

## Improving Online Reading and Vocabulary Development

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### Abstract

The aim of this study was to find ways to improve online reading and vocabulary learning. Various new types of online reading comprehension and vocabulary development programs and tests were compared in this study to consider how useful they may be for guiding individual or classroom L2 vocabulary instruction. It explored how these programs seek to test and teach new L2 vocabulary learning and reading comprehension strategies more innovatively and accurately. Several programs are reviewed, compared and combined within a comprehensive, recycling model of second language acquisition (SLA), in an attempt to help maximize effectiveness in teaching and testing these areas. Using online reading labs and vocabulary learning programs found at this researcher's site (under Reading, Vocabulary and Word Lists sections), the author's graduate courses for engineers aim to improve access to authentic general and technical English articles organized online at <http://www.call4all.us//home/all.php?fi=g>. We also aim to provide them with more true and complete versions of historical events than may be presented in most national texts. These online reading courses also teach Japanese college students how to use many vocabulary and language learning web tools and programs that can make their online reading of English articles written at any level much more effective and enjoyable by making them more accessible and comprehensible.

### INTRODUCTION

Learners from non-European language backgrounds are at a particular disadvantage when trying to learn English or other European languages, since they have no cognates (outside of borrowed, imported words) to assist them in making relevant connections. This study examined several online programs now available to help all language learners, which can be of particular help to East Asian learners who want to reach higher levels of vocabulary and reading proficiency as rapidly as possible. We show students how to use WordChamp.com for improving their vocabulary learning and comprehension of any

online reading, by using it for pre-reading or after-reading vocabulary development exercises or to obtain and save bilingual glosses while reading any document online.

## LITERATURE REVIEW

Based on general findings by various reading researchers, Grabe (1991) developed some useful guidelines for reading programs, which need modifications for ideal use in second or foreign language situations, especially when computer assisted language learning is being used (Grabe, 2000), as is the case in the graduate engineering classes discussed in this study. As Rosszell (2006) has written, “ER+ is proposed as a more effective alternative to ER, and one which enabled learners to outperform a control group on measures of vocabulary knowledge and use” (Rosszell, 2003). This means that Extensive Reading plus supplemental practice exercises and strategy training is more effective than free-reading alone for developing these skills. But both teachers and students need clear guidance in how to analyze any scanned or online text into programs that can analyze and help them focus on most essential, high-frequency vocabulary that they need to learn to comprehend that target text as well as for improving their general language proficiency.

## METHOD

Teachers and students are shown how to use Vocab Profiler and Academic Word List Profiler to do a quick corpus analysis of any online reading texts, such as this sample one about Pearl Harbor. Then they are shown how to focus on more difficult vocabulary in three ways, using these two programs and WordChamp.com (see Burston, 2007) for making online flashcards, quizzes and collaborative conversations.

Using Vocab Profiler's excellent color-coding text analysis engine, the target text Pearl Harbor Story was inputted, resulting in a page menu partly shown in Table 1, by which one can jump from the inputted text to Home, Tokens, Types or Families lists at any time. Processing speed to get all the large amount of linguistic data shown in Table 1 was only 1.45 seconds. This high speed corpus analysis was able to be accomplished since processing speeds at this site were increased by a 300% speed up on January 6, 2006—truly bordering on amazing or seemingly miraculous technology.

**Participants and Procedure:** 45 Graduate students (43 males, 2 females) at a national university in Kyushu do Free/Extensive Reading using this and many such online Reading Labs during a one-semester, 90' weekly course. To help maximize their comprehension, enjoyment and effectiveness of online reading texts and activities, it is greatly to the teacher's and learners' advantage to be able to add such features as Text-to-Speech for Listening support (often called Extensive Reading and Listening); Instant Glossing (Using WordChamp or Rikai.com, etc); and Vocabulary Auto-Archiving features which both of these programs have, for later review at their own leisurely pace without distracting them from reading enjoyment. Example Firearms Article via WordChamp and <http://www.geocities.com/yamataro670/readinglab.htm> articles.

Listening-Viewing Activity: View and Discuss Movie: "Bowling for Columbine."

## RESULTS OF USING ENGLISH VOCABULARY PROFILERS

Table 1 shows the kind of table generated by the Vocab Profiler site for our target story, showing number of word Families, Types and Tokens and their percentage of the target text. Much linguistic information is included in such summary charts, as that shown in Table 1. Other linguistic data important to note and summarize here can be edited from

an excellent function provided by Tom Cobb's Vocab Profiler site (at author's site, R Page, or at <http://www.lex tutor.ca/vp/eng/>) called "Edit/print-friendly table."

Additionally, AWL words are also broken out into ten Academic Word Sub-lists.

It is important to note from these results shown in Table 1 that while this story is reported to have only about 3% (2.68%) AWL words, 15.05% of the text are off-list words which must be known to comprehend the story or read it fluently with adequate understanding. Since no more than 1 in 20 running words or 5% should ideally be unknown even for native readers (Ekwall, 1976), encountering these close to 18% yet unknown AWL and Off-List Words would make even this short article incomprehensible or frustrating for a majority of Japanese college students. Most undergraduates possess an average of only about 2,500 words, with graduates averaging about 3,500 words known, among those thousands studied repeatedly at seven colleges over ten years by the author.

**Table 1: Linguistic Analysis of Pearl Harbor Target Text by Vocab Profiler**

	<u>Families</u>	<u>Types</u>	<u>Tokens</u>	<u>Percent</u>
K1 Words (1 to 1000):	326	407	1260	76.78%
Function:	...	...	(766)	(46.68%)
Content:	...	...	(494)	(30.10%)
> Anglo-Sax	...	...	(253)	(15.42%)
=Not Greco-Lat/Fr Cog:	...	...		
K2 Words (1001 to 2000):	52	60	90	5.48%
> Anglo-Sax:	...	...	(21)	(1.28%)
AWL Words (academic):	40	41	44	2.68%
Off-List Words:	<u>?</u>	<u>172</u>	<u>247</u>	<u>15.05%</u>
	418+?	680	1641	100%

Alternatively, one may use the AWL Highlighter, found at <http://www.nottingham.ac.uk/~alzsh3/acvocab/awlhighlighter.htm>, to work on

vocabulary found in the Academic Word List, but this has only 570 words (Coxhead, 2000). Thus off-list words needed by students would not be covered here, making the Vocab Profiler a much more versatile instrument, especially once learners have mastered these AWL terms. As an example, when inputting our target Pearl Harbor Story text into it, CAVE allows one to choose which of the AWL Sub-lists to scan for. At the highest level 10, 35 words were highlighted by this vocabulary search engine.

The advantages of using CAVE first are that it is more narrowly focused just on helping one to identify AWL terms needed by sub-lists, without distracting users by any other linguistic data, many of whom would be overwhelmed by Vocab Profiler's excessive data (explained at <http://www.nottingham.ac.uk/~alzsh3/acvocab/index.htm>). To summarize that website and the use of this AWL or CAVE (core academic vocabulary) vocabulary analyzer, one can use [the AWL Gapmaker](#) to create vocabulary tests since this online program will replace words from the AWL with a gap. Learners should try to fill the gaps, then check their work by using the highlighted text. In this way they may expand their knowledge of core academic vocabulary.

To create the AWL, Coxhead (2000) first of all made a corpus or computerized collection of over 400 written academic texts, equaling about 3.5 million words in total. Coxhead used a range of different types of texts: journal articles, www articles and university textbooks, covering 28 different subject areas from 4 disciplines: arts, commerce, law and science. She counted how frequently and how widely different words were used. She then selected the core academic vocabulary. She included on the list only the words which appeared at least 100 times in the corpus as a whole and at least ten times in each of the four disciplines. A word that was found frequently in law texts but

rarely in science texts, for example, was not included. As a result, the 570 words on the Academic Word List (AWL) are valuable for all students preparing for academic study, whether they are planning to follow a course in Medicine, Computer Systems Engineering, Architecture or European Law. If you are planning to continue your studies in English, this list will help you.

These most essential core academic words are divided into 10 sub-lists according to frequency. Sub-list 1 words are the most frequent, and Sub-list 10 the least frequent academic words. All 507 AWL words may be found at <http://language.massey.ac.nz/staff/awl/awlinfo.shtml> or at <http://www.cict.co.uk/software/gvd/awl.htm> . The author's site explains these.

Foreign language learners may now read any online English text with instant glossing in Japanese or Spanish using *Rikai.com* (or from Chinese or Japanese into English). Even better than that, now one may get instant glossing in about 43 languages using *WordChamp.com*, which is directly accessible from any page of the author's Virtual Language Learning Encyclopedia at [www.CALL4ALL.us](http://www.CALL4ALL.us) . Since Rikai works in both directions, it is highly recommended to help maximize access to online language learning for Chinese and Japanese learners of English. By providing instant bilingual, bidirectional access to glossing in L1 or L2, Rikai is a quick fully bilingualized glossing engine for any website or inputted article for these two major languages of East Asia. Only Korean is not provided, unfortunately.

Students' overall productive vocabulary growth becomes easy to assess for themselves using a bilingual Vocabulary Knowledge Scale (VKS), such as this writer's VKS (Loucky, 2005a) found at [http://www.call4all.us//home/\\_all.php?fi=../misc/forms](http://www.call4all.us//home/_all.php?fi=../misc/forms),

since they can easily measure words that pass into particular states/stages of either receptive recognition or productive recall and use. In helping language learners to construct and follow such an easily-rated and prioritized plan, one is helping each student to plan for more efficient L2 vocabulary development by reducing their cognitive load. They can then work towards the development of more fluent productive skills starting with more familiar words, and then moving naturally to those less familiar to them.

While use of computerized corpora-generated frequency lists is helpful, they cannot predict how well specific words are known by any particular student anywhere in the world. However, using a well-administered, bilingual Vocabulary Knowledge Scale, especially along with some of these online testing and computerized management system (CMS) instruments (like that of WordChamp shown here), can help us to better individually evaluate and instruct each learner regardless of their language background.

## DISCUSSION AND PEDAGOGICAL IMPLICATIONS

Lexicographers and language teachers are in agreement that not only fully bilingualized dictionaries of all types are needed to assist language learners in developing both receptive and productive vocabulary knowledge, but also lexicons that have organized networks showing word relations and associations. The author developed such a lexical database and online course using the Semantic Field Keyword Approach for 9 academic disciplines, making it computerized, productively-based and bilingualized for Japanese-English learners. This model and lexical network of associations may be followed by teachers and learners of other languages to more rapidly build vocabulary

levels and skills to higher levels. It is located at <http://www.call4all.us/misc/sfka.php>, covering essential common core vocabulary for nine academic disciplines.

## CONCLUSIONS

These various vocabulary development programs and tests have been presented in this and previous studies, and their different stages of development and pedagogical use demonstrated. How useful they are in guiding individual or classroom vocabulary instruction has been compared, especially by showing tests of these programs with various groups of intermediate to advanced high school and college learners in Japan. By combining these different online and paper test instruments we have been able to get a much more holistic picture of many of the most important aspects of lexical processing strategies and acquisition behaviors of these undergraduate and graduate students tested from several East Asian backgrounds. (See Loucky, 2005c for online program details.)

In the future since vocabulary and language development are such multi-faceted complex processes having many interrelated functions, a combination of instruments should be used, both online and in classes, as well as individual portfolio assessment and strategy use protocol interviews in order to get a fuller view of individual language learner's development thereof. From these initial studies one can surely say that a socially interactive bilingual, computerized Semantic Field Keyword Approach to SLVA is definitely an approach with a lot of potential in need of further research. While results may not be generalizable to lower level learners, surely they are comparable across time in similar settings with adult learners like those we have repeatedly tested (Loucky, 1997; 2003; 2006) at upper intermediate levels of English proficiency. Many of these have mastered most General Service vocabulary, but still lack much essential core academic



vocabulary and beyond needed for becoming truly fluent, independent readers or listeners. Other teachers and researchers are welcome to try any of these vocabulary learning programs or to replicate and revise any of these test instruments, which will only serve to further confirm their validity and reliability as they generate more consistent results for similar language learning populations over time.

## RESEARCH RECOMMENDATIONS

A user-friendly, practical Vocabulary Knowledge Scale (VKS) called the Dual Assessment Vocabulary Instructor-Evaluator (DAVIE for short) form has been put online on the author's site at: <http://www.call4all.us//home/all.php?fi=../misc/forms>, along with links to all the other vocabulary assessment instruments mentioned in this study. The next logical step would be to incorporate these into an online testing and instruction program, one which aims to help learners deepen as well as broaden their L2 vocabulary to help them improve both their receptive recognition and their active production of new target terms. The best approach to get a sufficiently holistic, multifaceted view of the “elephant” of SLVA would be to use a combination of learner feedback protocols and surveys, as well as online instructional and testing instruments--such as those provided and shown here from WordChamp, the Semantic Field Keyword Approach and others found at this researcher's site (under Reading, Vocabulary and Word Lists sections).

Just as Huang (2006) constructed a program to help Taiwanese learners develop various essential reading comprehension strategies (outlined in Loucky, 2005b), a similar online program guiding students' learning and practice in using major lexical processing phases is needed. By integrating use of all of the above programs and online test

instruments as is being done at this researcher's website, an optimal solution may be found for helping learners to better maximize their foreign language vocabulary and language acquisition. Future promising areas for profitable in-class research include:

A. Collaborative online vocabulary and language learning; B. Collaborative online learning of grammatical patterns and C. Comparing use of glossing vs. translation sites.

These and other grammatical and lexical/collocational patterns can be practiced first in class or face to face by those who can meet, and then later online between distant learners. More advanced students can help create files showing successful examples of using new language forms. These can then be uploaded or done online and added to a teacher's online WordChamp files, as we have successfully done with several classes.

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