only the *kasetsu* (cassettes), the Japanese word for *hypothesis*.

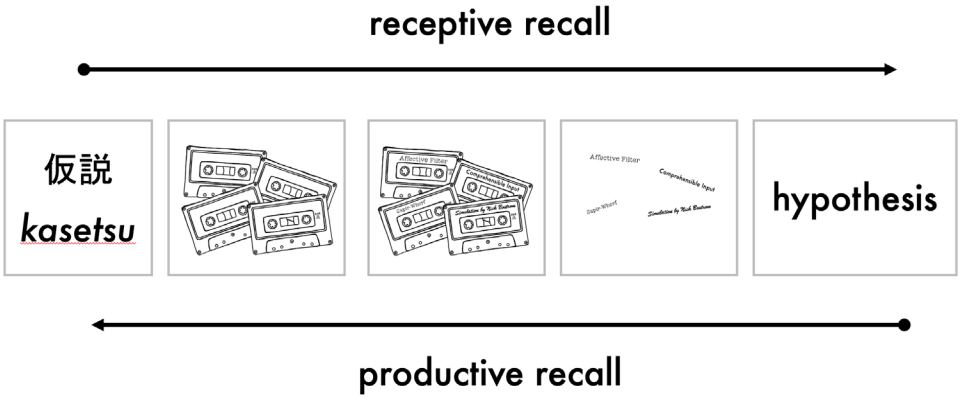


Figure 2. Using the KWM for receptive and productive recall.

1.2. Link generation

The best technique for creating the auditory and imagery links has long been a topic of contention (Sagarra & Alba, 2006). For almost 30 years, keywords and images were either provided by the experimenter (experimenter-provided) or created by the student (self-generated) (Campos et al., 2004a). As Table 1 shows, because there are two links, and each can be either experimenter-provided or self-generated, there are four possible ways in which complete KWM sentences can be generated. However, only three have actually been used in research. In his original study, Atkinson (1975) provided the auditory links, but required participants to create their own imagery links. Alternatively,

both links can either be experimenter provided (eg. Levin, 1981) or self-generated (eg. Sagarra & Alba, 2006). No experiments have been conducted with self-generated keywords and experimenter-provided images.

Table 1. Possible KWM sentence generating strategies.

	Auditory Link	Imagery Link	Example
1.	Experimenter	Self	Atkinson, 1975
2.	Experimenter	Experimenter	Levin, 1981
3.	Self	Self	Sagarra & Alba, 2006
4.	Self	Experimenter	-

Advocates of experimenter-provided links argue that they save time (Cohen, 1987) and provide quality control (Levin, 1981). The counter argument is that self-generated links are more likely to be personally meaningful to the student, thereby making them more memorable (Campos et al., 2004a). For example, the experimenter-created idea for *hypothesis* introduced above might not be effective for university-aged learners of Japanese because it requires knowledge of outdated technology such as cassette tapes, as well as four somewhat obscure hypotheses. However, the self-generation process can be time-consuming, and there is also no guarantee that students will be able to create satisfactory keywords or images (Campos & Amor, 2005).

1.3. Peer-generated keywords

The binary paradigm of experimenter-provided links versus self-generated links was broken when Campos et al. (2004a) added a third option. In their study, students with "similar sociodemographic characteristics" (p.125) to the intended participants were asked to create the keywords to be used in the experiment. These types of keywords, known as *peer-generated keywords*, should, theoretically at least, combine the best elements of the other two generation methods, while avoiding the drawbacks. Peers are likely to have similarities in the way they think and speak (Campos et al., 2004b), and, as the keywords were subsequently checked by the experimenters, quality control could be assured (Campos et al., 2004a). A comparison of all three types of keyword generation determined that students who used peer-generated keywords significantly outperformed students who used the other two keyword-generation methods in both immediate and

one-week recall testing (Campos et al., 2004b).

Concordance has been shown to predict the effectiveness of peer-generated keywords. When a keyword is suggested by a large number of the subjects, it is said to have high concordance. Conversely, a keyword that is only suggested by a small number of subjects has a low concordance rating (Campos & Amor, 2005). In an experiment that looked at the efficacy of all three types of keywords, high concordance peer-generated keywords were found to be the most effective (Gonzalez & Goni-Artola, 2019).

Despite the fact that the KWM requires the creation of two links, all of the peer-generated research to date has only provided participants with peer-generated ideas for the first stage of the process, the auditory link. This research design choice, mirroring that of the seminal KWM study (Atkinson, 1975), leaves stage two in the hands of each individual student. However, not all students have the requisite creativity to conjure up the interactive images necessary in stage two (Cohen, 1987), so disregarding the peer-generated imagery link seems to be needlessly disadvantaging the participants for two reasons. If a student is unable to think of their own image for a keyword created by their peer, that keyword will be effectively rendered useless for them. In addition, although the KWM can theoretically be broken down into a linear process where the auditory link leads to the imagery link, more than 25 years of experience using the technique as both a student and an educator has taught the author that, in practice, the two stages often work in tandem in a kind of feedback loop, with the choice of keyword being influenced by the ease with which it evokes an interactive image. Only using the auditory link means that any imagery link that may have been created in unison with the keyword will be lost, something which seems to be at odds with the underlying philosophy of deciding to use the peer-generation technique in the first place. For these reasons, the two experiments that will be discussed in this paper use peer-generated KWM sentences, each of which contains both a peer-generated keyword and a peer-generated interactive image.

1.4. The KWM in the classroom

When the author uses the KWM in a traditional language classroom, students experience all three forms of KWM-sentence generation (Sustenance, 2022). First, students are given a chance to think of self-generated keywords and self-generated images to create self-generated KWM sentences. Then, they have an opportunity to share their KWM sentences with their classmates, which exposes them to peer-generated KWM sentences. Finally, they are provided with experimenter-provided KWM sentences, which consist of experimenter-provided auditory links and experimenter-provided imagery links, together with student-created images.

Over the course of a 15-week semester, students are presented with 40 words (see

Appendix A). Initially they are provided with a list of eight words along with Japanese translations and an approximate pronunciation in *katakana*, and are given a week to think about possible KWM sentences for homework. At the beginning of the next class, students share their ideas with the person sitting next to them. Prior to the two experiments that are the focus of this paper, the next step was to allow students to earn participation points by writing their ideas on the blackboard, thereby sharing them with the rest of the class members. Finally, students are shown the experimenter-provided sentences and accompanying images using PowerPoint and a projector and are given access to them via a PDF uploaded to the Learning Management System (LMS) used by the university. Students are free to use any, or none, of the three types of KWM-sentence generation methods to remember the vocabulary items.

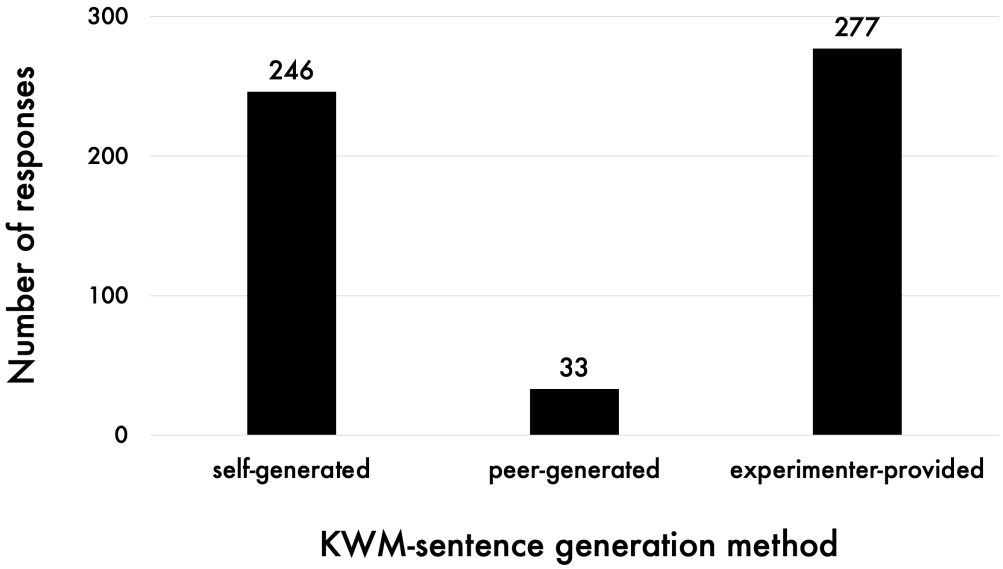


Figure 3. The three types of KWM sentences used in the original study.

In order to ascertain how often each type of KWM-sentence generation was actually being used, second-year students at a national university in Japan were asked to complete a questionnaire at the end of a one-semester English Communication class (Sustenance, 2025). The results showed that the KWM had been used over 85% of the time. However, an analysis of the types of KWM sentences used (see Figure 3) revealed that peer-generated KWM sentences, potentially the most effective type, were used the least. Of the 556 KWM responses, peer-generated KWM sentences were only used 33 times (5.9%). The two experiments that follow were designed to determine whether the use of peer-generated KWM sentences could be increased by making pedagogical changes.

2. EXPERIMENT 1

In a digital-classroom environment, it is possible to take advantage of the collaborative nature of Google Docs to allow all students to easily and anonymously share their ideas with their classmates (Sustenance, 2018). Asking students to write their ideas on the blackboard was an attempt to replicate the collaborative nature of Google Docs in an analog environment, but it is possible that many students felt intimidated by the idea of standing up and writing their ideas on the board, meaning that the majority of the potential peer-generated KWM sentences were lost after only being shared with one person. Experiment 1 was designed to substantially increase the pool of available peer-generated KWM sentences.

RQ1: Does substantially increasing the number of available peer-generated KWM sentences result in an increase in the use of peer-generated KWM sentences?

2.1. Method

2.1.1. Participants

Of the 89 students (male=75, female=14) from the Department of Creative Engineering at a national university in Japan who were enrolled in one of four required second year English Communication classes, 86 students completed the questionnaire used in the study.

2.1.2. Treatment Phase

Over the course of the 15-week semester, students were exposed to the 40 words listed in Appendix A. All of the words were taken from the TOEIC service List, which was created by analysing a 1.5-million-word corpus (Browne & Culligan, 2016). This list was chosen because students at the university require a TOIEC score of 300 or more to be eligible to graduate. The first vocabulary list was given to the students at the end of the third class of the semester. As shown in Table 2, each of the five eight-word vocabulary lists had a three-class cycle. The one-week break between class eight and class ten was due to a mid-semester test that took place during the ninth class of the semester.

In the first week, an eight-word vocabulary list was handed out at the end of the class and the author read each word three times as an exemplar pronunciation. Vocabulary List 1 had a column with *katakana* approximations of the English pronunciation for each word (see Appendix B), but for the remaining four lists, this column was left blank, allowing students to write any necessary pronunciation hints by themselves. Instead of sharing their ideas by writing on a blackboard during the class, students were offered the chance to earn participation points by completing a Google Form

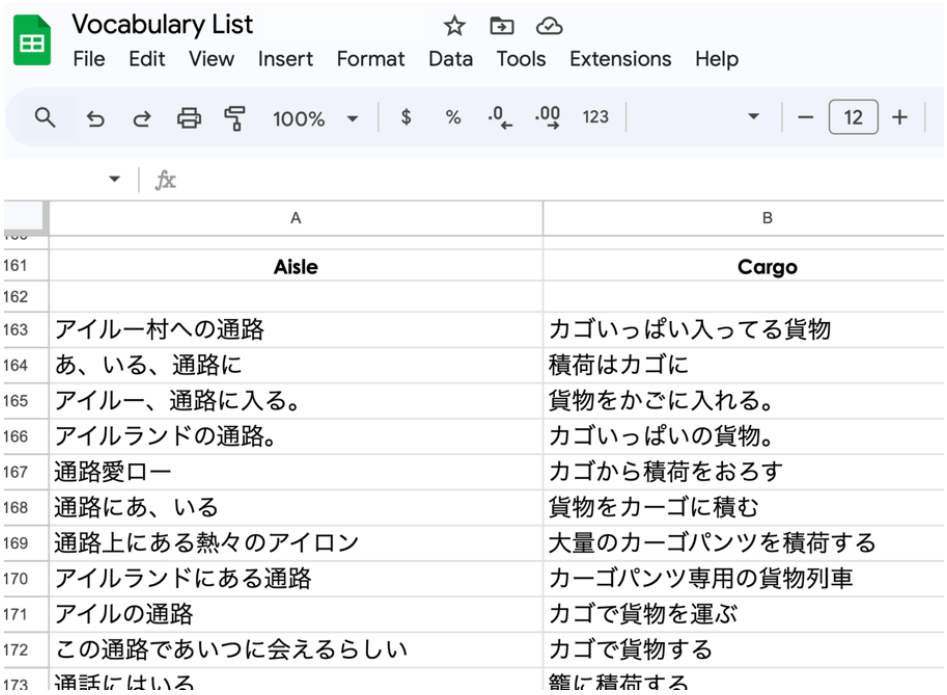
for homework. The deadline for submission was one day before the next class. After the deadline, each submitted KWM sentence was checked to ensure it contained both an auditory link and an imagery link. Of these KWM sentences, only those with keywords that were deemed by the experimenter to satisfactorily approximate the pronunciation of the target L2 word were accepted.

Table 2. The Vocabulary List cycle.

	Class Number														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
List 1			week 1	week 2	week 3										
List 2					week 1	week 2	week 3								
List 3							week 1	week 2		week 3					
List 4										week 1	week 2	week 3			
List 5												week 1	week 2	week 3	

All of the suitable KWM sentences were pasted into a Google Sheets spreadsheet (see Figure 4). Over the course of the semester, a total of 1,882 KWM sentences were submitted across the four cohorts for the 40 words. To put this number into perspective, in the previous semester, when the peer-generated KWM sentences had been shared using the blackboard, three separate intact second-year English Communication classes created a total of 142 peer-generated sentences for the 40 words. One class created 31, another class created 36 and the remaining 75 KWM sentences were created by the third class. However, students only had access to sentences created by members of their own class. Using Google Sheets allowed each of the four separate classes to have access to all of the 1,882 KWM sentences, meaning students in Experiment 1 had between 25 to more than 60 times as many available peer-generated KWM sentences.

In the second week, students were shown the Google Sheets spreadsheet via a projector and then given an opportunity to access it via a link in the LMS. The limited time given during class was primarily designed to inform students of the existence of the archive of peer-generated KWM sentences, with the hope that their interest would be piqued enough for them to want to access the spreadsheet in their own time outside of class when studying for a vocabulary quiz, which was administered at the beginning of the third week of the cycle.


Vocabulary List

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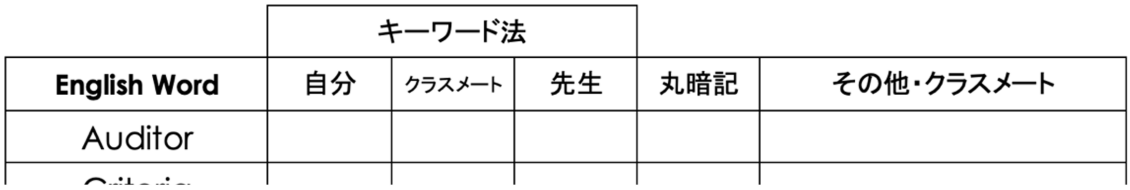
	A	B
161	**Aisle**	**Cargo**
162		
163	アイルー村への通路	カゴいっぱい入ってる貨物
164	あ、いる、通路に	積荷はカゴに
165	アイルー、通路に入る。	貨物をかごに入れる。
166	アイルランドの通路。	カゴいっぱいの貨物。
167	通路愛ロー	カゴから積荷をおろす
168	通路にあ、いる	貨物をカーゴに積む
169	通路上にある熱々のアイロン	大量のカーゴパンツを積荷する
170	アイルランドにある通路	カーゴパンツ専用の貨物列車
171	アイルの通路	カゴで貨物を運ぶ
172	この通路であいつに会えるらしい	カゴで貨物する
173	通話にはいる	籠に積荷する

Figure 4. Peer-generated sentences in a Google Sheets spreadsheet.

2.1.3. Questionnaire

At the beginning of the final class of the semester students participated in a surprise receptive vocabulary level check containing 10 of the words that had been studied during the semester. Students were told that the results would not affect their grade in the class, and asked to provide a Japanese gloss for each of the words. As the final activity of the class, roughly 75 minutes later, students were invited to complete a questionnaire regarding the strategy they had used to remember each of the 10 words (see Figure 5).



	キーワード法				
English Word	**自分**	**クラスメート**	**先生**	**丸暗記**	**その他・クラスメート**
Auditor					

Figure 5. Vocabulary-strategy questionnaire.

There were three strategy options; KWM (キーワード法), rote repetition (丸暗記), and other (その他). The KWM section was further broken down into three sections. Students who used the KWM were asked to specify whether they had used self-generated KWM sentences (自分), peer-generated KWM sentences (クラスメート), or experimenter-provided KWM sentences (先生). For peer-generated KWM sentences, students were asked to write the sentence they used in the *other* (そ

の他・クラスメート) column. Students placed their questionnaire, completed or not, into a box positioned next to the door as they left the classroom. The decision to take part in the study was completely voluntary, and there was no penalty for not completing the questionnaire.

2.2. Results & Discussion

86 students completed the 10-question survey, meaning that there were 860 unique results. As can be seen in Figure 6, the KWM was by far the most popular strategy, with 69.1% (n=594) of the responses. Rote repetition accounted for just under one third (29.7%, n=255) of the answers. This means that the KWM was used more than twice as often as rote repetition. Of the remaining 11 responses, seven were for other, and students indicated that they had forgotten the strategy four times. These results were similar to those found in the initial pilot study into KWM-sentence generation techniques (Sustenance, 2025), although the percentage of KWM use (69.1%) was not quite as high as in the initial study (85%).

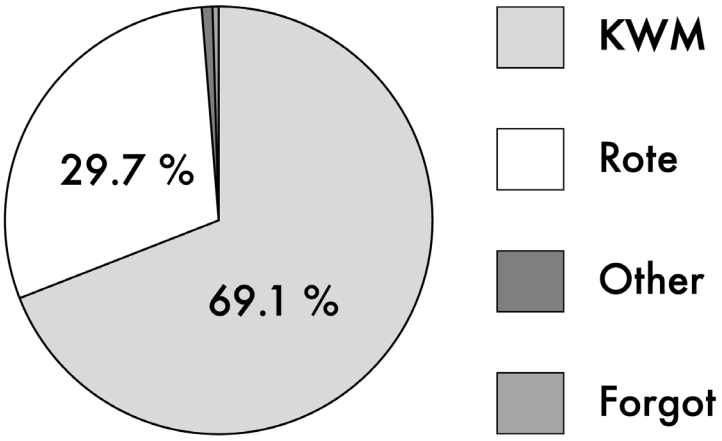


Figure 6. Vocabulary Strategies used in Experiment 1

Experiment 1 was designed to test whether a substantial increase in the number of available peer-generated KWM sentences would lead to an increase in the use of peer-generated KWM sentences. In the initial pilot study (see Figure 3), in which the KWM was used 556 times, peer-generated sentences were used 5.9% of the time (n=33). In Experiment 1, the KWM was used 594 times (see Figure 7). Over two thirds of the time (n=411), students reported using self-generated KWM sentences. Experimenter-provided sentences were the next most popular, being used a total of 140 times (23.6%). From both a raw-number perspective (n=43), and a percentage perspective (7.2%), it appears that simply expanding the number of available peer-generated KWM sentences is not the way to achieve the desired increase in the usage of peer-generated KWM sentences.

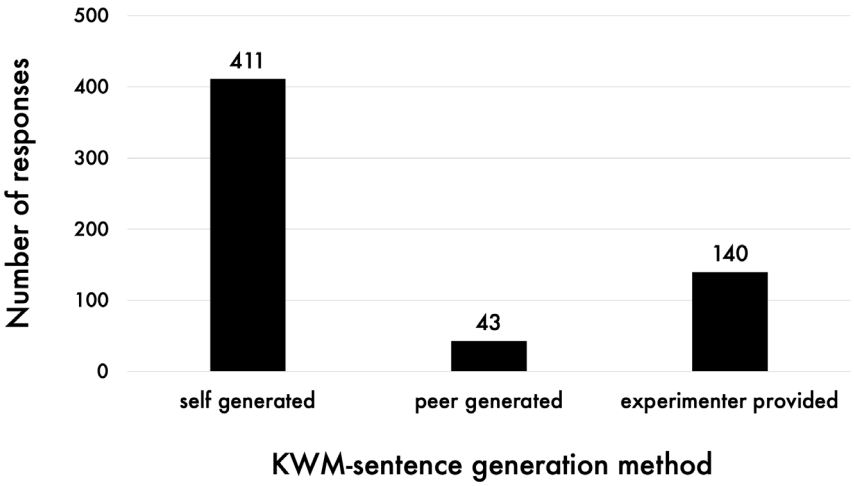


Figure 7. The three types of KWM sentences used in Experiment 1.

It is possible that increasing the number of available peer-generated KWM sentences by such a magnitude may have actually been detrimental in the sense that it could have created a choice paralysis. Due to limited available class time, students were not able to analyse all of the submissions during class. Instead, they were shown how to access the Google Sheets spreadsheet outside of class. However, it is unclear how many students took advantage of this opportunity. They had been shown the way, but the decision of whether or not to go to the peer-generated KWM-sentence water had been left entirely up to them. In the next semester, a different approach that included a form of concordance, along with student-created images was implemented.

3. EXPERIMENT 2

Shapiro and Waters (2005) believe that the visual nature of a KWM sentence, where the keyword is interacting with the meaning of the L2 word, is the key to the success of the KWM. By definition, a self-generated KWM sentence cannot help but evoke a personally meaningful image in the mind's eye of the student who created the sentence. The experimenter-provided sentences used when teaching the KWM are all accompanied by student-created images that are designed to make the inherent visual nature of the KWM sentences clear to the audience. However, the peer-generated KWM sentences used in the classroom prior to this study had neither visual representations to help explain them, nor could it be assumed, despite being made by a peer, that the KWM sentence would evoke an equally vivid and meaningful image in the mind's eye of each student. Experiment 2 was designed to even the imagery playing field by incorporating student-created drawings for high-concordance peer-generated KWM sentences.

RQ2: Does creating an archive of student-created images for high-concordance peer-generated KWM sentences result in an increase in the use of peer-generated KWM sentences?

3.1. Method

3.1.1. Participants

66 of the 73 students (male=56, female=17) enrolled in one of three required semester-long English Communication classes from the Department of Sciences and Informatics at a national university in Japan participated in Experiment 2.

3.1.2. Treatment Phase

As in Experiment 1, 40 words from the TOEIC Service List (see Appendix A) were studied over five three-week cycles (see Table 2). In the first week of the cycle, students were given one of five eight-word vocabulary lists (the same lists that were used in Experiment 1) and asked to submit KWM sentences one day before the next class for homework. These sentences were then checked by the experimenter, and all suitable sentences were collated into a Word document.

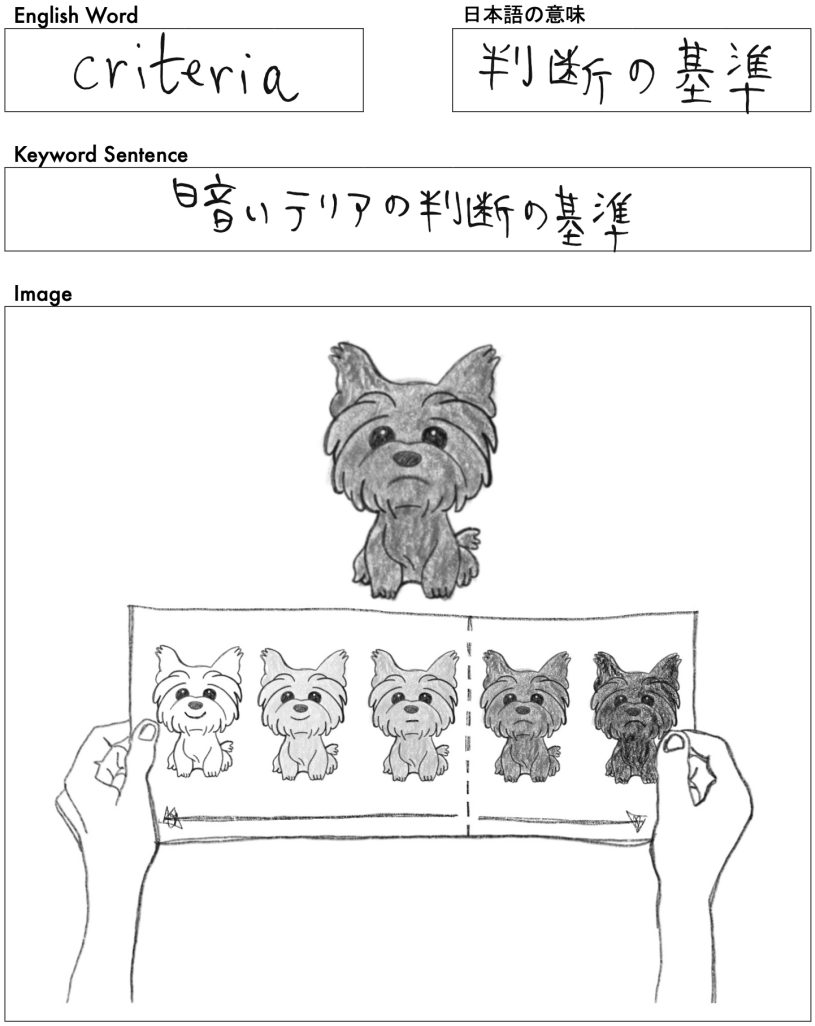


Figure 8. An image for a peer-generated KWM sentence.

As high concordance has been shown to result in more effective peer-generated keywords

(Gonzalez & Goni-Artola, 2019), in the next class, students were paired up and asked to choose two KWM-sentences that they deemed to be the best for each of the eight words. Each sentence was numbered, so students only had to write two numbers per vocabulary item on a survey sheet. These results were then analysed by the author using an Excel spreadsheet, and the two most commonly chosen KWM sentences were collated into a PDF that was uploaded onto the LMS.

In the next class, students were made aware of the existence of the PDF, and given a chance to earn participation points by drawing an image for one of the KWM sentences on the list (see Figure 8). Submitted images were scanned and collated into a PDF using PowerPoint, which was then uploaded to the LMS.

3.1.3. Questionnaire

The process for administering the questionnaire was identical to that described in Experiment 1.

3.2. Results & Discussion

As shown in Figure 9, the intervention described in Experiment 2 resulted in a reduction in the number of students who used the KWM, and an increase in the use of rote repetition. In the initial study, the KWM accounted for 85% of the responses. In Experiment 1, the KWM made up over two thirds of the responses (69.1%). However, in Experiment 2, the KWM was used less than half of the time (n=320). Despite the decrease, the KWM was still used more often than rote repetition, which had a 44.7% share of the results (n=295).

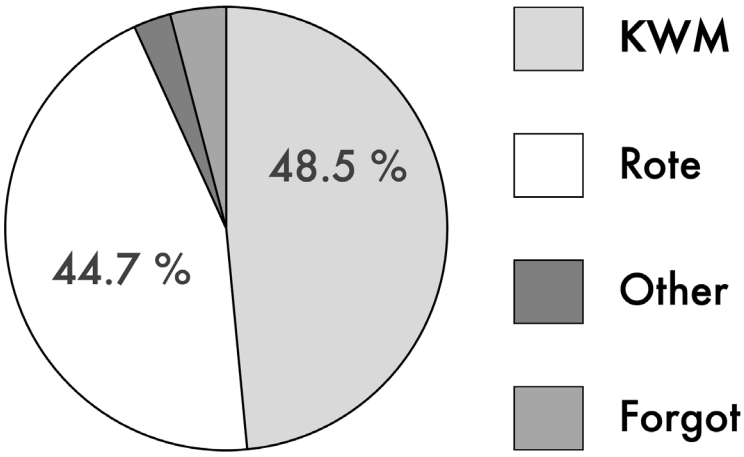


Figure 9. Vocabulary Strategies used in Experiment 2

Unlike in Experiment 1, when students had merely been shown the way to the peer-generated KWM sentence water, in Experiment 2, the process of reading all of their classmate's KWM sentences ensured that students were actually taken to the water. After that, much like the proverbial horses, the decision of whether or not to drink was left entirely up to them. Despite the reduction in

total numbers of KWM use when compared to Experiment 1, the number of times that peer-generated KWM sentences were used nearly doubled, and as a percentage, this gap increased even further (see Figure 10). In Experiment 1, peer-generated KWM sentences were used 43 times (7.24%), whereas in Experiment 2, they were used 79 times (24.69%). While the experimenter-provided KWM sentences were slightly less popular than the peer-generated ones (n=76), self-generated KWM sentences (n=165) were used more than twice as often as peer-generated KWM sentences.

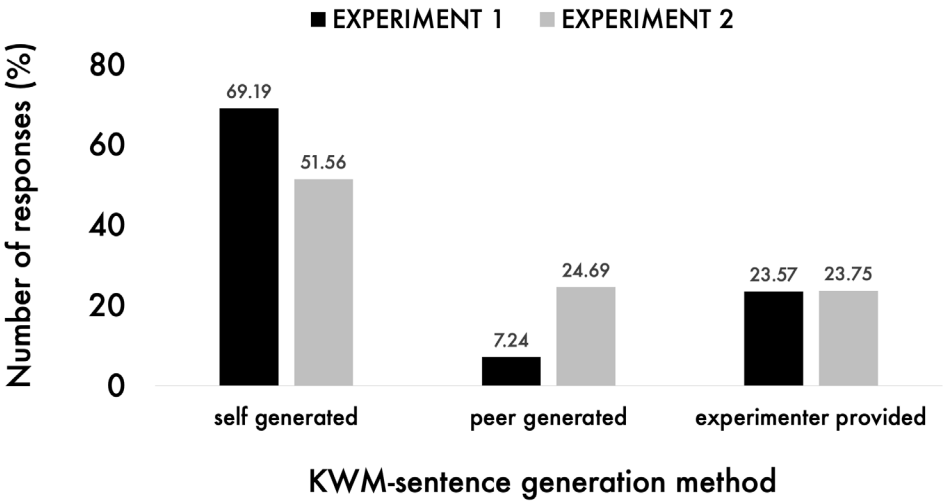


Figure 10. Experiment 1 compared to Experiment 2.

4. General Discussion

The goal of the two experiments presented in this paper was to increase the use of peer-generated KWM sentences, and although it can be argued that Experiment 2 did achieve this, the result came with an unexpected cost. In the initial exploration of vocabulary strategies conducted at the end of a semester-long course that included instruction in the KWM, sophomore students at a Japanese university reported using the KWM over 85% of the time (Sustenance, 2025). In the two experiments described in this paper, the interventions were the only pedagogical changes made. However, as can be seen in Table 3, both experiments saw a reduction in the overall use of the KWM. In Experiment 1, the KWM was used only just over 69% of the time, and in Experiment 2, it was used less than half of the time (48.5%). As a corollary to this, the use of rote repetition increased to a maximum of 44.7%. Based on the demonstrated effectiveness of the KWM when compared to rote repetition (Sommer & Gruneberg, 2002), as an educator, this reduction in the use of the KWM is concerning. The cause of this decline in KWM use is unclear, but it is possible that the students experienced something that could be labelled *KWM fatigue*, because as the onus on the students vis-à-vis using the KWM gradually increased, so too did their reliance on rote repetition as a strategy.

Table 3. Vocabulary strategy use by percentage across the three studies.

Strategy	Responses (%)		
	Original Study	Intervention 1 (Google Sheets)	Intervention 2 (Images)
Keyword Method	85.5	69.1	48.5
Rote Repetition	12.5	29.7	44.7
Other	0.9	0.8	2.7
Don't Remember	1.1	0.5	4.1

5. Limitations

Each experiment discussed in this paper was conducted with intact classes over the course of a semester. The students who took part in Experiment 1 were not the same students that participated in Experiment 2, and none of the students in either of the two experiments participated in the original KWM-sentence generation study that inspired the two interventions. This means that the results cannot be generalized to the wider population of university students.

Also, the gender breakdown of the participants in the two experiments is not reflective of the wider population. Due to the anonymous nature of the questionnaires, it is impossible to know the exact numbers, but in Experiment 1, in which 86 students participated, only 14 of the 89 students enrolled in the course were female. Likewise, in Experiment 2, only 17 of the 73 students enrolled in the course were female.

6. Conclusion

From a pedagogical perspective, the main motivation for implementing the two interventions described in this study was to increase the uptake of the hitherto underutilised peer-generated KWM sentences. Experiment 1 was designed to give students access to a much larger pool of peer-generated KWM sentences. The process of collecting and collating the sentences greatly increased the workload of the experimenter. However, the results of the exit-questionnaire did not seem to justify the time expenditure, as peer-generated KWM sentence use remained very low when compared to the other KWM-sentence generation techniques.

The goal of Experiment 2 was to shine a light on the multimodal nature of KWM sentences. Student-created artwork was used to shift the imagery link away from the imagination of the mind's eye in order to create an even playing field among the three ways of generating KWM sentences. For the experimenter, this process turned out to be even more time consuming than Experiment 1 had been, and results showed that it seemed to have a negative effect on enthusiasm for the KWM among the student cohort. The observed increase in the use of peer-generated KWM sentences was offset by

the overall reduction in KWM use. Therefore, in the mind of the author, neither of the two experiments created the desired results.

Lessons learned from both of the experiments described in this paper will inform any future iterations of the KWM sentence sharing process implemented by the author. The sheer number of KWM sentences submitted in Experiment 1 precluded the opportunity for analysis during class time, and the workload involved in Experiment 2 seemed to create a type of KWM fatigue among many of the students. Further research is needed to create a process that takes students to the water in a way that encourages them to drink.

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Appendix A: The 40 words

Activate	Enroll
Aisle	Flaw
Apology	Forbid
Attain	Hygiene
Auditor	Irrelevant
Authority	Mandatory
Cargo	Merge
Caution	Obtain
Classify	Overdue
Commute	Partial
Compatible	Recipient
Convey	Repetition
Criteria	Resemble
Deduct	Strategic
Demolish	Subsidize
Detach	Sue
Diagnose	Tactic
Durable	Temporarily
Eager	Tremendous
Embed	Verify

Appendix B: Vocabulary List 1

Vocabulary List 1

English	Japanese	Katakana Sound
Apology	謝罪	アポロジ
Auditor	会計検査官	オーデター
Caution	注意・注意する	コーション
Commute	通勤・通勤する	コミュート
Criteria	判断の基準	クライテリア・クライテリヤ
Forbid	禁じる・禁止する	ファビド・フォビド
Irrelevant	不適切な・無関係の	イレラバント・イレレヴァント
Partial	部分的な・一部の	パーシャル