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Second Language Vocabulary Research: 2002

Yuji Tanaka

This is a review article on second language vocabulary research. Articles published in leading international research journals in 2002 are the scope of this investigation. The present review is composed of the following key themes: the use of emotion vocabulary in a second language, the relationship between vocabulary knowledge and academic reading performance, the effect of reading purpose on incidental word learning from context, supporting listening comprehension and vocabulary acquisition with the help of multimedia annotations, learners' ability to produce appropriate derivative word forms, densities of first language and second language lexical networks, and examining lexical diversity indices.

The Use of Emotion Vocabulary in a Second Language

Dewaele and Pavlenko (2002) investigated the effects of the following five variables on the use of emotion vocabulary in a second language: language proficiency, gender, extraversion, sociocultural competence, and type of linguistic materials used for elicitation purposes.

After giving detailed descriptions of “sociocultural variation in emotion concepts” (pp. 266-270), “language proficiency” (pp. 270-271), “emotions and topic” (pp. 272-274), “emotion language and gender” (pp. 274-277), and “emotion language and extraversion” (pp. 277-278), the two researchers reported on two studies intended to examine the five variables that might affect the use of emotion vocabulary in a second language.

The first study (Study 1) investigated the effects of language proficiency, gender, and extraversion on the use of emotion vocabulary. Specifically, based on the literature review

(pp. 266-278), the following research hypotheses were formulated (p. 279): (a) More proficient interlanguage (IL) speakers use more emotion word tokens and lemmas than less proficient IL speakers; (b) Female IL speakers use more emotion word tokens and lemmas than male IL speakers; and (c) Extravert[1] IL speakers use more emotion word tokens and lemmas than introvert IL speakers.

In respect of the second study (Study 2), it examined the effects of sociocultural competence, gender, and the type of linguistic materials used for elicitation purposes on the use of emotion vocabulary. The following research hypotheses, formulated based on the review of the relevant literature (pp. 266-278), guided the second study (p. 286): (d) Socioculturally competent L2 speakers use more emotion lemmas than foreign language users who have never been exposed to the target language culture; (e) Female IL speakers use more emotion word tokens and lemmas than male IL speakers; and (f) Type[2] of materials has an effect both on the frequency and the range of use of emotion words.

As for results, the findings of the first study partially supported the hypothesis (a) (language proficiency), fully supported the hypothesis (b) (gender), and partially supported the hypothesis (c) (extraversion). Those of the second study did not support the hypothesis (d) (sociocultural competence), partially supported the hypothesis (e) (gender), and partially supported the hypothesis (f) (type of materials) (p. 292).

In my view, an attempt to investigate the use of emotion vocabulary in a second language is a subject of deep interest to those involved in second language vocabulary research. This is because psycholinguistic studies suggest that “emotion words may be distinct from other abstract words on a number of characteristics and should be treated as a category separate from both concrete and abstract words” (p. 265). I think that this article (i.e., Dewaele & Pavlenko, 2002) is an excellent source of information for those wishing to substantiate the effects of several variables that may influence the frequency and range of the use of emotion vocabulary.

The Relationship Between Vocabulary Knowledge and Academic Reading Performance

Qian (2002) investigated the relationship between vocabulary knowledge and academic reading performance.

This study (i.e., Qian, 2002) aimed to “conceptually validate the roles of breadth and depth of vocabulary knowledge in reading comprehension in academic settings and to empirically evaluate a test measuring three elements of the depth dimension of vocabulary knowledge, namely, synonymy, polysemy, and collocation. A vocabulary size measure and a TOEFL vocabulary measure were also tested” (p. 513).

After giving lucid descriptions of vocabulary knowledge (pp. 514-517), its role in

reading comprehension (pp. 517-518), and TOEFL 2000 reading research (pp. 518-520), Qian (2002) presented the following four research questions (p. 522): (a) To what extent do scores on depth and breadth of vocabulary knowledge, on TOEFL vocabulary items, and on reading for basic comprehension intercorrelate with one another?; (b) To what extent do scores on depth of vocabulary knowledge contribute to predicting the performance on reading tasks for basic comprehension?; (c) To what extent do scores on vocabulary size contribute to predicting the performance on reading tasks for basic comprehension?; and (d) To[3] what extent do scores on TOEFL vocabulary items contribute to predicting the performance on reading tasks for basic comprehension?

This study comprised 217 students attending an intensive ESL program at the University of Toronto. These participants were recruited from classes at the intermediate level and beyond. Seventy-five were male and 142 were female. They represented 85 different academic fields ranging from art and humanities to social sciences, to natural science, and to engineering. Among the 217 students, 22 had taken one TOEFL before, and 36 had sat for two or more TOEFL administrations (pp. 522-523).

In this study, the following four measures were employed (pp. 523-527): Reading for Basic Comprehension Measure (a reading comprehension measure), Depth of Vocabulary Knowledge Measure (a measure of vocabulary depth), Vocabulary Levels Test (a measure of vocabulary breadth [vocabulary size]), and TOEFL Vocabulary Item Measure.[4]

The results of this study demonstrated that “the dimension of vocabulary depth is as important as that of vocabulary size in predicting performance on academic reading” (p. 513). Specifically, the correlation between Depth of Vocabulary Knowledge Measure and Reading for Basic Comprehension Measure was $r = .77$, $p < .01$ and that between Vocabulary Levels Test and Reading for Basic Comprehension Measure was $r = .74$, $p < .01$ (p. 529).

The Effect of Reading Purpose on Incidental Word Learning From Context

Swanborn and de Glopper (2002) investigated the effect of reading purpose on incidental word learning from context.

This study comprised 223 sixth graders taken from nine Dutch elementary schools; of these participants, 96.4 percent were native speakers of Dutch (p. 100).

Specifically, the participants of this study were randomly assigned to one of the following four conditions: (a) reading a text for fun ($n = 57$, free-reading group), (b) learning about the topic of a text ($n = 55$, learn-about-the-topic group), (c) reading a text for comprehension ($n = 54$, text-comprehension group), and (d) reading a text without any specific reading purpose in mind ($n = 57$, control group) (p. 102, p. 106).

Regarding a test designed to measure the number of words learned incidentally while reading, a written definition task was employed in this study. In the written definition task, the participants were asked to provide a synonym, to give a correct definition, or to use a target word in a meaningful sentence. All target words were presented in isolation, with two blank lines for each word where the participants were asked to write the definition (pp. 101-102).

The results of this study showed that the probabilities of learning a word incidentally while reading were .10 (learn-about-the-topic condition), .08 (text-comprehension condition), and .06 (free-reading condition) (pp. 105-106). Additionally, it was also found that reading ability was a significant covariate, F (1, 218) = 84.96, $p < .001$ (pp. 105-106). Furthermore, it was also revealed that while high-ability readers were relatively good at incidental word learning, low-ability readers learned few new words incidentally (p. 107).

Supporting Listening Comprehension and Vocabulary Acquisition With the Help of Multimedia Annotations

Jones and Plass's (2002) article pertains to supporting listening comprehension and vocabulary acquisition in French with the help of multimedia annotations.

This study comprised 171 students (59 males, 112 females) enrolled in a second-semester beginning French class at a university in the south central United States. All of them were nonnative speakers of French and participated in this study as a regular class activity (p. 550).

Specifically, the two researchers (i.e., Jones and Plass) investigated the effects of two factors (the absence or presence of written annotations and the absence or presence of pictorial annotations) on the students' acquisition of vocabulary and on their listening comprehension (p. 550).

The aforementioned participants were asked to listen to a 140-second historical account in French presented by a computer program. The above listening text was 331 words in length and was digitally recorded using the voice of a female native French speaker (p. 551).

The participants (N = 171) were randomly assigned one of the following four: (a) the aforementioned listening text with no annotations available (n = 42), (b) that with only written annotations available (n = 44), (c) that with only pictorial annotations available (n = 41), or (d) that with both written and pictorial annotations available (n = 44) (p. 550).

The overall results suggested that as the participants listened to the aural passage, they had a tendency to learn more vocabulary when they had both pictorial and written annotations available than when they had only written annotations or only pictorial annotations available. Additionally, it was also shown that vocabulary learning was lowest

when they had no annotations available. Regarding listening comprehension, a similar pattern emerged; the overall results suggested that those who completed a listening comprehension activity that contained both pictorial and written annotations showed a tendency to recall the passage better than those who completed the passage with single annotations or no annotations available (pp. 553-555).

Learners' Ability to Produce Appropriate Derivative Word Forms

Schmitt and Zimmerman's (2002) study focused on English as a second language (ESL) learners' ability to produce appropriate derivative word forms in the four major word classes (i.e., noun, verb, adjective, and adverb).

This study comprised 106 ESL learners. Specifically, the participants consisted of (a) 50 advanced ESL students in an intensive English preuniversity program at a U.S. university, (b) 36 advanced ESL undergraduate and graduate students taking one ESL writing course at a U.S. university, and (c) 20 graduate ESL students completing a master's degree in English language teaching at a university in the United Kingdom (pp. 151-152).

As for target words, the two researchers chose them from the Academic Word List (Coxhead, 2000). First, they chose 20 words; next, after piloting, the following 16 items were selected: *access, assume, authority, coherent, ethnic, ideology, inevitably, liberal, minimize, persist, philosophy, precise, release, select, survive,* and *traditional* (p. 152).

The results indicated that it was relatively uncommon for the participants to know either all of the four word forms or none of them. In other words, they usually had partial knowledge of the derivatives, with productive knowledge of two or three word forms being typical (p. 145, pp. 158-161).

Densities of First Language and Second Language Lexical Networks

By applying the principles of Graph Theory (GT) to word association data, Wilks and Meara (2002) examined and compared the relative densities of first language and second language lexical networks.

After reviewing earlier GT research into second language word associations (pp. 308-310), they described the development of a new elicitation tool designed to provide a means of quantifying lexical density levels (pp. 310-315).

The results of this study have shown that native speakers perceive significantly more associations than their nonnative counterparts. In other words, first language lexical networks have higher levels of linkage between lexical items than second language lexical

networks. To put it another way, first language lexicons are denser than second language lexicons (p. 315).

Additionally, it was also shown in this study that degrees of word associations were very much higher for both native speakers and nonnative counterparts than Wilks and Meara's (2002, pp. 312-314) simulations had predicted.

Examining Lexical Diversity Indices

Jarvis's (2002) article pertains to the measurement of lexical diversity through curve fitting. Specifically, he compared D index (Malvern & Richards, 1997) with four lexical diversity indices in terms of their accuracy in modelling the Type-Token Ratio (TTR) curves of written texts. The four indices were Herdan's C, Guiraud's R, Uber's U, and Zipf's Z (pp. 57-64).

The texts examined in Jarvis's (2002) article were written by (a) 140 Finnish-speaking learners of English (fifth, seventh, and ninth graders living in Finland), (b) 70 Swedish-speaking learners of English (seventh and ninth graders living in Finland), and (c) 66 native speakers of English (fifth, seventh, and ninth graders living in Indiana, the USA) (p. 65).

The participants were shown an 8-minute segment of Chaplin's silent film *Modern Times* and asked to write a narrative of the film (p. 65).

The main findings of this study showed that two of the curve-fitting formulae (i.e., D and U) provided accurate models of the TTR curves of over 90% of the texts (p. 57, pp. 70-72). Additionally, it was also suggested that amount of instruction was a better predictor of lexical diversity in writing than was age or grade level (pp. 75-76).

In my view, an attempt to examine the validity and reliability of lexical diversity indices is a subject of academic interest to those involved in second language vocabulary research. This article (i.e., Jarvis, 2002) is one of the basic readings for those wishing to substantiate lexical diversity indices and those planning to conduct vocabulary research that involves the measurement of lexical diversity.

Conclusion

In this article second language vocabulary research published in leading international research journals in 2002 was reviewed. In addition to the articles examined in the preceding sections, the following papers were also published in 2002: for example, Barcroft (2002),[5] Brala (2002),[6] de la Fuente (2002),[7] Hall (2002),[8] Hansen, Umeda, and McKinney (2002),[9] Holowka, Brosseau-Lapré, and Petitto (2002),[10] Huibregtse, Admiraal, and Meara (2002),[11] Jiang (2002),[12] Kroll, Michael, Tokowicz, and Dufour (2002),[13] Malvern and

Richards (2002),[14] Meara (2002),[15] and Snellings, van Gelderen, and de Glopper (2002).[16]

This is the seventh attempt to tackle the task of reviewing second language vocabulary research (Tanaka, 2008, 2009, 2010, 2011, 2012a, 2012b). Specifically, Tanaka (2008) examined articles published in 2006, Tanaka (2009) focused on articles published in 2007, Tanaka (2010) dealt with articles published in 2008, Tanaka (2011) investigated articles published in 2005, Tanaka (2012a) explored articles published in 2004, and Tanaka (2012b) reviewed articles published in 2003. I hope that the present review, together with the above six (i.e., Tanaka, 2008, 2009, 2010, 2011, 2012a, 2012b), will be of help to those involved in second language vocabulary research.

Notes

[1]In the present review, there are several places in which sentences beginning with such words as (a), (b), and (c) are enumerated after a colon. It should be noted that in such cases, sentence-initial words begin with an uppercase letter (even if they are preceded by the conjunction *and*).

[2]See Note 1.

[3]See Note 1.

[4]TOEFL Vocabulary Item Measure was employed in Qian's (2002) study "as a quality control standard against which the unique claims of depth and size could be measured" (p. 527); this measure has been shown to have "consistent reliability in contributing to the assessment of reading performance" (p. 527).

The measure contains 30 discrete vocabulary items developed for TOEFL administrations before July 1995, when there was a separate subsection on vocabulary within the Reading Comprehension section. All the items in this measure are multiple-choice questions requiring the test taker to select words close in meaning to, or synonymous with, the stimulus words provided in isolated sentences (Qian, 2002, pp. 526-527).

[5]Barcroft (2002) investigated the effects of semantic and structural elaboration on second language vocabulary learning.

[6]Brala (2002) expanded on Lindstromberg's (2001) article. (Lindstromberg's [2001] article pertains to preposition entries in UK monolingual dictionaries for learners of English. Specifically, the researcher [i.e., Lindstromberg] examined the entries for the preposition *on*.)

[7]A study by de la Fuente (2002) investigated the effects of the following three conditions on second language vocabulary learning: nonnegotiated premodified input, negotiation of input without pushed output, and negotiation of input plus pushed output.

[8]With 95 Spanish-speaking university students enrolled in sections of an intermediate

English for Academic Purposes course, Hall (2002) conducted a study in which the participants were presented with English nonwords overlapping with real words in Spanish (pseudocognates), together with noncognate nonwords, in a word familiarity task.

[9]Drawing on the savings paradigm from cognitive psychology, Hansen, Umeda, and McKinney (2002) investigated the relearning of second language vocabulary. (For an application of the savings paradigm to second language vocabulary research, see also de Bot & Stoessel, 2000.)

[10]Holowka, Brosseau-Lapré, and Petitto's (2002) article examined how babies exposed to two languages simultaneously acquired early word meanings in each of their two languages.

[11]Huibregtse, Admiraal, and Meara (2002) attempted to tackle the problem of determining a meaningful score on a yes-no vocabulary test. In so doing, they considered both correction for guessing and participants' response style.

The following quotation is informative to those not familiar with the yes-no vocabulary test. “A typical yes-no test consists of two different kinds of items: real words and pseudowords. Pseudowords are words that fulfil the phonological constraints of the language but do not bear meaning. The items of a yes-no test each consist of one word and are presented visually. Learners are asked to indicate whether or not they know the meaning of the word and to answer with ‘yes’ or ‘no’. Participants know that the test contains non-existing words, not how many nor their location in the test” (Huibregtse, Admiraal, & Meara, 2002, pp. 227-228).

[12]A study by Jiang (2002) investigates the proposition that second language lexical forms are often mapped to the existing semantic content of their first language translations rather than to new semantic specifications of their own.

[13]Kroll, Michael, Tokowicz, and Dufour (2002) investigated the development of lexical fluency in a second language (L2). Specifically, they reported on two experiments that examined the development of L2 lexical fluency.

[14]Malvern and Richards (2002) investigated teachers' accommodation in language proficiency interviews using a measure of lexical diversity called D (Malvern & Richards, 1997).

[15]Meara's (2002) article reviews four books pertaining to vocabulary acquisition research. Specifically, the books reviewed are the following: (a) *Exploring the Second Language Mental Lexicon* (Singleton, 1999), (b) *Assessing Vocabulary* (Read, 2000), (c) *Vocabulary in Language Teaching* (Schmitt, 2000), and (d) *Learning Vocabulary in Another Language* (Nation, 2001).

[16]Snellings, van Gelderen, and de Glopper (2002) reported on a study that investigated whether an experimental intervention aiming at enhancing the fluency of lexical retrieval in an L2 could actually be effective in an educational context (p. 729).

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About the Author

Yuji Tanaka is an associate professor of applied linguistics at the Prefectural University of Kumamoto, Japan. His research focuses on second language vocabulary acquisition.