

Web-based self-study to increase English vocabulary

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Abstract

Student needs analysis has shown a need for more vocabulary (Edwards, 1994; Edwards et al., 1994; Yonesaka, 1994; Nation, 1990). With high scores on English qualification examinations, including the *Eiken* (STEP), TOEIC, and TOEFL, becoming increasingly important for employment as Japanese businesses become more international, students have a definite need to improve their vocabulary. In addition, vocabulary is a subject that lends itself to a self-study approach to learning. One approach to implementing a self-study program is to use an interactive website that students can access at any time from any place. In this study students in first-year speaking classes used an online vocabulary learning website called Word Engine (Word Engine, 2011). The students' vocabulary acquisition was tested using a pre-test, mid-test, and post-test using vocabulary questions from *Eiken* (Eiken, 2011). Students' attitudes towards using the Word Engine site were also measured using an in-class survey. The test results showed slight but statistically significant improvement in vocabulary level.

Introduction

Word Engine is an interactive website which contains several vocabulary development courses based on specific goals for Japanese students ranging from high school entrance examinations, the Center Examination for college, *Eiken* (STEP), TOEIC, and TOEFL. User fees, depending on the course of study, range from about 2,000 to 3,000 yen. The fee covers one calendar year of use. Only paid registrants can enter the program. Teacher administrators have access to student data on website usage time and level of progress toward the vocabulary learning goal. Students who use this website are to be evaluated by their teachers and given points toward their semester grade.

Students in the study registered for the *Eiken* 2nd-level qualification course (3500 words), since this is an agreed upon benchmark for student achievement by graduation at this college (Edwards, 2009). In addition to data generated and saved in the website, data from an *Eiken*-style pre-, mid-, and post-test and surveys of student attitudes toward their work on the vocabulary website was used to evaluate the effectiveness and appropriateness of the online program for Hokkaido Musashi Women's Junior College English Department students.

According to Lexxica, (Word Engine, 2011) the e-learning company that produces Word Engine, their program has the following advantages:

1. Each word is repeated at least five times during the course of study at time intervals of 1, 3, 10, 30, and 90 days.
2. Your words are tracked and repeated until you have developed

long-term memory retention over a cycle of 90 days continuing until your word goal is reached.

3. It is the fastest way to develop long-term memory retention of new vocabulary.

Theory

Using Word Engine as a self-study tool will help students improve their vocabulary to a statistically significant degree as measured as a gain score on a pre-test, midterm test and post-test basis.

The following experiment tested improvement on a vocabulary test over the period of one academic year as an indirect way of measuring long-term memory retention of vocabulary items.

Experimental Method for Measuring Vocabulary Test Improvement

Question-Is there a statistically significant improvement on a vocabulary test as measured over a period of one academic year when students use Word Engine as a self-study tool?

Design-A fifty-item vocabulary test was given to students as a pre-test, mid-test and a post-test (please see below for more details on the test). The results were then analyzed to see if any statistically significant improvement could be observed in the students' vocabulary level.

Study Group-The study group was taken from the first-year students in the English language department of Hokkaido Musashi Women's

Junior College. Students are all 18 or 19 years of age. Students from the number 1, 3, 4, and 8 classes were tested for the research. These students are respectively from the highest, middle, and lowest level academic groups at Hokkaido Musashi Women's Junior College as measured by an in-house placement test that was administered to all first-year English department students at the beginning of the academic year. From this group 37 complete data sets were obtained. This was due to students being absent on one or more test dates.

Instrument-The test used for measuring vocabulary improvement in this study used items taken from past *Eiken* examinations and incorporated vocabulary from a list provided by Lexxica's Word Engine website administration. The Eiken Company graciously provided permission to use the test items for this test. The test was administered three times: Once as a pre-test, once in the middle of the year as a mid-test, and once as a post-test at the end of the academic year. The test was given during class time using a 30-minute time period for the actual test. It was given on the following dates: pre-test 4/11 2011; mid-test 7/14 and 7/15 2011; and post-test 12/14, 12/15, and 12/16 2011. (See Appendix A for the test questions.)

Test Results and Data Analysis

Results from the pre-, mid-, and post-tests are presented below. The analysis refers to Table 1. As shown, the pre-test had an average score of 30.49 with at high score of 46 points out of 50 points, a low score of 16, and a standard deviation of 7.57 points. The

Table 1 Pre-, Mid-, and Post-Test Average Scores & Gain Scores n=37

	Pre-test	Mid-test	Gain score	Post-test	Gain score
AVE	30.49	32.44	2.11	34.25	3.74
MAX (high)	46	48	15	47	16
MIN (low)	16	15	-6	15	-6
STDEV	7.57	7.55		7.26	

mid-test had an average score of 32.44, a high score of 48, a low score of 15, and a standard deviation of 7.55 points. The post-test had an average score of 34.25, a high score of 47, a low score of 15 and a standard deviation of 7.26 points.

This data shows that the average score trended higher between the pre-, mid-, and post-tests with respective scores of 30.49, 32.44, and 34.25. This shows an increase of the average score of 3.74 points or 12.33% between the pre- and post-tests. On the other hand, the high scores remained virtually unchanged with scores of 46, 48, and 47 as did the low scores with 16, 15, and 15 for the pre-, mid-, and post-tests respectively and the standard deviations with scores of 7.57, 7.55, and 7.26.

Looking at the gain/loss scores between the pre- and mid-tests, there was a high of 15 points, meaning that the student had a score of 15 points higher on her mid-test than on her pre-test. There was a low of minus 6, meaning the student’s mid-test score was 6 points lower than her pre-test. The average gain was 2.11 points out of a 50-point total, thus giving an average gain of 4.22%. The standard error for this data set was calculated at 0.72 so the gains are statistically significant. A standard error of more than twice the standard

deviation establishes significance.

Examining the gain/loss scores between the pre- and post-test, there was a high of 16 points and a low of minus 6, with the average gain at 3.74 points out of a 50-point total giving an average gain of 7.94%. The standard error for this data set was calculated at 0.83 so the gains were statistically significant. It is notable that the difference between the average gain on the mid-test (2.11) and the subsequent gain on the posttest of 1.63 additional points shows a smaller increase on average during the second part of the year.

In summation, it has been shown that students' average test scores improved by 3.34 points or 12.33% when compared to the pre-test average and that average gain scores were 3.74 points representing a 7.94% improvement over their pre-test score. (See Appendix B for a graphical representation of student scores on the three tests.)

Feedback Instrument

Survey

The survey consisted of 27 items pertaining to Word Engine and its use. Items 1 to 21 used a six-point Likert scale with anchor points of 1 indicating strong disagreement and 6 indicating strong agreement. The questions on the survey were written in both English and Japanese to assist the students in taking it. The remaining items were either multiple choice or free answer. (See Appendix C for the survey and results in averages.) Seventy-six students participated in the survey.

Results and Discussion

The first three items on the survey deal with student attitudes towards the Word Engine program. Students indicated that they liked using the program, average of 3.6, that Word Engine became easier to use the more they used it, average 3.6, and that it suited their style of learning, average 3.7. These results show that students had a somewhat positive attitude towards using Word Engine.

Items 4, 17, 20, and 21 are related to time and usage. The students, average 3.6, seemed to feel that ten minutes a day was enough time for them use the program. According to item 17, students felt they should be using class time for Word Engine, average 4.1, however, this would defeat the purpose of a self-study program. Items 20 and 21 showed that the students disagreed with the statements that they were using Word Engine effectively, average 3.2, and using it enough, average 3.1. Though for these last two items disagreement was very weak, it does suggest that students judged themselves and felt they could have put forth more effort to a greater benefit by using it more.

Items 5 and 6 discussed the method of learning that Word Engine employs and the difficulty of the vocabulary items. In both cases students gave an average score of 3.0 meaning that there was mild disagreement in both cases, which indicates that students did not feel the vocabulary was too far above their level or that they prefer other vocabulary study methods.

Motivation and satisfaction were the topics of 7, 8, and 9 respectively. Students said they were motivated to use Word Engine, average 3.6, and that they were satisfied with the vocabulary they

learned, average 3.5. They were also weakly positive, average 3.5, about the fact that they could see how many words they had learned using the My Page student feedback feature on Word Engine. (See Appendix E for a sample My Page.)

Items 10 and 11 were focused on discovering if students felt that the vocabulary they were learning on Word Engine was transferring to their Speaking Skills classes and to their other English classes. In both cases the results fell into a grey area (3.2 and 3.4 respectively) that makes it difficult to draw any real conclusions. There was anecdotal evidence supporting this transfer, however this opinion does not apply generally. Despite the vague response, this is an important factor in the potential benefit of using Word Engine and thus merits further investigation.

Items 12, 13, and 14 related to *Eiken* and TOEIC. Students' responses to items 12 and 14 were weak, average 3.4, but the response to item 13, "Word Engine helped me on the *Eiken* or TOEIC," had an average score of 3.6 indicating mild agreement.

Items 15 and 16 deal with using Word Engine if it were not part of the class grade and the perceived need for more teacher support. Again, disagreement on these two items was relatively weak, so no real conclusions can be reached at this time. The result of item 15, in particular was unexpected suggesting that the item be made clearer by rewording for future surveys.

Items 22 and 23 were for getting information on Word Engine usage, specifically where and when they used it. The data is shown in Table 2 below with a discussion on the results following.

Looking at the first row in Table 2 we can see that 33% of the

Table 2 Survey Items 22 & 23 Word Engine Use: Where and When n=76

Where	<u>school only</u> 33% (n=25)	<u>home only</u> 39% (n=30)	<u>school/home combined</u> 26% (n=20)
	<u>school +combined</u> 59% (n=45)	<u>home & combined</u> 66% (n=50)	<u>train</u> 1.3% (n=1)
When	<u>before school</u> 13% (n=10)	<u>during open time</u> 21% (n=13)	<u>at lunchtime</u> 4% (n=3)
	<u>just after school</u> 38% (n=29)	<u>after dinner</u> 37% (n=28)	<u>before bedtime</u> 33% (n=25)

students used school computers exclusively when using Word Engine, while 39% used home computers exclusively, and 26% used a combination of home and school computers. Totaling these three categories gives us 98% of the students, 75 out of 76, using Word Engine on a computer either at school or at home.

The data in the second row of the Where section of the table show that though students were given several options for where they used Word Engine, all but one selected either home or school. None chose “at an internet café” or “a borrowed computer” or “at the home of a friend”. Nonetheless, being able to choose multiple responses means that there is overlap between students, therefore the percentages add up to more than 100%.

Item 23 dealt with when the students used Word Engine. Again, students could respond to more than one answer on this item so the percentages add up to more than 100%. It is interesting to note that only 13% of the students used Word Engine before school and only 4% during lunchtime while most of the usage seemed to occur either

Table 3 Item 24 Cell Phone Use and Assessment

n=76

Use	Assessment	
Yes 16% (12)	Good way to use WE (9)	Not good way to use WE (3)

just after school 38%, after dinner 37%, or before bedtime 33%. Students clearly prefer not to come early to complete the self-study and other activities take priority for use of their lunch break time.

Item 24 covered Word Engine usage on mobile phones. This was an important issue due to the fact that smart phones, tablets, and other hand held portable devices with access to the Internet are now widespread in Japan. Table 3 above summarizes the data.

The results here are somewhat surprising in that only 16% of the students, 12 out of 76, used their mobile phones to access Word Engine and that of those students only 9 out of 76, or roughly 12%, thought it was a good way to do so. The factors behind this low rate of access using mobile devices should be investigated further. (The Word Engine website specifies that it can be accessed using mobile phones with Flash Lite version 2 or higher.) Written comments on Word Engine in the following section and Appendix D shed more light on this issue for students.

In reviewing this survey, it seems that most of the student responses tended toward the statistical middle with very slight tendencies towards either the positive or negative side on most of the questions. However, the resulting averages show such slight variation that the survey should probably be re-written in order to obtain more distinct trends in the statistics. In addition, an interview with a group of students to confirm their understanding of the survey

questions and attitudes towards Word Engine would help to strengthen the findings on the survey.

Student Comments on Word Engine

In this section, selected representative comments from students will be presented and discussed. These comments were taken from the survey that was conducted during class time with the comments being written in either English or Japanese by the students. All comments written in Japanese have been translated. (For a list of comments please see Appendix D.)

Comments Concerning Use

“I could work on it anytime at home.” This comment and similar comments about when and where students could use Word Engine show that being able to use the website outside of class and outside of school hours was an important choice for them that suited their individual schedules.

“Since you can only use it on a computer, it’d be tough for those without one to balance work from other courses and club activities.” And *“I didn’t have much free time so I had few chances to use the computer.”* These two comments show a severe limitation of self-study programs in general and the Word Engine program in particular. One way to solve this problem would be to have students look at their schedules and to examine how they might utilize their time better. This is an important skill for not only self-study programs, but also for doing homework and related assignments as well as

something that will help students when they enter the workforce.

“What I like best is that I can use it on my cell phone.” From this comment and similar ones we can see that being able to use Word Engine on devices other than PCs was important to the students. It follows the preference for students to rely on mobile phone-based email as well as internet access over computer-based email and internet access.

“I couldn’t use my cell phone at all.” This comment shows that Word Engine does not work on all types of phones or other mobile devices. In the future it is important to clearly inform students which devices Word Engine works on most effectively and to closely follow updates from Lexxica as they address this increasing need for mobile access to the website.

Comments Concerning Learning

“I could learn a lot of vocabulary in many ways.” This is a representative comment showing that students value being able to take advantage of the three activity types and their variations available on Word Engine.

“Since the words repeat I could review them. I learned the words well.” One of the primary theories behind the Word Engine program is that learners benefit from repetition of vocabulary which they have not yet mastered. Several similar comments were made concerning repetition and that the students benefited from it.

Attitude Towards Word Engine

“It is a way of learning that suits me.” This comment is representative of students’ feelings toward the suitability of the Word Engine program with regard to their learning style. Being able to match a student’s style of learning with a self-study program such as Word Engine is an important feature because it means that the students will be more at ease working with it.

“Can learn words as if you’re playing a game.” The game-like presentation of the various activities in Word Engine helps to create a more relaxed, playful atmosphere for learning the vocabulary in which they have multiple chances to succeed. This perception can help to lower risk and apprehension in students and also to give them a feeling that Word Engine is different from traditional academic methods of vocabulary learning.

“I learned words efficiently.” This representative comment shows that students feel that the program is a time-effective way to master new vocabulary. This is especially important because students feel that they are pressed for time because of a combination of academic and extracurricular activities. (See previous comments in the Comments Concerning Use section.) Giving them yet one more thing to do in the form of a self-study program would be pointless if they felt it was a waste of their time.

Comment Summary and Addressing the Problems

We can see from the previous comments that the attitude

towards Word Engine is positive but with some very serious issues concerning time constraints and the ability to use smart phones or other devices as alternatives to the college computers which students criticize as slow to start up and time consuming.

To address the first problem students should be taught how to create a schedule and how to budget their time effectively. This is a very important skill for student life and for their lives in the working world.

The second problem can be addressed by getting specific information on which combination of smart phones or mobile devices and software capabilities work best with Word Engine. A list could then be generated in order to orient students at the beginning of the program.

Recommendations and Further Areas of Inquiry

This research shows that students made improvements in their vocabulary as measured with a pre-, mid-, post-test system. Any related data from the survey must be looked at with a skeptical eye due to the absence of strong statistical trends. Continued study of the Word Engine program is called for, as is a revised survey along with alternative feedback techniques such as learning logs and interviews to better measure the students' attitudes and perceptions of Word Engine. Further avenues of study should include student motivation to use Word Engine, the effects of instantaneous feedback from the software on students, and time on task versus amount of

new vocabulary acquired. In addition to this, the effects of *gamification* of learning software on motivation in learning and achievement levels for our modern wired and socially networked students is another cutting edge and interesting avenue of research, which may lead to results that are especially “important for developing 21st century skills” (Lee, J. J. & J. Hammer, 2011).

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Resources

- Corcoran, E. (2010). Gaming education. *O’Reilly Radar*, 27 October 2010. Retrieved January 8, 2012 from <http://radar.oreilly.com/2010/10/gaming-education.html>
- Edwards, C. (1994). A study on students’ perceived EFL needs. *Hokkaido Musashi Women’s Junior College Memoirs*, No.26, 67-111.
- Edwards, C., J. Halvorsen, K. Hayasaka, M. Horiuchi, S. Kobayashi, D. A. Sato, S. Yonesaka, and M. Yoshida. (1994). A study on EFL needs of students in private colleges in Hokkaido. Unpublished report. Hokkaido Prefectural Government, Sapporo, Japan.

- Edwards, C. (2009). Effect of integrated focused vocabulary instruction. *Hokkaido Musashi Women's Junior College Memoirs*, No. 41, 25-51.
- EIKEN. (2011). Society for Testing English Proficiency. Retrieved February 15, 2011 from <http://stepeiken.org>
- Freedman, D., R. Pisani, and R. Purves. (1980). *Statistics*. New York: Norton.
- Huff, D. (1993). *How to Lie With Statistics*. New York: Norton.
- Lee, J. J. and J. Hammer (2011). Gamification in Education: What, How, Why Bother? *Academic Exchange Quarterly*, 15(2). Retrieved January 8, 2012 from <http://www.gamifyingeducation.org/files/Lee-Hammer-AEQ-2011.pdf>
- Nation, I. S. P. (1991). *Learning Vocabulary in Another Language*. Cambridge: Cambridge University Press.
- Word Engine. (2011). Retrieved from <http://www.wordengine.jp>
- Yonesaka, S. (1994). An analysis of first-year students' perceptions of their EFL needs. *Hokkai Gakuen University Studies in Culture*, No. 2. 87-121.

APPENDIX A WERE Vocabulary Test

There are 50 problems. Fill in the blanks to complete the sentences.

Write the number of your choice on the line on the Answer Sheet.

(1) Before the students got on the bus, the teacher () them to make sure that everyone was there.

1 counted 2 shared 3 introduced 4 rented

(2) Chocolate sales are () because it is almost Valentine's Day.

1 picking 2 following 3 throwing 4 increasing

(3) When all the passengers were () the plane, the flight attendants closed the doors, and the plane started moving.

1 with luck 2 by heart 3 in detail 4 on board

(4) Jim () gets a chance to eat out, so he was excited when his parents took him to a French restaurant for his birthday.

1 bravely 2 rarely 3 frankly 4 precisely

(5) The student government () the question for many hours before finally making a decision.

1 debated 2 required 3 lectured 4 trusted

(6) At first, Debbie's parents did not want her to travel to Turkey, but eventually she () them that it would be a good experience for her.

1 examined 2 convinced 3 restricted 4 substituted

(7) The ocean always reminds William () his childhood, when he played on the beach nearly every day.

- 1 upon 2 from 3 of 4 through

(8) The train () Oxford from London was delayed for over an hour because of the heavy snow.

- 1 bound for 2 due to 3 made for 4 owing to

(9) Jill is having a party Saturday because she wants to show () her new apartment to her friends.

- 1 up 2 away 3 off 4 over

(10) Some of the scenes in the movie were very violent, so Dan put his hands () his daughter's eyes.

- 1 off 2 over 3 between 4 from

(11) I watch the news every night to keep () with world events.

- 1 up 2 to 3 on 4 out

(12) Last Saturday, Mrs. Kikuchi talked to her children about what they should do during an () such as a fire or a big earthquake.

- 1 emergency 2 agreement 3 organization 4 instruction

(13) Joseph's doctor told him that he needed more (), so he decided to take a walk every day and swim on weekends.

- 1 garbage 2 safety 3 exercise 4 imagination

- (14) Seth found the roller coaster ride so () that as soon as it was over, he decided to go on it again.
1 serious 2 thrilling 3 fragile 4 mature
- (15) Even though Ken is very busy in Tokyo, he tries to () time every month to phone his parents in Hokkaido.
1 move 2 keep 3 make 4 start
- (16) Because of financial difficulties, the company had to lay () 10 percent of its employees in order to save money.
1 out 2 off 3 around 4 down
- (17) The committee turned () my suggestion for moving to a larger office because they said it would be too expensive.
1 up 2 out 3 down 4 off
- (18) We decided to have a surprise party for Kevin's birthday, so we () his apartment while he was away at work.
1 fulfilled 2 contained 3 rejected 4 decorated
- (19) In () of the rain, Bill and Brian decided to continue playing golf.
1 front 2 spite 3 part 4 charge
- (20) The department store didn't have a very good () of swimming suits, so Bridget went to a sporting goods store to choose one.

1 method 2 process 3 interview 4 selection

(21) Sarah couldn't sleep well because the neighbor's dog was () all night.

1 waving 2 cheering 3 barking 4 trading

(22) Children should study, but it is important for their health that they also take part in () activities such as sports.

1 miniature 2 physical 3 thoughtful 4 financial

(23) When the company announced that it would () production of cars at the factory, the workers knew that they would all soon lose their jobs.

1 solve 2 polish 3 cease 4 heal

(24) The two men formed such a close () while they served together in the army that they continued to meet regularly for the rest of their lives.

1 bond 2 chip 3 trial 4 layer

(25) Everybody on the team () to Sandra because she both plays well and spends a lot of time helping the beginners.

1 comes down 2 looks up 3 jumps up 4 stands out

(26) After taking care of the lion for two months while it was sick, the zoo decided to () it back into the wild.

1 eliminate 2 qualify 3 solve 4 release

- (27) When Justin agreed to () the database project, he never guessed that it would take over three years to complete.
1 endanger 2 undertake 3 annoy 4 reflect
- (28) Betty thought that James was (), but then she found out that he had told her secret to the whole class.
1 punctual 2 talkative 3 trustworthy 4 seasonal
- (29) As is often the () with people who are good at music, Jim is good at math, too.
1 case 2 edge 3 part 4 start
- (30) The signs in the swimming pool changing room tell people to put their () in the lockers to keep them safe.
1 opportunities 2 candidates 3 forecasts 4 possessions
- (31) Some traffic lights in the town of Brookfield stopped working during the snowstorm, so police officers went out to () the traffic.
1 extend 2 direct 3 gather 4 cure
- (32) Jack is worried about his big wrestling match tomorrow because his () is the top wrestler in the state.
1 opponent 2 companion 3 technician 4 developer
- (33) Tony has never gotten along with his girlfriend's parents, so there is always a lot of () when he visits their home.

1 tension 2 confidence 3 debt 4 justice

(34) The speaker at the business seminar said that one of the () of a good leader was the ability to make decisions quickly.

1 experiments 2 frontiers 3 networks 4 characteristics

(35) The boss called his employees into his office one at a () so that he could discuss their recent work with them.

1 mod 2 time 3 stock 4 choice

(36) After he started to live (), Ethan realized how much his mother used to look after him.

1 repeatedly 2 possibly 3 independently 4 restlessly

(37) James studied hard at college so he could become a top lawyer and () lots of money.

1 serve 2 fix 3 design 4 earn

(38) When Josephine had her hair cut short, a lot of her classmates didn't () her at first.

1 recognize 2 influence 3 educate 4 entertain

(39) When Mr. Jenkins retired, the president thanked him for the great () he had made to the company over the years.

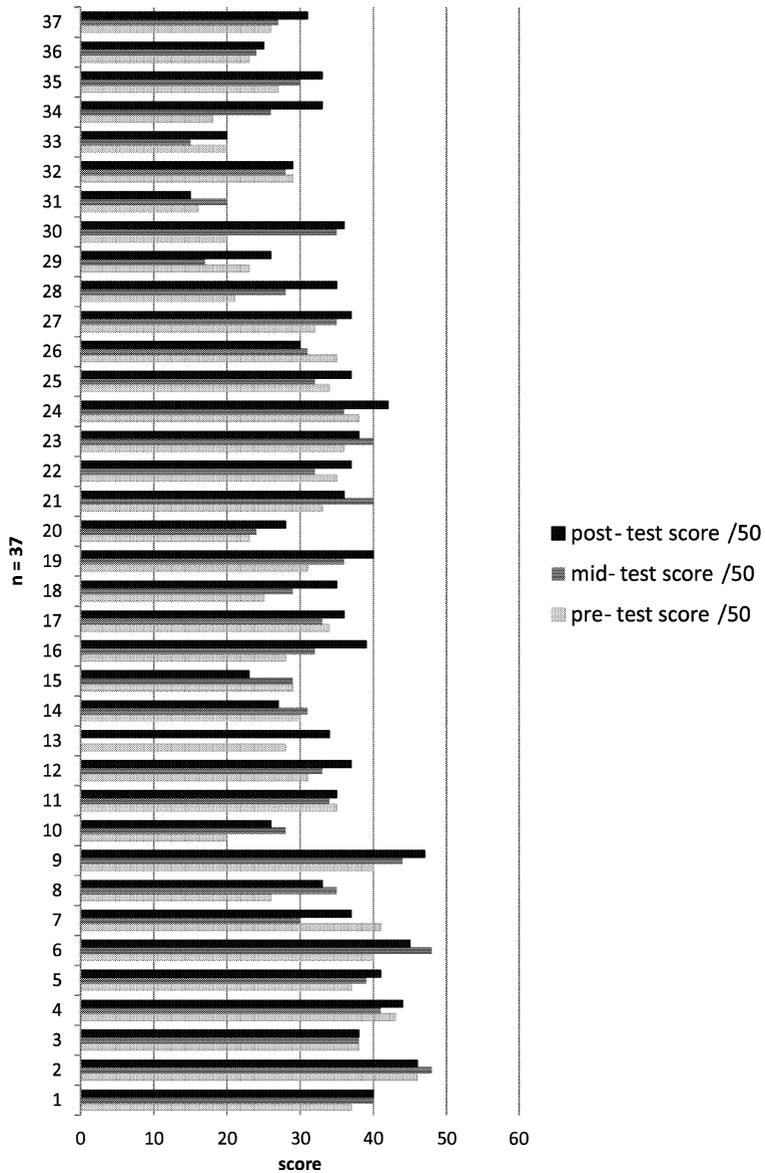
1 judgment 2 hesitation 3 confidence 4 contribution

(40) Ronda works for a travel magazine. She has written many

- () about interesting places in the world.
1 victories 2 articles 3 licenses 4 statues
- (41) Sharon lives in a big city, but she loves (). On weekends, she often goes bird watching in the countryside.
1 truth 2 strength 3 nature 4 attention
- (42) There aren't many hills near Rachel's house, so it is very easy for her to ride her bicycle. It is a very () area.
1 wild 2 loud 3 flat 4 deep
- (43) When Marcy saw a spider in the bathroom, she () loudly. Everyone in the house heard her.
1 failed 2 trusted 3 screamed 4 wondered
- (44) Janice felt very () before her concert, but she relaxed once she started singing.
1 nervous 2 polite 3 powerful 4 honest
- (45) My grandparents got married in 1959. Today, we had a big party for their fiftieth ().
1 reservation 2 graduation 3 anniversary 4 discovery
- (46) Customers at the coffee shop like Cathy because she always welcomes them () and has a smile on her face.
1 nearly 2 secretly 3 thinly 4 cheerfully

- (47) When George Smith's first novel was () in 2005, it was very popular. Over 100,000 copies were sold in the first month.
1 employed 2 published 3 obeyed 4 melted
- (48) () John was tired, he stayed up late to study for his math test. He really wanted to get a good grade.
1 Since 2 But 3 Although 4 Either
- (49) Different countries have different (). For example, people take off their shoes before entering their homes in Japan.
1 examinations 2 messages 3 products 4 customs
- (50) Pete was () very badly during French class. His teacher told him that if he didn't stop talking, she would call his mother.
1 escaping 2 behaving 3 repeating 4 breathing

APPENDIX B Individual Pre-, Mid-, Post-Test Scores



APPENDIX C WORD ENGINE SURVEY December 2011

Please use this rating for your responses for questions 1-21. Please say if you disagree or agree to the statements. Circle the number. THANK YOU for your cooperation.

*Only students who took *Eiken* or TOEIC answer these questions.

1	2	3	4	5	6
strongly disagree	disagree	somewhat disagree	somewhat agree	agree	strongly agree

(Average)

1.(3.6) I like to use Word Engine (WE).

ワードエンジンを使うのが好きです。

1	2	3	4	5	6
---	---	---	---	---	---

2.(3.6) The more I used WE, the easier it was to use.

ワードエンジンを使えば使うほど、サイトを使うのが楽になった。

1	2	3	4	5	6
---	---	---	---	---	---

3.(3.7) This way of learning vocabulary suits me.

この方法で単語を勉強するのが自分には合っている。

1	2	3	4	5	6
---	---	---	---	---	---

4.(3.6) 10 minutes a day was long enough for me to study vocabulary.

一日10分のボキャブラリーの勉強は自分にとって十分だった。

1	2	3	4	5	6
---	---	---	---	---	---

5.(3.0) There are better ways of learning vocabulary other than WE.

ワードエンジンよりも良い単語を勉強する方法を知っている。

1 2 3 4 5 6

6.(3.0) WE vocabulary was too difficult for me.

学んだ単語は難しすぎた。

1 2 3 4 5 6

7.(3.6) Knowing my ranking helped to motivate me.

自分の順位を知ることでモチベーションにつながった。

1 2 3 4 5 6

8.(3.5) I am satisfied with the number of words I learned.

学んだ単語の数に満足している。

1 2 3 4 5 6

9.(3.5) I could feel that I was improving because I could see how many words I had learned.

学んだ単語の数から、自分は英語が上達したと感じた。

1 2 3 4 5 6

10.(3.2) Learning vocabulary with WE helped me speak and understand more in my speaking classes.

ワードエンジンを使ってボキャブラリーを勉強することで、他のクラスで英語をもっと話せるようになり理解できるようになった。

1 2 3 4 5 6

11.(3.4) Learning vocabulary with WE helped me to read and understand more in my other English classes.

ワードエンジンを使ってボキャブラリーを勉強することで、他のクラスで英語をもっと読めるようになり理解できるようになった。

1 2 3 4 5 6

*12.(3.4) On the *Eiken* or TOEIC, I saw words that I studied in WE.

ワードエンジンで知った単語が英検もしくは TOEIC に出た。

1 2 3 4 5 6

*13.(3.6) Word Engine helped me on the *Eiken* or TOEIC.

ワードエンジンは英検もしくは TOEIC を受けるための助けになった。

1 2 3 4 5 6

*14.(3.4) Because of WE, I was more confident when I took the *Eiken* or TOEIC this time.

ワードエンジンのおかげで、前回よりも英検もしくは TOEIC を受ける自信がついた。

1 2 3 4 5 6

15.(3.0) If vocabulary study with WE were not part of my class grade, I would not use it.

ボキャブラリー勉強に成績がつかないのであれば、ワードエン

ジンは使おうと思わない。

1 2 3 4 5 6

16.(2.9) I needed more instructions and support from my teacher.

先生からの説明やサポートがもっとほしかった。

1 2 3 4 5 6

17.(4.1) I wanted to use class time to use WE.

授業中にワードエンジン使いたかった。

1 2 3 4 5 6

18.(3.3) The study record helped me to remember to use WE.

履歴がワードエンジンを進んで使う助けになった。

1 2 3 4 5 6

19.(3.8) I will continue to study vocabulary until the end of WE contract year.

ワードエンジンの一年契約が切れるまで、ワードエンジンを使い続けたい。

1 2 3 4 5 6

20.(3.2) I feel that I used WE effectively.

ワードエンジンを有効的に使ったと感じます。

1 2 3 4 5 6

21.(3.1) I feel that I used WE enough.

ワードエンジンを十分に使ったと感じます。

APPENDIX D Feedback comments from students

Survey Item 25. What did you like best about WE?

ワードエンジンについて一番よかったことは？

How they used WE:

1. What I like best is that I can use it on my cell phone.
2. I decided to do the vocabulary study at home.
家で単語を学習するきっかけになった。
3. I got a sense of the definitions without using a dictionary.
辞書が使わなくてもなんとなく意味が分かった。
4. I could work on it anytime at home.
家でパソコンからいつでもできるところ。
5. I could work on it at home.
家でもできたところ。
6. I only needed to study for ten minutes.
10分だけ勉強すれば良いところ。

How WE helped them learn:

1. It's very simple.
2. I could learn a lot of vocabulary in many ways.
3. The vocabulary stayed with me because the same words appear repeatedly.
4. WE gives hints when you don't know the word.
わからないときにヒントが出ること。
5. We can learn [the same] words many times.
6. Since the words repeat and I could review them, I learned the

words well.

何度も同じ単語が出て復習することで、確実に覚えられたとこ。

7. I learned that there is a different way to study vocabulary.
今までとちがう方法で英語を学べるんだと知れたこと。
8. There's no need to open a book.
教科書を開く必要がない。
9. The words that I didn't get right appeared multiple times, which helped to learn the words.
知らなかった単語をくり返し出題してくれるので何回もしてくうちに覚えるようになる。
10. You can repeat the words that you get wrong.
間違った単語を繰り返しできること。
11. The words keep appearing until you master them.
マスターするまで単語が出続けるところ。
12. It helped me learn because there were many words that I hadn't learned before, and the same words appeared but with different meanings and contexts.
知らない単語や、同じ単語で違う意味の単語が多く出てきたので勉強になったこと。

Attitudes toward WE:

1. It's fun.
楽しくできる。
2. Before I knew it, I had learned new words.
3. It is a way of learning that suits me.
自分にあってる勉強法だったこと。
4. I was encouraged to study with WE when I could see my ranking.

順位が出るので、向上心が出た。

5. I enjoyed learning with WE.
6. I could learn with ease.
気軽に勉強できた。
7. You can learn words as if you're playing a game.
ゲーム感覚で単語の勉強が出来る。
8. I think my vocabulary increased a bit. It was fun because it was like playing games.
少しは単語力がついたと思います。あとパソコンでゲーム形式みたいで楽しかったです。
9. I learned words efficiently.
単語を効率的に覚えられたこと。
10. Game is exciting!!
11. Skill up!! I like Sound Bubble.

Learning content:

1. I learned new words and alternate meanings of words.
2. I could link the words to their pronunciations and learn.
単語と発音がリンクして覚えられた。
3. While I was learning the words, at the same time I could listen to the correct pronunciation.
単語を覚えるのと同時に正しい発音を聞くことができる。
4. I learned many different words.
5. My knowledge of vocabulary and idioms has increased from before.
今までよりも、単語や熟語の語い力が上がった。

Pertinence to other study situations:

1. The words in WE also appeared in Basic (Skills class) and complemented what was presented in class.

Basic 授業内容にワードエンジンで学習した単語がでてきて役立っていると感じた。

2. The words I learned on WE appeared on the *Eiken*.

ここで学んだ単語が英検に出たこと。

3. I was able to understand the words from WE on the TOEIC practice test.

出てきた単語が TOEIC の練習問題で理解できた。

Survey Item 26. What did you like least about WE?

ワードエンジンについて一番悪かったことは？

Computer related:

1. Accessing the site every day was troublesome.

毎日アクセスするのがめんどろ。

2. I couldn't study without a computer.

3. It takes too long to open and get it going.

開くまでに面倒なこと。

4. I had to spend more time in front of a computer.

パソコンに向かう時間が多くなってしまった。

Phone related:

1. I couldn't use it on my mobile phone.

2. I couldn't use it on my iPhone.

iPhone からできなかった。

3. I couldn't use my cell phone at all.
4. When I used my iPod Touch, the response was slow.
iPod Touch でやった時、反応が悪かった。
5. I wanted to use my cell phone but I didn't know how.
携帯電話でやりたかったけどやり方が分からなかった。

Study requirements/ Evaluation:

1. Can't keep up/continue.
継続できない。
2. I can't do everyday.
3. I didn't like the evaluation based on time rather than on the number of words learned.
単語数ではなく時間だけが成績に入ること。
4. Using WORD ENGINE affects our class grade.
5. If you don't study everyday, the words to learn accumulate too much.
毎日ちゃんとやらないと復習単語がたまりすぎる。

WE program related:

1. The number of review words is so large that I can't study new words.
復習単語の数が急に多くなる時があつて、やる気がなくなったこと。
2. Even if you get it right, it doesn't mean you master the word, and if you do it at home the data occasionally got lost and the website froze.
せっかくやってもマスターした単語にならないし、家でやるとたま

にデータ飛んだり、フリーズしたりしたところ。

3. The period between moving from each box to box was long.

The meaning of the coach?

Box 移動の間が長い。コーチの意味

4. You have to repeat all over if you get a word wrong.

単語を間違えるとまた最初からやり直しになること。

5. I heard it was only going to take 10 minutes a day, but actually you have to work longer to get new words. Sometimes it took more than 30 minutes.

一日の勉強が10分と聞いていたのに、実際、もっとやらないと新しい単語にいけない。30分以上かかる時もあった。

Study content:

1. It was not very useful.

あまり役に立たなかったこと。

2. There were simply too many words (even if I used it everyday).

単語数が莫大に出てきた。(毎日やっても)

3. It was too easy for me.

Time constraints:

1. I didn't have much free time so I had few chances to use the computer.

パソコンを使う機会が少なかったので開く時間がなかった。

2. I don't have a computer at home, and I didn't have open time so I can't use a computer.

パソコンが家になし、空き講時も少なかったので、パソコンを使うことができない。使いづらい。

3. Since you can only use it on a computer, it'd be tough for those without one to balance work from other courses and club activities.

PCでしかできないので、家にPCがない人は他の科目や部活との両立が難しいと思った。

4. I didn't have much free time to use it.
5. Tired.

APPENDIX E Sample My Page

Word Engine

1日10分。ハイスピード英単語学習システム。

English 日本語
 ホーム 英単語力測定 ワードエンジンのしくみ よくある質問 ユーザーの声
 Welcome
 マイページ V-Check レポート ログアウト

マイページ
マイワード
設定

Today's Quotation
 "Women hold up half the sky."
 Mao Tse-Tung (1893-1976)

Sent by Billie T. 2012.01.30 22:10

英単語コース

学習中のコース	現在のカバレッジ	知っている単語数	学習回数	マスターした単語数	トータル	学習時間	一日平均
英検英単語 3552 語	96.85%	3046	344	1960	57 期間 35 分	19 分 51 秒	学習する
無料お試しコース 100 語	68.98%	27	12	0	10 分 42 秒	10 分 42 秒	無料お試し

英単語コース一覧
自分の適性や進捗をマスターできます。好きなコースを選びましょう！

- TOEIC TOEIC英単語 6480 語
- TOEFL TOEFL英単語 7501 語
- IELTS IELTS英単語 5879 語
- 大学入試対策英単語 7435 語
- ビジネス英単語 8743 語
- アドベンス英単語 11869 語
- ペーパード英単語 8000 語

学習進捗詳細: 英検英単語

英検英単語 無料お試しコース

学習目標

今日のノルマ

復習単語: 0 / 303

新しい単語: 0 / 8

第一目標: 全ての単語を見る
目標終了日: 2012/03/31 変更

最終目標: 全ての単語をマスター
達成までの日数: 第一目標達成後に表示。

学習マラソン

マスターした単語: 1960 覚えた単語: 2304 ターゲットより 216語 遅れています

単語ボックスの状況

出発待ち: 303 スタート 1日目 3日目 10日目 30日目 90日目

熟成中: 41 最初の出題 1度目の復習 2度目の復習 3度目の復習 4度目の復習 5度目の復習

ミスした単語 134 マスターした単語 1960

カバレッジ

0% 80% 95% 99%

ランキング

順位 名前 目

1 takashi64 15057

2 doors 13527

3 coffeetime 9088

648 obara 211

650 lapis lazuli 210

650 yumi 210

650 hockey21 210

650 Katsura 210

654 L 209

654 sengoku48 209

(source: Word Engine, 2011)