Second Language Vocabulary Research: 2006

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This is a review article on second language vocabulary research. Articles published in leading international research journals in 2006 are the scope of this investigation. 2006 yielded a number of valuable articles, and in writing the present review, I have broken it down into the following key themes: the effects of various independent variables on second language vocabulary learning, the development of the "Self-Regulating Capacity in Vocabulary Learning" scale, lexical processing in a second language, the number of words needed for unassisted comprehension of written and spoken English, word identification, incidental vocabulary acquisition from extensive reading, inferring the meanings of unknown *kanji* (Chinese character) words, the development of lexical knowledge, lexical network structures, formulaic sequences, and testing vocabulary knowledge.

The Effects of Various Independent Variables on Second Language Vocabulary Learning

The Effects of Three Types of Written Vocabulary Exercise Conditions

Folse (2006) examined the effects of three types of written vocabulary exercise conditions on second language (L2) vocabulary learning. The conditions examined were the following: one fill-in-the-blank exercise (Condition 1), three fill-in-the-blank exercises (Condition 2), and one original-sentence-writing exercise (Condition 3).

The participants of this study were 154 ESL students attending intensive programs at four U.S. universities. All of these programs are designed for international students who plan tertiary academic study in the United States. Students' proficiency levels ranged from lower intermediate (n = 50) to upper intermediate (n = 51) to advanced level (n = 53). Fourteen different native languages were represented, with the largest being Spanish (n = 58), Arabic (n = 22), Japanese (n = 22), and Korean (n = 11) (p. 278).

The results showed that there were statistically significant differences between the means of the three conditions. Specifically, there was a statistically significant difference between Condition 1 (M = 2.18, SD = 2.36) and Condition 2 (M = 4.78, SD = 2.78) as well as between Condition 2 (M = 4.78, SD = 2.78) and Condition 3 (M = 2.39, SD = 2.48). In other words, words learned through the three fill-in-the-blank exercises retained much better than those learned through the other two exercises (i.e., one fill-in-the-blank exercise and one original-sentence-writing exercise). However, the difference between Condition 1 (M = 2.18, SD = 2.36) and Condition 3 (M = 2.39, SD = 2.48) was not statistically significant (pp. 285-286).

In this study, not only the results of significance testing but also the effect sizes of the pairwise comparisons were also reported. To be specific, the effect sizes (Cohen's d) were as follows: Conditions 1 and 2, d = 1.01; Conditions 1 and 3, d = .09; and Conditions 2 and 3, d = .91 (p. 286).

Based on the results of this investigation, the researcher argues that the important feature of a given L2 vocabulary exercise is not depth of word processing but the number of word retrievals required.

In my judgment, this study is an excellent contribution to second language vocabulary research because it made us feel the necessity of reexamining the validity of the depth-of-processing theory. This article would be a valuable text for those who are involved in the teaching and learning of vocabulary.

The Effects of Focus on Form and Focus on Forms Approaches

A study by Laufer (2006) investigated the effects of focus on form (FonF) and focus on forms (FonFs) approaches [1] on second language vocabulary learning.

The participants of the study were 158 high-school learners of English in Israel. At the time of the experiment they were Grade 11 students, and had studied English for seven years. Some were native speakers of Hebrew, and some of Arabic. There were six intact classes. Three of them were assigned to the FonF condition, and the other three to the FonFs condition. In each condition there were 79 participants (pp. 154-155).

This study consists of the following two phases: Phase 1 and Phase 2.

Phase 1 of the study was designed to address the following research question: Will there be a significant difference between FonF and FonFs conditions in the number of unfamiliar words acquired incidentally? The FonF group read a text containing the target words, discussed it in small groups, and answered comprehension questions. The FonFs group studied the target words as discrete items with their meanings and examples of usage. Results indicated that the FonFs group outperformed the FonF group, $t\ (156) = 7.02$, $p < .0001$ (p. 149, pp. 154-158).

The purpose of Phase 2 of the study was to examine how a subsequent intentional learning of the target words would affect the difference found between the two conditions in the incidental learning phase (i.e., Phase 1). All the participants of the two conditions (i.e., FonF and FonFs) received a list of the target words with definitions of meaning, examples of usage, and translations. They were asked to memorize the words and their meanings within 15 minutes for immediate post-tests. The immediate post-tests consisted of both a test of productive vocabulary knowledge and a test of receptive vocabulary knowledge. The obtained data revealed that there were no statistically significant differences between the two conditions. Two weeks later, delayed post-tests were administered to all the participants. The delayed post-tests were the same as the immediate post-tests. The results of the delayed post-tests showed that there were no statistically significant differences between the two conditions (pp. 158-160).

To my knowledge, few studies have been conducted that were designed to compare the effects of FonF and FonFs approaches on second language vocabulary learning. Laufer (2006) tackled this problem in this paper, and she concludes that form-focused instruction—especially FonFs approach—is indispensable for second language vocabulary learning.

The Effects of Stimulus Characteristics and Background Music

In de Groot's (2006) study, she examined the effects of stimulus characteristics and background music on foreign language vocabulary learning and forgetting. To be concrete, as for the stimulus variables, the following three were dealt with: (a) the frequency of native language (L1) words, (b) the concreteness of native language (L1) words, and (c) the phonotactical typicality of foreign language words. The participants of this study were thirty-six first-year psychology students at the University of Amsterdam. All of them were native speakers of Dutch. The materials presented for learning were 64 stimulus pairs, and each pair consisted of a Dutch word and a nonword. That is, in this investigation, a nonword played the role of a foreign language word. The nonwords varied on phonotactical typicality: 32 were phonotactically typical in Dutch and the remaining 32 were phonotactically atypical in Dutch. Let me show you some examples that help explain what “phonotactical typicality” means. The following examples were taken from de Groot (2006, p. 472). For instance, “obfa” is a phonotactically atypical nonword because the “o” in the first position, the “b” in the second position, the “f” in the third position, and the "a" in the fourth position all occur relatively infrequently in Dutch words containing four letters. In contrast, "voje" is a phonotactically typical nonword because the "v" in the first position, the "o" in the second position, the "j" in the third position, and the "e" in the fourth position are all relatively common.

The major findings of this study were as follows. First, more foreign language words with an L1-typical form than with an L1-atypical form were learned. Second, more foreign language words were learned when paired with frequent L1 words than when paired with infrequent L1 words. Third, more foreign language words were learned when paired with concrete L1 words than when paired with abstract L1 words. Fourth, more foreign language words were learned in the music condition than in the silent condition.[2] Fifth, typical foreign language words were less susceptible to forgetting than atypical foreign language words. Sixth, foreign language words paired with frequent L1 words during learning were less susceptible to forgetting than those paired with infrequent L1 words. Seventh, foreign language words paired with concrete L1 words during learning were less susceptible to forgetting than those paired with abstract L1 words. Lastly, in general, the foreign language words that were learned best were the least susceptible to forgetting (p. 488).

The Effect of a Video Project

Sildus (2006) examined the effect of a video project on vocabulary retention. This study was conducted in 19 high schools in the Midwest, the United States of America, during the last two weeks of February and the first week of March 2002. Participants in each school were randomly assigned to either the experimental or control group. The classes were kept intact. The experimental group (n = 142) included 10 schools, and 9 schools represented the control group (n = 130). The study involved a total of 272 high school students in beginning German classes (German 1). On average, the students had been exposed to approximately 100 hours of German language instruction by the time of the study (p. 58).

Based on conversations with the teachers, the topic “clothing” was chosen for the study because it had not been previously taught by the participating instructors. On the first day, the same set of vocabulary words was presented to all students.　Word pairs were exposed for 15 seconds each by means of an overhead projector, pronounced by the teachers, and repeated by the students. All participants' immediate recall of vocabulary was tested right after the vocabulary introduction was completed, without a prior announcement of the test (p. 58).

After that, the experimental groups received instructions on how to prepare video projects (fashion shows).　The teams selected background music, costumes, and makeup.　On the second day, the experimental groups discussed details of the projects, wrote the scripts, and started rehearsing. On the third day, the experimental groups videotaped the projects.　At the end of the period on the third day, the second test was administered to the experimental groups (pp. 58-59).

Meanwhile, on the second and third days of the study, all members of the control groups were involved in selected traditional classroom activities—completing worksheets on the topic “clothing.”　The worksheets included different types of exercises: fill in the blank, matching, putting sentences in correct order, comparison, short response, answering questions, and description exercises.　The second unexpected vocabulary test was administered to the control group at the end of the class period on the third day (p. 59).

The participants' written responses to the test items were evaluated on a 2-point scale for each item, and 30 maximum points were possible.　The main criterion for deducting points was the extent to which the errors prevented understanding of a word, that is, its comprehensibility.　Half a point was deducted for the wrong article and for minor spelling errors (a letter missing, an extra one letter, or two adjoining letters switched).　One point was deducted for major spelling errors involving two or more letters.　Noun capitalization errors and umlaut errors were ignored because they are not equally important for both oral and written communication. When a noun is said out loud, its capitalization in the written form does not interfere with its meaning; the same is true for umlauts, for which alternative ways of spelling are sometimes used (pp. 59-60).

The obtained data were analyzed with a 2 x 2 (Group Type x Time of Testing) analysis of variance (ANOVA), with Time of Testing serving as repeated measures. Besides, to see if there is a difference between the experimental and the control groups on posttest scores (after correcting statistically for differences on pretest scores), an analysis of covariance (ANCOVA) was also employed, with pretest scores serving as the covariate. The results indicated that although both groups improved their performance, the experimental group showed a higher gain in vocabulary recall test scores over time.

Lastly, I would like to say that I am in agreement with Sildus' (2006) comment that "video projects, being interactive in nature, can be instrumental in the process of vocabulary learning" (p. 66). As the researcher puts it, video projects "can be a valuable addition to the currently available options for teachers to consider" (p. 66).

The Effects of Three Vocabulary Learning Methods

Sagarra and Alba (2006) examined the effects of three vocabulary learning methods on second language (L2) vocabulary learning. The methods examined were the following: (a) rote memorization, (b) semantic mapping, and (c) the keyword method.[3]

Rote memorization consists of committing to memory the first language (L1) translation of a new L2 word by rehearsal. Semantic mapping involves the creation of a diagram with L1 words semantically related to the new L2 word. The keyword method involves associating the novel L2 word with an L1 keyword that is acoustically and/or orthographically similar to the L2 word, and then connecting the L1 keyword with the L1 translation of the L2 word (p. 229).

The participants of their study were 778 third-semester L2 learners of Spanish at a large U.S. university. The learning materials consisted of 24 three-syllable Spanish nouns that were of similar frequency of occurrence (low frequency). In addition, they were to have "high levels of concreteness (i.e., directness to sensory experience) and high levels of imageability (i.e., a word's potential to arouse mental images)" (p. 233).

With respect to the assessment materials, the following three were employed: (a) a pretest, which was used to ensure that the participants had not learned any of the target words before the treatment phase; (b) an immediate posttest, which was employed to examine the short-term effect of the vocabulary learning methods; and (c) a three-week delayed posttest, the purpose of which was to examine the long-term effect of the methods (p. 232).

In the cases of both the immediate and delayed posttests, the results showed that among the three vocabulary learning methods, the keyword method yielded the best retention, and that rote memorization of L1-L2 equivalents was more effective than the semantic-mapping method.

It is needless to say that we need to conduct a lot more research before reaching a conclusion regarding the relative effectiveness of the three vocabulary learning methods (i.e., rote memorization, semantic mapping, and the keyword method). However, in my view, this article by Sagarra and Alba (2006) is of great value in that the results of their investigation attracted second language vocabulary researchers' interest in the relative effectiveness of the three vocabulary learning methods.

The Development of the "Self-Regulating Capacity in Vocabulary Learning" Scale

Drawing on the notion of "self-regulation" in the field of educational psychology, Tseng, Dörnyei, and Schmitt (2006) propose a new approach to generating a psychometrically-based measure of second language learners' strategic learning as an alternative to the scales traditionally used to quantify language learning strategy use. The new strategic learning measure, named by Tseng et al.[4] (2006) the "Self-Regulating Capacity in Vocabulary Learning" scale,[5] was developed through the following three phases.

First, Tseng et al. (2006) conducted three focus group interviews to inspire the writing of potential items with a view to improving the quality of an item pool. (For "focus group interviews," see, for example, Krueger & Casey, 2000, and Stewart, Shamdasani, & Rook, 2006.) Each focus group consisted of eight participants, who were all university students in Taiwan, and the interviews were conducted in the participants' L1, i.e., Mandarin. An analysis of the obtained interview data yielded a total of 36 ideas, and the researchers added another nine items based on their review of the relevant literature. This resulted in a total of 45 items on the following five subscales: (a) Commitment Control, 12 items; (b) Metacognitive Control, 8 items; (c) Satiation Control, 8 items; (d) Emotion Control, 9 items; and (e) Environment Control, 8 items. All the questionnaire items involved six-point Likert scales ranging from "strongly disagree" to "strongly agree" (p. 87).

Second, before conducting their main study, Tseng et al. (2006) administered a pilot test. The participants of the pilot study were 192 Taiwanese university students from two universities in Taiwan, including freshmen, sophomores, and juniors. 82 participants were from a private university, and the other 110 participants were from a national university. They were all studying English as a foreign language, and came from a variety of subject backgrounds such as English, business, and education (p. 88).

The obtained data were item-analyzed, and the results showed that four items did not perform well, and thus they were deleted, leaving 41 items (pp. 88-89).

Next, Tseng et al. (2006) conducted an internal consistency reliability analysis to determine the reliability of each subscale. They computed Cronbach

Alpha coefficients for each subscale and then determined which items would form the most coherent scales. As a result, they retained four items per subscale, making a total of twenty items for the final version of the "Self-Regulating Capacity in Vocabulary Learning" scale (SRCvoc). The Cronbach Alpha coefficients for the five subscales were as follows: (a) Commitment Control, 0.81; (b) Metacognitive Control, 0.71; (c) Satiation Control, 0.80; (d) Emotion Control, 0.82; and (e) Environment Control, 0.74 (p. 89).

Third, Tseng et al. (2006) administered the final version of the SRCvoc to a different sample to test whether the reliability of the instrument could be established with a different target group and to check the construct validity of the measure. The participants were 172 Taiwanese senior high school final year students (p. 89).

As in the case of the pilot study, Tseng et al. (2006) conducted an internal consistency reliability analysis against the obtained data. The Cronbach Alpha internal consistency reliability coefficients of the five subscales were as follows: (a) Commitment Control, 0.85; (b) Metacognitive Control, 0.79; (c) Satiation Control, 0.75; (d) Emotion Control, 0.78; and (e) Environment Control, 0.66. Based on this result, the researchers stated that the instrument was well within the range of acceptability, and that the final version of the SRCvoc was a reliable research instrument (p. 90).

After examining the internal consistency reliability, the researchers investigated the construct validity of the SRCvoc by using a confirmatory factor analysis. They tested the hypothesis that the underlying latent construct of "Self-Regulating Capacity in Vocabulary Learning" was a general factor with five subdimensions (p. 90).

The results showed that the hypothesized model had a good fit with the data (pp. 90-94).

Based on the results of the confirmatory factor analysis, the researchers stated that the hypothesized construct was empirically valid and that the latent construct could be legitimately represented and measured via the five indicators:

Commitment Control, Metacognitive Control, Satiation Control, Emotion Control, and Environment Control (p. 94).

In addition, the researchers examined whether the scale of the SRCvoc was unidimensional or not. They say that if the unidimensionality of the instrument can be proven then the instrument will be more robust in the sense that it not only has good reliability and validity but also taps into one single underlying trait. To be specific, they examined whether the five subscales loaded primarily on one and the same factor. The results indicated that one factor explained the vast majority of the variance (over 69 per cent) and that the eigenvalue of the second largest factor was marginal compared to the first one (0.49 vs. 3.75). Based on these results, the researchers say that the unidimensionality of the SRCvoc was confirmed (p. 94).

It was argued in this excellent paper that the overall results provided evidence for the validity of transferring the theoretical construct of self-regulation in the field of educational psychology to the area of second language acquisition.

Lexical Processing in a Second Language

A study by Sunderman and Kroll (2006) focuses on lexical processing in a second language. After reviewing two models of the bilingual lexicon, i.e., the bilingual interactive activation (BIA) model (Dijkstra & Van Heuven, 1998; Dijkstra, Van Jaarsveld, & Ten Brinke, 1998; Van Heuven, Dijkstra, & Grainger, 1998) and the revised hierarchical model (RHM; Kroll & Stewart, 1994), the researchers reported on the results of their investigation. One hundred and seven university students with normal or corrected-to-normal vision participated in the experiment, and these participants were compensated monetarily. All participants were native English speakers recruited from Spanish language classes at a large university in the United States (p. 397). The participants were divided into two proficiency groups, i.e., one less proficient (n = 63) and the other more proficient (n = 44) in Spanish (pp. 397-400).

The performances of the above two groups were compared on translation recognition. In this task, the participants decided whether two words, one in each language, are translation equivalents. The items in the critical conditions were not translation equivalents and therefore required a "no" response, but were similar to the correct translation in either form or meaning. For example, for translation equivalents such as *cara-face*, critical distracters included (a) a form-related lexical neighbor to the first word of the pair (e.g., *cara-card*), (b) a form-related translation neighbor to the second word of the pair (e.g., *cara-fact*), or (c) a meaning-related word (e.g., *cara-head*).

The results indicated that all learners, regardless of proficiency, experienced interference for both (a) form-related lexical neighbors and (c) meaning-related words. However, only the less proficient learners also showed effects of form relatedness via the translation equivalent. In other words, only the less proficient learners experienced interference for (b) form-related translation neighbors.

Moreover, all participants were sensitive to cues to grammatical class. According to Sunderman and Kroll (2006, pp. 413-414), when the grammatical class of the two words was the same, there were reliable interference effects for all of the distracter conditions. The one critical exception was that only the less proficient learners appeared to experience competition from the translation equivalent. In other respects, the less and more proficient learners, aside from obvious differences in the speed and accuracy of their performance, were generally similar with respect to the effects of (a) form-related lexical neighbors and (c) meaning-related words. When the grammatical class of the two words was different, there were effects only for the above (c), i.e., meaning-related words; all form-related effects were eliminated, both for direct lexical form relatives, i.e., (a) form-related lexical neighbors and for words related to the form of the translation, i.e., (b) form-related translation neighbors.

The Number of Words Needed for Unassisted Comprehension of Written and Spoken English

How large a vocabulary is needed for unassisted comprehension of written and spoken English? This question was addressed in Nation's (2006) insightful study. First, the researcher gives a detailed description of the development of fourteen 1,000-word-family lists. (The fourteen lists were made by using lemma lists from the British National Corpus.) Second, by using these word-family lists, the researcher tackles the question of how large a receptive vocabulary is needed for typical language use like reading a novel, reading a newspaper, watching a movie, and taking part in a conversation. For example, the following question was dealt with: How many word-families do you need to know to be familiar with most words in *Lady Chatterley's Lover*?

The results indicate that if 98% coverage of a text is needed for unassisted comprehension, then an 8,000 to 9,000 word-family vocabulary is needed for comprehension of written text and a vocabulary of 6,000 to 7,000 is needed for spoken text.

Word Identification

It has been said that Arabic learners of English often exhibit considerable difficulty with ESL reading comprehension. Research into the sources of this difficulty has typically focused on higher level aspects of reading such as familiarity with discourse structure and cultural knowledge to explain these learners' ESL reading difficulties. In contrast, Hayes-Harb (2006) was interested in the role of “lower” level processes such as letter and word identification, and conducted two experiments to examine whether Arabic learners' reading problems may also be attributable, at least in part, to the negative transfer of written word identification strategies from L1 (Arabic) to L2 (English) (pp. 321-322).

The participants of the first experiment, which employed an identity judgment task, were 10 Arabic ESL learners, 10 non-Arabic ESL learners, and 10 native speakers of English; those of the second experiment, which employed a letter detection task, were 15 Arabic ESL learners, 15 non-Arabic ESL learners, and 15 native speakers of English.

The results provided some evidence that Arabic ESL learners are less aware of vowel letters in English texts than the other two groups, i.e., non-Arabic ESL learners and native speakers of English.　Based on these results, Hayes-Harb (2006) argues that this differential awareness of vowel letters may help explain Arabic ESL learners' reading comprehension difficulties.

It is explained in the paper that there is a critical difference between Arabic and English in terms of the treatment of vowel letters. “A unique feature of the Arabic writing system is the status of short vowel symbols.　In Arabic, symbols for the vowels (i, u, and ɑ) are typically omitted from written texts and are easily filled in by skilled readers” (Hayes-Harb, 2006, p. 322).　In contrast, vowel letters are not omitted but overtly written in the orthographic system of English.

In my judgment, there is a possibility that Arabic ESL learners may transfer their word identification strategies from L1 (i.e., Arabic) to L2 (i.e., English). Because, as stated above, there is a difference between Arabic and English in terms of the treatment of vowel letters, this difference may cause problems if Arabic ESL learners transfer L1 word identification strategies to reading in English, the orthographic system of which requires attention to both consonant and vowel letters.

Incidental Vocabulary Acquisition From Extensive Reading

Pigada and Schmitt (2006) conducted a case study to explore whether an extensive reading program could enhance lexical knowledge of a learner of French. The study, which employed a relatively large number of target words (133 words), examined whether one month of extensive reading enhanced knowledge of these target words' spelling, meaning, and grammatical characteristics.

The participant of this case study is a 27-year-old learner of French. His mother tongue is Greek, and he also speaks fluent English as a second language. As for his level of proficiency in French, it is lower than the typical intermediate French learner. At the time of the study he was living and studying in England as a postgraduate student in a non-linguistic field (pp. 8-9).

By analyzing the obtained data, the researchers found that 66 words out of 133 (49.6%) were enhanced in one type of word knowledge, that thirteen out of 133 (9.8%) were enhanced in two types of word knowledge, and that eight out of 133 (6.0%) were enhanced in all the three types of word knowledge. Adding these figures together, they found that some degree of learning was demonstrated for 87 out of the 133 target words (65.4%) (p. 17).

The results also indicated that knowledge of spelling (i.e., orthographic knowledge) was enhanced most, even from a small number of exposures, and that meaning and grammatical knowledge were also enhanced, but not to the same extent as the orthographic knowledge.

In my view, both quantitative and qualitative research methods are necessary in order to fully understand how second language learners acquire vocabulary from extensive reading. As an excellent example of qualitative research, the article by Pigada and Schmitt (2006) would be one of the basic readings for those who are interested in the relationship between extensive reading and second language vocabulary acquisition.

Inferring the Meanings of Unknown *Kanji* (Chinese Character) Words

How do English L1 learners of advanced Japanese infer unknown *kanji* (Chinese character) words while reading authentic Japanese texts? This question was addressed in a study by Kondo-Brown (2006). The participants were 42 English L1 learners of advanced Japanese at the University of Hawaii at Manoa.

The results of the study indicated the following.　First, English L1 nonnative readers of Japanese in advanced-level Japanese courses can identify the meanings of advanced-level *kanji* words appearing in an authentic narrative text significantly better than when the same words are tested in isolation (p. 130).　Second, when reading comprehension level is controlled, there is no difference in *kanji* inferencing ability between English L1 heritage language (HL) learners and non-HL learners of Japanese (pp. 133-135).　Third, English L1 nonnative readers of Japanese can guess semantically unknown *kanji* words in context better if they can activate some phonological information associated with the words (pp. 135-141).　Fourth, students in both proficiency groups (i.e., the more proficient group and the less proficient group) frequently made erroneous guesses or failed to guess at all upon encountering unknown *kanji* words appearing in the text (p. 143).

The Development of Lexical Knowledge

Horst and Collins (2006) were interested in answering the question of how lexical knowledge of ESL learners might develop over time.　Their study drew on a 77,458-word corpus consisting of narrative texts produced in response to picture prompts by 210 beginner-level Francophone learners of English.　All of them were 11- or 12-year-olds in intensive ESL programs in French medium primary schools in Quebec, Canada.　They received approximately 400 hours of intensive ESL instruction, and completed narrative-writing tasks at regular intervals (i.e., after approximately 100, 200, 300, and 400 hours of instruction).

First, the researchers analyzed the obtained corpus data by using Laufer and Nation's (1995) Lexical Frequency Profile.　However, the analysis did not identify the expected increase in use of infrequent words.

Next, they conducted further analyses by employing such measures as a Greco-Latin cognate index, a count of word families, and a word-type-per-word-family ratio.　Results of the reanalysis can be summarized as follows.　First, the learners continued to use large proportions of frequent words. Second, their reliance on French to compensate for lexical gaps in English decreased over time. Third, on the whole, the learners' reliance on French cognates decreased over time. Fourth, the number of 1,000-level word families in the learner corpora consistently increased over time. Fifth, on the whole, the number of word types per word family increased over time (i.e., the learners used more morphologically developed forms as they progressed through the intensive ESL program).

Lexical Network Structures

A theoretical paper by Wolter (2006) focuses on the role of first language (L1) lexical and conceptual knowledge in the process of building lexical network structures in a second language (L2). It is suggested in the paper that L1 lexical and conceptual knowledge can provide learners with both advantages and disadvantages when forming L2 lexical networks. In addition, it is also suggested that "the process of building syntagmatic connections between words in an L2 appears to be considerably harder than the process for building paradigmatic connections" (p. 746).

That building syntagmatic connections between words in an L2 might be more difficult than building paradigmatic connections attracted my attention, and I think that this theoretical paper by Wolter (2006) would be a valuable addition to the existing literature on L2 lexical network structures.

Formulaic Sequences

The Role of Formulaic Sequences in the Development of Speech Fluency

Wood (2006) tried to identify the role of formulaic sequences in the development of speech fluency. The participants of this study were 11 intermediate-level learners of English as a second language (ESL) at a Canadian university.

Narrative speech samples taken from these learners were collected monthly over six months. The obtained data were analyzed for ways in which use of formulaic sequences may have facilitated fluency growth over a six-month period.

In this study the following two calculations were used to quantify the development of speech fluency: "mean length of run (MLR), calculated by dividing the total number of syllables uttered for a speech sample by the number of runs between pauses; and formula/run ratio (FRR), calculated by dividing the total number of formulas in a sample by the number of runs" (p. 19).

The researcher classified the obtained speech data into the following five categories of formula use: (a) repetition of formulas to extend a run of speech, (b) use of multiple formulas to extend a run, (c) reliance on repetition of one formula to facilitate fluent speech, (d) use of self-talk and filler formulas, and (e) use of formulas as rhetorical devices in spoken narrative. Based on the results of this investigation, the researcher suggests that speech fluency may be enhanced by use of formulaic sequences.

An attempt to examine the role of formulaic sequences in the development of speech fluency would be, in my judgment, a subject of deep interest to those who are involved in second language vocabulary research. I think that this article by Wood (2006) is a significant contribution to the advancement of this line of research, which will attract second language vocabulary researchers' attention in the future.

Does the Use of Formulaic Sequences Help Learners Come Across as Proficient L2 Speakers?

Boers, Eyckmans, Kappel, Stengers, and Demecheleer (2006) investigate (a) the extent to which the use of formulaic sequences (standardized phrases such as collocations and idiomatic expressions) can help learners come across as proficient L2 speakers, and (b) the extent to which an instructional method that emphasizes "noticing" of L2 formulaic sequences can help language learners add such phrases to their linguistic repertoire (p. 245).

The participants of their study were 32 students of modern languages, majoring in English, at a college for translation and interpreting in Brussels, Belgium. They were in the second year of their four-year training and their ages ranged between 19 and 22. Their proficiency in English was estimated to be of upper-intermediate to advanced level (p. 248).

Over the course of 22 teaching hours they were exposed to considerable quantities of authentic listening and reading materials. During exploration of those materials, the experimental students (*n* = 17) were made aware of standardized word combinations, while in the control group (*n* = 15) the traditional grammar-lexis dichotomy was upheld. Afterwards, the participants' oral proficiency was gauged in an interview by two blind judges. Two other blind judges counted the number of word combinations in the interviews that they considered to be formulaic sequences (p. 245, pp. 248-253).

The results of this study showed that the experimental group outperformed the control group in terms of oral proficiency scores. In addition, the results also indicated that the experimental group tended to use more formulaic sequences than the control group (pp. 254-255).

The teaching of formulaic sequences is undoubtedly one of the issues second language vocabulary research should deal with, and I am sure that this article by Boers et al. (2006) would be one of the basic readings in formulaic-sequence research.

Testing Vocabulary Knowledge

Yes/No Vocabulary Test

A study by Mochida and Harrington (2006) compared performance on the

Yes/No vocabulary test with that on the Vocabulary Levels Test (VLT), a widely used measure of receptive second language vocabulary knowledge (Nation, 1990, 2001; Schmitt, Schmitt, & Clapham, 2001). Specifically, the researchers were interested in assessing the Yes/No vocabulary test performance as a predictor of scores on the VLT. The participants of the study were thirty-six undergraduate and postgraduate L2 English students studying at the University of Queensland.

As regards the VLT, "Versions 1 and 2 developed by Schmitt et al. (2001)" were used. Items are presented in five levels, which consist of four frequency of occurrence bands (2K, 3K, 5K, and 10K) and the Academic Word List (AWL) (Coxhead, 2000) (p. 81).

With respect to the Yes/No test, there were 150 items, which consisted of 90 words and 60 pseudowords. The 90 words consisted of 18 items from each of the 5 levels of the VLT. Each pseudoword was created by altering the original word by one or two letters, while still maintaining English phonotactic constraints (e.g., *birth* became *borth*) (p. 82).

The 150-item test was administered to each participant in two blocks of 75 items each (45 words and 30 pseudowords). After the Yes/No test was completed, each participant completed either Version 1 or Version 2 of the VLT. This resulted in 45 words appearing in both the Yes/No test and the version of the VLT that the participant completed. Each participant completed two blocks (p. 82).

The results indicated that "the Yes/No scores were all strong predictors of subsequent performance on the VLT" (p. 90). The researchers state that "the Yes/No format can serve as a viable alternative to tests like the VLT" (p. 95).

I think that this article by Mochida and Harrington (2006) would be a valuable addition to the existing literature on the Yes/No vocabulary test.

The English Developmental Contrastive Spelling Test

Howard, Arteagoitia, Louguit, Malabonga, and Kenyon (2006) describe the development of an English spelling measure designed to assess the progress made by Spanish-English bilingual children from Grade 2 to Grade 5. The spelling measure was named by Howard et al. (2006) "the English Developmental Contrastive Spelling Test." The term, "developmental," refers to "the test's ability to measure the progress that children make over time, from Grade 2 through Grade 5" (p. 404), and the test is "contrastive" because "it is sensitive to possible crosslinguistic transfer from Spanish to English" (p. 404).

This test would be of value to those who are in a position to assess the development of spelling ability by Spanish-English bilingual children. Additionally, a detailed technical description of the test development would be of great use to those who are interested in the development of an English spelling test (e.g., an English spelling test for Japanese learners of English).

Conclusion

In this article second language vocabulary research published in leading international research journals in 2006 was reviewed. As shown above, 2006 yielded a number of valuable articles that dealt with the teaching and learning of second language vocabulary. In addition to the articles that were examined in the preceding sections, the following papers were also published in 2006: for example, Atay and Kurt (2006),[6] Barcroft (2006),[7] Chikamatsu (2006),[8] Chujo and Utiyama (2006),[9] Cieślicka (2006),[10] de la Fuente (2006),[11] Fitzpatrick and Wray (2006),[12] Greidanus, Beks, and Wakely (2006),[13] Horst and Cobb (2006),[14] Kim (2006),[15] Lee and Muncie (2006),[16] Lessard-Clouston (2006),[17] Meara (2006),[18] Milton and Hopkins (2006),[19] Nassaji (2006),[20] Ovtcharov, Cobb, and Halter (2006),[21] Schauer and Adolphs (2006),[22] Tekmen and Daloğlu (2006),[23] and Xiao and McEnery (2006).[24] The fact that a large number of articles were published in 2006 means that the second language vocabulary research community across the world is active, and I hope that this review will be of help to those who have interests in second language vocabulary research.

Notes

[1] According to Ellis (2001), in FonFs approach, “learners are required to treat language primarily as an ‘object’ to be studied and practiced bit by bit and to function as students rather than as users of the language” (p. 14). In contrast, FonF “overtly draws students' attention to linguistic elements as they arise incidentally in lessons whose overriding focus is on meaning or communication” (Ellis, 2001, p. 14).

[2] To be more precise, the effect of background music on vocabulary learning only generalized over items, not over participants, and this result seemed to suggest that only a subgroup of the participants in the music condition benefited from the presence of background music (de Groot, 2006, p. 495).

[3] This use of “the” is not a typographical error. Rather, in second language vocabulary research, it is customary to put “the” before the phrase, “keyword method.”

[4] This is not a typographical error. In the present review, “et al.” is not italicized (*Publication Manual of the American Psychological Association,* 2001, p. 102).

[5] Tseng, Dörnyei, and Schmitt (2006) abbreviate “Self-Regulating Capacity in Vocabulary Learning” to “SRCvoc.” To give a supplementary note, Tseng et al. (2006) use uppercase letters for the first three, i.e., “S,” “R,” and “C,” and lowercase letters for the last three, i.e., “v,” “o,” and “c.” One more thing to note is that in the article Tseng et al. (2006) seem to use both “Self-Regulating Capacity in Vocabulary Learning” and “Self-Regulatory Capacity in Vocabulary Learning” interchangeably.

[6] Atay and Kurt (2006) examined the effects of post-reading activities on the learning of English vocabulary. The participants of their study were 62 Grade 6 pupils in two classes in a public school in Istanbul, Turkey. They were all native speakers of Turkish with an average age of 11.

[7] Barcroft (2006) examined the effect of word writing on second language vocabulary learning.

[8] Chikamatsu's (2006) study focused on developmental word recognition strategies used by first language English readers of second language Japanese.

[9] Chujo and Utiyama (2006) are interested in selecting specialized vocabulary by using statistical measures. In their study nine statistical measures were applied to a 7.3-million-word corpus to determine the effectiveness of each measure in identifying level-specific specialized vocabulary. To be specific, the commerce-and-finance component of the British National Corpus

was used.

[10] Cieślicka (2006) is interested in how second language learners understand idiomatic expressions in their second language, and investigates the differential availability of literal and figurative meanings of L2 idiomatic expressions in the course of their processing by second language learners.

[11] The focus of de la Fuente's (2006) study was on the effects of three vocabulary lessons on classroom second language vocabulary acquisition. The three vocabulary lessons are as follows: (a) a task-based lesson with an explicit focus-on-forms component, (b) a task-based lesson that does not incorporate this component, and (c) a lesson which is not task-based. (Let me say to those who are not specializing in applied linguistics that the presence of plural "s" in the hyphenated word, "focus-on-forms," is not a typographical error. The word, "focus-on-forms," is one of the technical words in the field of applied linguistics.)

[12] Fitzpatrick and Wray (2006) explored what happened when ESL learners memorized a native-like way of saying what they believed they would need in real-life conversations. After they memorized specific word strings, their use of them in practice and real conversations was observed. This research was of a case-study design; six ESL learners, who were resident in the United Kingdom as master's students in health science or development studies, participated in the study.

[13] This article by Greidanus, Beks, and Wakely (2006) was first published in "*The Modern Language Journal (MLJ),* Vol. 89, No. 2, pp. 221-233, (2005)," and is reprinted in "*The Canadian Modern Language Review (CMLR),* Vol. 62, No. 4, pp. 509-532, (2006)" as an exchange article between the two journals (i.e., *MLJ* and *CMLR*).

[14] *The Canadian Modern Language Review* published a special issue on vocabulary in 2006. This is an editorial written by Marlise Horst and Tom Cobb, the editors of the special issue.

[15] Kim (2006) examined the effects of typographical enhancement (two levels: enhanced, unenhanced) and lexical elaboration (three levels: explicit, implicit, unelaborated) on vocabulary acquisition through reading.

[16] Lee and Muncie (2006) examined ESL learners' use of vocabulary—vocabulary that they encountered in reading—in a postreading composition task.

[17] Lessard-Clouston (2006) reported on a descriptive case study on native and non-native English-speaker students' knowledge and learning of specialized theological vocabulary.

[18] Meara's (2006) paper deals with emergent properties of multilingual lexicons. *Emergent properties* mean "complex behaviours which appear . . . from nowhere, not built into the fundamental assumptions of the structures we are dealing with, but arising spontaneously out of the interactions that take place between simpler, basic components" (p. 620). In the paper Meara (2006) argues that "working with very explicit and over simplified models of lexicons might

sometimes have advantages over working with more realistic but vague models, whose detailed workings are underspecified" (p. 620).

[19] Milton and Hopkins (2006) report a comparison of the phonological and orthographic vocabulary sizes of Greek learners of English as a foreign language (EFL) (*n* = 88) and Arabic learners of EFL (*n* = 38).

[20] This article by Nassaji (2006) was first published in "*The Canadian Modern Language Review (CMLR),* Vol. 61, No. 1, pp. 107-134, (2004)," and is reprinted in "*The Modern Language Journal (MLJ),* Vol. 90, No. 3, pp. 387-401, (2006)" as an exchange article between the two journals (i.e., *CMLR* and *MLJ*).

[21] The purpose of Ovtcharov, Cobb, and Halter's (2006) study is to test the common intuition that a more fluent second language speaker uses richer vocabulary during oral interaction.

[22] By contrasting native speakers' expressions of gratitude elicited by a discourse completion task (DCT) with those found in the Cambridge and Nottingham Corpus of Discourse in English (CANCODE), a five-million-word corpus of spoken English, Schauer and Adolphs (2006) considered pedagogical implications of both data sets for the teaching of formulaic sequences in the classroom.　(A discourse completion task is one of the data elicitation instruments in interlanguage pragmatics.)

[23] Tekmen and Daloğlu (2006) examined the effects of proficiency level and word frequency in a text on incidental vocabulary acquisition through reading.

[24] Xiao and McEnery (2006) examined the collocational behavior and semantic prosody of near synonyms from a cross-linguistic perspective, drawing upon data from two distinctly different languages, English and Chinese.

References

American Psychological Association. (2001). *Publication manual of the American Psychological Association* (5th ed.). Washington, DC: Author.

Atay, D., & Kurt, G. (2006). Elementary school EFL learners' vocabulary learning: The effects of post-reading activities. *The Canadian Modern Language Review, 63,* 255-273.

Barcroft, J. (2006). Can writing a new word detract from learning it?: More negative effects of forced output during vocabulary learning. *Second Language Research, 22,* 487-497.

Boers, F., Eyckmans, J., Kappel, J., Stengers, H., & Demecheleer, M. (2006). Formulaic sequences and perceived oral proficiency: Putting a Lexical Approach to the test. *Language Teaching Research, 10,* 245-261.

Chikamatsu, N. (2006). Developmental word recognition: A study of L1 English readers of L2

Japanese. *The Modern Language Journal, 90,* 67-85.

Chujo, K., & Utiyama, M. (2006). Selecting level-specific specialized vocabulary using statistical measures. *System, 34,* 255-269.

Cieślicka, A. (2006). Literal salience in on-line processing of idiomatic expressions by second language learners. *Second Language Research, 22,* 115-144.

Coxhead, A. (2000). A new academic word list. *TESOL Quarterly, 34,* 213-238.

de Groot, A. M. B. (2006). Effects of stimulus characteristics and background music on foreign language vocabulary learning and forgetting. *Language Learning, 56,* 463-506.

de la Fuente, M. J. (2006). Classroom L2 vocabulary acquisition: Investigating the role of pedagogical tasks and form-focused instruction. *Language Teaching Research, 10,* 263-295.

Dijkstra, T., & Van Heuven, W. J. B. (1998). The BIA model and bilingual word recognition. In J. Grainger & A. Jacobs (Eds.), *Localist connectionist approaches to human cognition* (pp. 189-225). Mahwah, NJ: Erlbaum.

Dijkstra, T., Van Jaarsveld, H., & Ten Brinke, S. (1998). Interlingual homograph recognition: Effects of task demands and language intermixing. *Bilingualism: Language and Cognition, 1,* 51-66.

Ellis, R. (2001). Introduction: Investigating form-focused instruction. *Language Learning, 51*(Suppl. 1), 1-46.

Fitzpatrick, T., & Wray, A. (2006). Breaking up is not so hard to do: Individual differences in L2 memorization. *The Canadian Modern Language Review, 63,* 35-57.

Folse, K. S. (2006). The effect of type of written exercise on L2 vocabulary retention. *TESOL Quarterly, 40,* 273-293.

Greidanus, T., Beks, B., & Wakely, R. (2006). Testing the development of French word knowledge by advanced Dutch- and English-speaking learners and native speakers. *The Canadian Modern Language Review, 62,* 509-532.

Hayes-Harb, R. (2006). Native speakers of Arabic and ESL texts: Evidence for the transfer of written word identification processes. *TESOL Quarterly, 40,* 321-339.

Horst, M., & Cobb, T. (2006). Editorial: Second language vocabulary acquisition/Éditorial: Acquisition du vocabulaire d'une langue seconde. *The Canadian Modern Language Review, 63,* 1-12.

Horst, M., & Collins, L. (2006). From *faible* to strong: How does their vocabulary grow? *The Canadian Modern Language Review, 63,* 83-106.

Howard, E. R., Arteagoitia, I., Louguit, M., Malabonga, V., & Kenyon, D. M. (2006). The development of the English Developmental Contrastive Spelling Test: A tool for investigating Spanish influence on English spelling development. *TESOL Quarterly, 40,* 399-420.

Kim, Y. (2006). Effects of input elaboration on vocabulary acquisition through reading by Korean learners of English as a foreign language. *TESOL Quarterly, 40,* 341-373.

Kondo-Brown, K. (2006). How do English L1 learners of advanced Japanese infer unknown *kanji* words in authentic texts? *Language Learning, 56,* 109-153.

Kroll, J. F., & Stewart, E. (1994). Category interference in translation and picture naming: Evidence for asymmetric connections between bilingual memory representations. *Journal of Memory and Language, 33,* 149-174.

Krueger, R. A., & Casey, M. A. (2000). *Focus groups: A practical guide for applied research* (3rd ed.). London: Sage.

Laufer, B. (2006). Comparing focus on form and focus on forms in second-language vocabulary learning. *The Canadian Modern Language Review, 63,* 149-166.

Laufer, B., & Nation, P. (1995). Vocabulary size and use: Lexical richness in L2 written production. *Applied Linguistics, 16,* 307-322.

Lee, S. H., & Muncie, J. (2006). From receptive to productive: Improving ESL learners' use of vocabulary in a postreading composition task. *TESOL Quarterly, 40,* 295-320.

Lessard-Clouston, M. (2006). Breadth and depth specialized vocabulary learning in theology among native and non-native English speakers. *The Canadian Modern Language Review, 63,* 175-198.

Meara, P. (2006). Emergent properties of multilingual lexicons. *Applied Linguistics, 27,* 620-644.

Milton, J., & Hopkins, N. (2006). Comparing phonological and orthographic vocabulary size: Do vocabulary tests underestimate the knowledge of some learners? *The Canadian Modern Language Review, 63,* 127-147.

Mochida, A., & Harrington, M. (2006). The Yes/No test as a measure of receptive vocabulary knowledge. *Language Testing, 23,* 73-98.

Nassaji, H. (2006). The relationship between depth of vocabulary knowledge and L2 learners' lexical inferencing strategy use and success. *The Modern Language Journal, 90,* 387-401.

Nation, I. S. P. (1990). *Teaching and learning vocabulary.* New York: Newbury House.

Nation, I. S. P. (2001). *Learning vocabulary in another language.* Cambridge, UK: Cambridge University Press.

Nation, I. S. P. (2006). How large a vocabulary is needed for reading and listening? *The Canadian Modern Language Review, 63,* 59-82.

Ovtcharov, V., Cobb, T., & Halter, R. (2006). La richesse lexicale des productions orales: Mesure fiable du niveau de compétence langagière. *The Canadian Modern Language Review, 63,* 107-125.

Pigada, M., & Schmitt, N. (2006). Vocabulary acquisition from extensive reading: A case study. *Reading in a Foreign Language, 18,* 1-28.

Sagarra, N., & Alba, M. (2006). The key is in the keyword: L2 vocabulary learning methods with beginning learners of Spanish. *The Modern Language Journal, 90,* 228-243.

Schauer, G. A., & Adolphs, S. (2006). Expressions of gratitude in corpus and DCT data: Vocabulary, formulaic sequences, and pedagogy. *System, 34,* 119-134.

Schmitt, N., Schmitt, D., & Clapham, C. (2001). Developing and exploring the behaviour of two new versions of the Vocabulary Levels Test. *Language Testing, 18,* 55-88.

Sildus, T. I. (2006). The effect of a student video project on vocabulary retention of first-year secondary school German students. *Foreign Language Annals, 39,* 54-70.

Stewart, D. W., Shamdasani, P. N., & Rook, D. W. (2006). *Focus groups: Theory and practice* (2nd ed.). London: Sage.

Sunderman, G., & Kroll, J. F. (2006). First language activation during second language lexical processing: An investigation of lexical form, meaning, and grammatical class. *Studies in Second Language Acquisition, 28,* 387-422.

Tekmen, E. A. F., & Daloğlu, A. (2006). An investigation of incidental vocabulary acquisition in relation to learner proficiency level and word frequency. *Foreign Language Annals, 39,* 220-243.

Tseng, W. -T., Dörnyei, Z., & Schmitt, N. (2006). A new approach to assessing strategic learning: The case of self-regulation in vocabulary acquisition. *Applied Linguistics, 27,* 78-102.

Van Heuven, W. J. B., Dijkstra, T., & Grainger, J. (1998). Orthographic neighborhood effects in bilingual word recognition. *Journal of Memory and Language, 39,* 458-483.

Wolter, B. (2006). Lexical network structures and L2 vocabulary acquisition: The role of L1 lexical/conceptual knowledge. *Applied Linguistics, 27,* 741-747.

Wood, D. (2006). Uses and functions of formulaic sequences in second language speech: An exploration of the foundations of fluency. *The Canadian Modern Language Review, 63,* 13-33.

Xiao, R., & McEnery, T. (2006). Collocation, semantic prosody, and near synonymy: A cross-linguistic perspective. *Applied Linguistics, 27,* 103-129.