English Language & Literature Teaching, Vol. 20, No. 2 Summer 2014

Evidence for the Significance of Vocabulary in L2 Writing

Seung Won Jun
(R.O.K. Air Force Academy)

Jun, Seung Won. (2014). Evidence for the significance of vocabulary in L2 writing. *English Language & Literature Teaching, 20*(2), 1-20.

This paper examines empirical and theoretical evidence for the significant role of vocabulary in developing L2 writing skills, arguing for the integration of vocabulary learning into writing instruction. Empirical studies on vocabulary and writing show not only that writing can enhance vocabulary learning, but also that an instructional focus on drawing learner's attention to the lexico-grammatical aspects of language can be beneficial for the learners at all stages of writing. Nonetheless, these studies do not clearly define the theoretical basis for why such a focus on vocabulary in writing instruction is necessary. Therefore, the paper continues to examine Jiang's (2000) lexical development and Levelt's (1989, 1993) language production models and the manners in which cohesion and coherence in a text are established through the use of vocabulary. The two theoretical models and the concepts of cohesion and coherence provide support for the centrality of vocabulary in producing sentences, in connecting sentences, and in creating meaningful texts, respectively. Both empirical and theoretical evidence suggest that vocabulary may be more intrinsically related to writing than has been assumed and that it may provide the key to developing learners' writing skills.

[L2 writing/vocabulary/lexical development/language production]

I. INTRODUCTION

Amidst the controversies surrounding product- vs. process-oriented writing in second language (L2) writing instruction, the lexico-grammatical aspects of language have received relatively less attention compared to the emphasis given to engaging students in the iterative processes of planning, drafting, and revising their texts. Researchers, however, have begun to notice the importance of vocabulary and its integral connection to language structure in producing L2 written texts. Consequently, a growing body of research is now beginning to show the significant role of vocabulary in every aspect of L2 writing. The

교보문고 KYOBO Book Centre

literature, however, lacks a systematic synthesis of existing research that provides empirical and theoretical support for the need to underscore the lexico-grammatical aspects of language in L2 writing. This need is considerable as helping learners to obtain lexical-grammatical knowledge in connection to writing can enable learners to enhance their productive use of words (Kim, 2014). In an attempt to address this issue, I conducted a comprehensive literature review on vocabulary and writing research, focusing on studies that carry pedagogical implications for writing instruction. Furthermore, I limited the scope of the review to adult learners of English, examining research articles that are easily accessible to the international community of researchers.

How important is vocabulary in writing? Gass and Selinker (2008), for example, noted that vocabulary may be the most central language component L2 learners need to develop: Learners normally make many more lexical than grammatical errors in writing, and it is the former that has the potential to interfere severely with communication. Learners also seem to be concerned constantly with their use of vocabulary in writing, as they have been found to overwhelmingly notice lexical problems while writing and making revisions (Cumming, 1990; Hanaoka, 2007). Moreover, poor L2 writers have been found to be chiefly preoccupied with vocabulary and grammar problems compared to good writers, who focus on more global, text-level issues (Victori, 1999). Faced with lexical problems, learners have also expressed their need to focus on vocabulary in their writing courses (Leki & Carson, 1994).

Schoonen et al. (2003) investigated the importance of linguistic knowledge (primarily operationalized as lexico-grammatical knowledge), metacognitive knowledge, and fluency in accessing the linguistic knowledge in first language (L1) and L2 writing. They found that for both L1 and L2 writing, linguistic knowledge was the strongest predictor of writing performance. In addition, fluency in accessing this knowledge proved to be an essential factor for L2 writing performance. Similarly, Manchön, Murphy, and Roca (2007) noted that L2 learners' difficulties in accessing and retrieving lexical information throughout their writing processes can adversely affect their ability to plan, formulate, and revise texts.

Furthermore, a look at any writing scoring rubric shows that vocabulary is one of the most important factors that raters consider when judging the quality of writing. Numerous studies have attested to the validity of vocabulary as a chief component in the construct of writing quality: Error-free lexical variation has been found to correlate significantly with writing quality (Engber, 1995); sentence-level errors, including word choice, were more related to writing quality than were rhetorical features (Sweedler-Brown, 1993); lexical variety and richness in writing were related to learners' proficiency level (Grant & Ginther, 2000; Laufer & Nation, 1995); and learners with a higher proficiency level possessed more productive vocabulary knowledge than those with less (Laufer & Nation, 1999).

교보문고 KYOBO Book Centre

Since vocabulary is directly related to writing quality, the way in which learners use vocabulary will have far-reaching effects on their writing performance. Unfortunately, L2 learners have been found to use simple vocabulary with low lexical variation, over-using high-frequency words while under-using academic vocabulary in their writing (Breeze, 2008). Hinkel (2003), for example, analyzed academic essays written by students with various language backgrounds and found that the non-natives used simple syntactic and lexical features significantly more than the natives did.

The types of problems visible for learners may also depend on their experience in learning to writing. Hemchua and Schmitt (2006) analyzed the writing of Thai university students for lexical errors and identified "near synonyms" to be the most frequent errors found in their compositions. They discovered that the students had more difficulty with meanings than the forms of words. In Cumming's (1989) study, expert writers also proved to be especially careful about choosing appropriate words and phrases for their intended meaning, whereas novice writers had relatively little concern for qualities of word choice.

Cumming (1990) reanalyzed a subset of Cumming's (1989) data with respect to the learners' attention to writing content and language use – the two aspects of writing that the learners mostly attended to during their writing process. He found that these writing behaviors mostly involved the learners searching for appropriate words and phrases and comparing L1-L2 equivalents for words and phrases that the learners were unsure of. One of the interesting findings of this study was that the learners used their L1 not only to search for intended lexical items and then translate them into L2, but also to judge whether their use of L2 words and phrases was appropriate.

In addition, De Larios, Marin, and Murphy (2001) examined the verbal protocols of Spanish EFL learners at different L2 proficiency levels writing in their L1 and L2 and found that one of the major problems the learners encountered were lexical searches, defined as "all those searches for words and expressions needed to express the message clearly and appropriately" (p. 516).

Clearly, studies show that vocabulary assumes a prominent role in writing but that regrettably, learners face various types of lexical problems in writing as well. In light of this fact, I further examine empirical and theoretical evidence for the centrality of vocabulary in writing with an invitation for writing teachers and researchers to eagerly embrace vocabulary learning as an integral part of their instruction.

II. EMPIRICAL EVIDENCE

There is a growing body of empirical evidence suggesting both that writing can enhance vocabulary learning and that vocabulary instruction can be beneficial for writing. I would

교보문고 KYOBO Book Centre

like to examine this bidirectional relationship between vocabulary and writing, arguing for the significant role vocabulary plays in developing writing skills. First, I review literature on using writing to enhance vocabulary learning. Second, I examine studies that show how systematic vocabulary learning can lead to improvements in writing. Third, I look into the learning of formulaic expressions and its application to L2 writing. Finally, I review research on the use of corpora in L2 writing instruction.

1. Using Writing to Enhance Vocabulary Learning

According to the Involvement Load Hypothesis (Laufer & Hulstijn, 2001), vocabulary learning is reliant on a person's depth of processing, which consists of the components "search", "evaluation", and "need." Specifically, the more learners perceive the need to know words for a specific learning task (i.e., need), look up their meanings (i.e., search), and make comparisons between the given meanings of the words (i.e., evaluation), the involvement load increases and thus leads to better word acquisition. According to this hypothesis, engaging learners in a writing task with target words would result in high word retention due to the high involvement load this task requires. On the contrary, a reading comprehension task with the target words glossed for learners would result in low retention for the opposite reason. Numerous studies have attested to the positive effects of writing on vocabulary learning (e.g., Hulstijn & Laufer, 2001; Keating, 2008; Webb, 2005).

Hulstijn and Laufer (2001), for example, examined EFL university students' vocabulary retention of 10 target words through three tasks that differed in terms of their involvement load. The results confirmed their prediction, showing that the task of writing a composition using the target words was most effective, followed by a reading comprehension plus target word fill-in task, and finally a reading comprehension with marginal glosses task. A more recent study by Keating (2008) examined vocabulary learning – using tasks similar to those of the Hulstijn and Laufer (2001) study – and found comparable results showing that retention for both productive and receptive vocabulary knowledge was highest for the task with the highest involvement load: the sentence writing task. Furthermore, Webb (2005) showed that learning words through sentence writing was more effective than through reading glossed sentences for gaining various aspects of vocabulary knowledge.

Using writing for learning vocabulary has more pedagogical significance than just increasing learners' involvement load. Referring to the transfer-appropriate processing hypothesis (Blaxton, 1989; Morris, Bransford, & Franks, 1977), Lightbown (2007) argued that learners can better remember what they have learned when the cognitive processes and other conditions during learning are similar to those during retrieval. In other words, learners will be able to use language communicatively only when language is learned in a communicative context. Bringing this argument to the current topic, we can assume that

교보문고 KYOBO Book Centre

learning to use vocabulary productively, as in the sentence writing task, will improve learners' ability to retrieve this information when they are engaged in writing in the future. On the other hand, learning vocabulary through reading may only help learners to use this knowledge in similar receptive tasks.

For this reason, writing instructors should give priority to increasing learners' productive vocabulary knowledge over receptive knowledge, being aware that receptive vocabulary knowledge usually precedes productive knowledge and that the size of the former is larger than that of the latter for most learners (Fan, 2000; Laufer, 1998; Laufer & Paribakht, 1998; Lee, Chon, & Shin, 2012; Webb, 2008). The full integration of L2 lemmas into lexical entries requires multiple exposures to the lexical entries in meaningful contexts (Jiang, 2000). Therefore, it is vital that learners are frequently exposed to and learn to use words productively in various meaningful contexts.

2. Vocabulary and Writing

Studies show that a focus on vocabulary throughout the writing process can help learners to use words productively in their writing. Muncie (2002), for example, proposed that teachers should incorporate prewriting activities that encourage vocabulary use (e.g., brainstorming for words) into their writing instruction, since these activities can provide L2 learners with a list of relevant vocabulary that they can use in their writing. Webb (2009) also showed that learners who received vocabulary instruction were able to use the target words more effectively in their writing, especially when they had learned them through a productive task.

Lee and Muncie (2006) examined the use of vocabulary in a post-reading L2 writing task by secondary school students from various L1 backgrounds. With repeated explanation, discussion, and elicitation of the target words through a mixture of activities based on the same topic, the teacher aimed to maximize the students' exposure to the target words. The students were also required to write an essay on the topic utilizing a writing frame provided by the teacher. The results showed that students' productive use of high-level target words (i.e., less frequent words) and their lexical frequency profile (Laufer & Nation, 1995) – which compares the words in a composition to the first one thousand, the next one thousand most frequent words of English, and the university word list – improved in the post-reading writing task.

In an earlier study with a similar population to that of the Lee and Muncie (2006) study, Lee (2003) found that systematic instruction on words (e.g., through elicitation, negotiation, elaboration, repetition, contextualization, etc.) after a reading activity enabled students to increase the use of the target vocabulary in their L2 writing in comparison to what they

교보문고 KYOBO Book Centre

were able to do before the instruction. Furthermore, the quality of writing was judged to be higher in the post-instruction writing task.

The above studies imply that learners need multiple exposures to words in different contexts as well as repeated practice with the words to develop the ability to fluently retrieve the words from their mental lexicon and use them productively, such as in a writing task. Simply put, the frequency of lexical retrieval, in addition to the depth of processing, may be one of the determining factors in learning new L2 words (Folse, 2006).

Researchers have also emphasized that fluency in accessing and retrieving lexical information is crucial for fluent communication and therefore may influence writing performance. Snellings, van Gelderen, and de Glopper (2002) investigated whether they could train students to develop fluency in lexical retrieval through a computerized program in a classroom setting. The program was designed to train its users with four different types of exercises for the target L2 words, shifting from developing fluency in receptive to productive skills. The students from four classrooms were trained on two different sets of words. The training proved to be quite effective: Students were more accurate and fluent in lexical retrieval with the trained words than those who were not trained with the words.

In a later study, Snellings, van Gelderen, and de Glopper (2004) tested whether fluency in lexical retrieval would lead to improvements in the quality of narrative L2 writing. Their argument was that increasing fluency in lexical retrieval would decrease cognitive efforts in L2 writing, which in turn would allow learners to use the additional attentional resources to focus on other processes, such as planning and organization. The training was similar to that used in their previous study. They found that the enhanced fluency in retrieving words through the computerized training enabled the students to use the trained words more often in the narrative writing. However, this did not lead to overall improvements in writing quality. The authors speculated that other skills, such as organizing and revising ability, can as well have an influence on L2 writing.

3. Formulaic Expressions and Writing

Among other things, knowing a word includes having knowledge of the usage of the word, such as its patterns and other types of formulaic expressions within a sentence (Nation, 2001). Learning these types of formulaic expressions can be beneficial for writing in many ways. For example, they occur very frequently in written language. According to Sinclair's (1991) idiom principle, "a language user has available to him or her a large number of semi-preconstructed phrases that constitute single choices, even though they might appear to be analysable into segments" (p.110). For language learners, prefabricated chunks, such as formulaic expressions, could be memorized and used as whole units in writing, which could free their cognitive resources during the composition process.

교보문고 KYOBO Book Centre

In addition, frequent patterns appear in certain genres and registers of writing. Coxhead and Byrd (2007), for example, noted that a type of discourse, such as academic writing, is characterized by certain vocabulary and grammar and that teachers can, therefore, learn to identify the language that their students need to learn. Biber, Conrad, and Cortes (2004) examined the use of lexical bundles – defined as "the most frequent recurring lexical sequences in a register" (p. 376) – in university classroom teaching and textbooks. They found that these two registers incorporated distinct lexical bundles in terms of discourse functions. They also found a strong relationship between the discourse function and the structure type of the lexical bundles. They argued that these lexical bundles are stored as unanalyzed units in the mental lexicon and serve as building blocks for constructing discourse.

Studies have also shown that formulaic expressions are processed more quickly than nonformulaic ones (Conklin & Schmitt, 2008; Jiang & Nekrasova, 2007), further implying that the former are likely to be stored mentally as single, unanalyzed lexical units. Moreover, the meaning and structure of these lexical units are believed to be intrinsically associated: Units with similar meaning may have the same structure and vice versa (Hunston & Francis, 2000; Sinclair, 1991). These characteristics of formulaic expressions can allow their use to have favorable influences on learners' writing processes.

Bereiter and Scardamalia's (1987) model of writing distinguishes the "knowledge-transforming" process – in which writers engage in highly reflective and self-regulatory behaviour – from the "knowledge-telling" process – in which writers avoid complex processes and are preoccupied with generating unorganized content for writing. In this model, the knowledge-transforming process is shown to be promising only when learners are able to coordinate a certain number of ideas during composition. The already high processing demands of writing can restrict learners' ability to engage in the knowledge-transforming process when their unfamiliarity with the language creates even a higher processing demand for language production. Learning formulaic expressions as single lexical units can therefore ease the writing process, freeing up learners' cognitive resources by treating longer units of words as single lexical units.

4. The Use of Corpora and Writing

Various types of corpora have been used in L2 writing research, for example, the Corpus of Contemporary American English (COCA), Collins Corpus, Brown Corpus, British National Corpus (BNC), and Michigan Corpus of Academic Spoken English (MICASE). Specifically, researchers have sought to help learners address their difficulties in writing by raising their awareness of the lexico-grammatical aspects of language with the help of corpora use. One of the major principles underlying the use of corpora in writing is that

교보문고 KYOBO Book Centre

grammar and vocabulary are closely interrelated (Francis, 1993; Halliday, 1994; Sinclair, 1991).

Incorporating corpora into writing instruction can benefit learners in numerous ways (Block, 2009; Cobb, 1999; Kaur & Hegelheimer, 2005; Lee & Swales, 2006; Liu, 2011; O'Sullivan & Chambers, 2006; Sinclair, 1991; Yeh, Liou, & Li, 2007; Yoon & Hirvela, 2004). Corpora can: provide learners with ample authentic data that are not found in traditional grammar and reference books; help them to become autonomous learners through inductive learning; become aware of various aspects of language and of their role as authors, and build confidence as learners; promote faster acquisition and retention of vocabulary knowledge and transfer of this knowledge to writing tasks; allow the standard for language use to be based on actual evidence of use rather than on native speaker intuition; and make it possible for learning to be contextualized, empowered, and progressive.

At the same time, incorporating corpora into L2 writing instruction can create new challenges for language learning (Bloch, 2009; Gaskell & Cobb, 2004; Granger, Kraif, Ponton, Antoniadis, & Zampa, 2007; Kennedy & Miceli, 2001; Liu, 2011; Sun, 2007; Vannestål & Lidquist, 2007; Yoon & Hirvela, 2004): Learners may experience frustration using a corpus, because it can be time consuming or difficult for learners and the data a corpus provides do not necessarily indicate which words are appropriate in particular contexts. Initially, training and guidance are needed to take full advantage of a corpus. Learners may not always be able to interpret the data a corpus produces; not have access to the necessary technology to use a corpus; and have difficulty with the query methods for finding relevant results.

The use of corpora in L2 writing is a recent domain of research that needs to be investigated further. Studies have largely examined the benefits of learning that corpora can offer learners. Yoon's (2008) qualitative study, for example, investigated the use of Collins' COBUILD Corpus in an advanced academic ESL course. She found that the corpus helped her students to discover common usage patterns of words, become aware of the lexico-grammatical aspect of language, and take more responsibility as writers.

Furthermore, in Todd (2001), Thai university students made small concordances of problematic lexical items and were able to induce patterns from the concordance to make self-corrections in their writing. Similarly, using a corpus was instrumental for correcting grammatical and lexical errors in writing for the undergraduate students learning French in O'Sullivan and Chambers' (2006) study. Bloch (2009) used a concordancing program to assist learners in choosing appropriate reporting verbs in their academic writing. Moreover, Gaskell and Cobb (2004) demonstrated how online concordancing can be used to provide feedback to students' writing.

교보문고 KYOBO Book Centre

The use of corpora has also been found to be facilitative for developing professional writing skills. In Lee and Swales' (2006) study, doctoral students compiled corpora of their own writing and of expert writers. By comparing their writing with those of experts through the compilation of two different types of written corpora, they were able to discover aspects of language that they could not have learned from other resources. Furthermore, Hsieh and Liou's (2008) study helped EFL graduate students in Applied Linguistics to learn to write research article abstracts through the use of corpus-based online instructional materials. Such instruction made it possible for the students to become more cognizant of the structure and language use in research article abstracts.

III. THEORETICAL EVIDENCE

The above empirical studies show the need for a focus on vocabulary in writing instruction. In addition to the empirical evidence, a vocabulary-focused writing instruction should be informed by theory. For example, the language used in the writing of many L2 learners often resembles that of their L1. Without a clear conceptual understanding of this phenomenon, writing instruction may focus on the consequences of the problem itself, without taking into account the cause of the problem. A possible initial step into understanding this phenomenon may be to examine how L2 learners use vocabulary knowledge to produce sentences. For this purpose, I examine Jiang's (2000) L2 lexical development and Levelt's (1989, 1993) language production models in detail. In addition to producing sentences, creating logical, purposeful, and meaningful text is essential in writing. Therefore, I describe the pivotal role vocabulary plays in creating cohesion and coherence in texts. Finally, I examine the use of L1 in L2 writing – a phenomenon likely expected among L2 learners according to Jiang and Levelt's models.

1. L2 Lexical Development

Two components, the lemma and the lexeme, make up a lexical entry (Levelt, 1989). The former contains the semantic and syntactic specifications of a word; the latter the morphological and formal (i.e., phonological or orthographical) specifications. For native speakers, these specifications are highly integrated into a lexical entry. By analyzing the introspective data of their learners' inferencing strategies of unknown words, De Bot, Paribakht, and Wesche (1997) found that L2 learners may also have a similar organization structure of these components in their mental lexicon. According to Jiang (2000), however, L2 learners normally lack sufficient contextualized language input in their learning environment and already have an established semantic system in their L1, which

교보문고 KYOBO Book Centre

eventually prevents them from extracting, creating, and integrating the specifications into a lexical entry.

Jiang proposed three developmental stages for the integration process of the linguistic specifications (i.e., semantic, syntactic, morphological, and formal) into lexical entries for L2 learners. Initially, L2 learners center on the formal specifications when learning a new word; its meaning is available through their L1. This stage is called the "formal stage." At this stage, the new lexical entry contains only the formal specifications, with a pointer that links the L2 word with its L1 translation. Learners can access the meaning and grammatical information about the word through the L2-L1 link (i.e., lexical association) or through explicit rules about the word. Such information, which is stored outside the lexical entry, cannot be automatically retrieved during language production.

With repeated use, the lexical association between the L2 word and its L1 translation becomes stronger, which enables the learners to simultaneously retrieve the formal and the semantic/syntactic specifications of the word from the L2 and L1 lexical entries, respectively. This stage is called the "L1 lemma mediation stage" – implying that the use of the L2 word is mediated by the L1 lemma. At this stage, the semantic and syntactic specifications of the L1 lemma are copied to the L2 lemma. Therefore, the lexical entry contains the formal specifications of the L2 word but the semantic and syntactic specifications of the L1 word. Furthermore, no morphological specifications are contained at this stage. Because of the direct connection between the L1 lemma and the L2 formal specifications within a lexical entry, language production at the L1 lemma mediation stage can be somewhat automatic. However, word choice and surface structure errors are expected as a result of the L1 lemma mediation for L2 language production.

Finally, learners are able to extract and create the semantic, syntactic, and morphological specifications of the L2 word and integrate them into the L2 lexical entry when they are exposed to highly contextualized language input. This final stage is called the "L2 integration stage." At this stage, all the linguistic specifications are part of the lexical entry and therefore can be retrieved automatically during communication. In other words, learners are able to use the L2 word in a similar manner to their L1 words.

Unfortunately, lexical development stops at the L1 lemma mediation stage for most learners even when sufficient contextualized language input is available to them. This is called "lexical fossilization." Jiang (2000) argues that lexical fossilization occurs since L1 lemma specifications have already been copied to the L2 lemma at the L1 lemma mediation stage and learners, therefore, have access to the semantic and syntactic specifications of the input through L1 lemma mediation. Through multiple exposures within meaningful contexts, learners may be able to make the transition from the L1 lemma mediation stage to the L2 integration stage.

교보문고 KYOBO Book Centre

2. Language Production

According to Levelt (1989, 1993), speech involves the four processes of (a) conceptual preparation, (b) grammatical encoding, (c) phonological encoding, and (d) articulation. Conceptual preparation takes place in what is called the Conceptualizer; grammatical and phonological encoding in the Formulator; and articulation in the Articulator. In this model, speech production (i.e., language production) is lexically-driven, in which lemmas and lexemes play central roles in the grammatical and phonological encoding processes, respectively. For the purpose of the present paper, I will briefly examine only the first two processes, which are responsible for the generation of a message and its surface structure. In writing, orthographical encoding and the act of writing may correspond to the processes of phonological encoding and articulation in speech, although the processes involved may not be the same. De Bot et al. (1997) proposed that Levelt's language production model can be adapted to represent both spoken and written language modalities in L2 and L1 processing.

Speech begins with the conception of a communicative intention by the speaker. To make his or her intention comprehensible to the hearer, the speaker will choose speech acts and relevant information to express that intention and decide on their sequence of expression. This component of the conceptual preparation is called macro-planning. The assigning of a propositional shape, perspective, accessibility status, and language-specific details (e.g., tense and number) to the information constitutes the micro-planning of the conceptual preparation. What results from the macro- and micro-planning in the Conceptualizer is a pre-verbal message.

The Formulator receives the pre-verbal message and generates a surface structure for the message. In this process, lemmas are first retrieved from the speaker's mental lexicon when the conceptual conditions of the pre-verbal message match the semantic specifications of the lemmas. Lemmas also contain syntactic specifications of their lexical entries, which define the syntactic environment in which lemmas can be used. Eventually, a surface structure for the message is generated as the syntactic environments for all the lemmas are fulfilled. Consequently, the output from the grammatical encoding process is a syntactic representation of the conceptual message. In this way, the generation of surface structure is lexically-driven, in which lemmas play a central role.

Levelt views lexical items as central for language production. This view is reflected in his lexical hypothesis (Levelt, 1989, p. 181):

> The lexical hypothesis entails, in particular, that nothing in the speaker's message will by itself trigger a particular syntactic form...There must always be mediating lexical items, triggered by the message, which by their grammatical properties and their

교보문고 KYOBO Book Centre

order of activation cause the Grammatical Encoder to generate a particular syntactic structure.

Contrary to the past when linguists had prioritized the rules of syntax for language production (e.g., generative theory), a growing number of linguists now have come to realize that this process is lexically driven. Schönefeld (2001), for example, examined various linguistic models of sentence formation with experimental data, concluding that syntactic construction is a lexically-driven process. These linguists claim that lexical entries contain syntactic information, among others, that constrains the possible grammatical encoding of the speaker's message.

According to Levelt's model, it is not surprising that L2 learners make frequent lexical and grammatical errors before they make the transition to the integration stage of L2 lexical development. The reliance on the L1 lemma for L2 words will naturally lead to the formation of L1-based surface structures for producing language. Therefore, this transition has significant results for L2 language production.

3. Cohesion and Coherence

In addition to forming sentences, writing involves composing large units of text. Halliday and Hasan (1976) saw text as a semantic unit and believed that cohesion in a text could be established through various cohesive ties within the text. Among the five major types of cohesive ties that Halliday and Hasan defined (i.e., reference, substitution, ellipsis, conjunction, and lexical cohesion), lexical cohesion – which refers to repetition or collocation of the same or related lexical items – is seen to play a predominant role in connecting sentences in discourse. Witte and Faigley (1981), for example, found that the quality of L1 essays they examined was related to the use of lexical cohesion ties in the essays. The manner in which vocabulary is used in a text can therefore affect the cohesiveness of the text.

A cohesive text, however, can be coherent to the reader only when he or she has access to the background knowledge underlying the text (Carrell, 1982). In other words, the reader's interaction with a text will play a decisive role in establishing coherence of the text. Moreover, a text will be cohesive only if it is coherent to the reader. Witte and Faigley (1981) also emphasized coherence in a text, arguing that "writing quality is in part defined as the 'fit' of a particular text to its context, which includes such factors as the writer's purpose, the discourse medium, and the audience's knowledge of an interest in the subject" (p. 199). What this implies is that the way readers construct the meaning of a text will largely depend on their own understanding of the author's intentions, of the discourse characteristics of the text, and of the world. In particular, the readers' knowledge of words

교보문고 KYOBO Book Centre

within a real-world context will determine the quality of a text. Therefore, vocabulary can assume a pivotal role in constructing coherence in a text. This role has significant pedagogical implications for writing instruction, as writers not only need to use cohesive devices to hold a text together, but also achieve coherence of the text by considering the expectations and knowledge of their readers.

In short, learners' vocabulary knowledge will not only affect how they produce language, but also influence how they construct texts and meaning in a cohesive and coherent way. This provides the theoretical evidence for a focus on vocabulary in writing instruction.

4. The Use of L1

According to Jiang's (2000) and Levelt's (1989, 1993) models, L2 learners will be inclined to rely on their L1 to produce language in writing, since the L2 lemma specifications of most words – which play a central role in generating the surface structure of sentences – will be available through direct lexical association with or mediation of the lemmas of their corresponding L1 words. In fact, one strategy that learners have been found to rely on for overcoming various lexical problems in L2 writing is the use of their L1 (Manchön, Murphy, & Roca, 2007). As Cumming's (1989, 1990) studies have shown, learners tend to use their L1 to generate content and to make judgments about the appropriate uses of their L2 words or phrases based on their L1 standards. Research has also documented learners switching to their L1 during the writing process for various other reasons that involve accessing linguistic information stored in lemmas.

Qi (1998), for example, examined several factors that influence the use of L1 in L2 writing, relying on think-aloud protocols from a graduate student whose L1 was Chinese. The student was asked to engage in think-alouds as she wrote three sets of writing tasks. The study showed that the student switched her language to L1 in order to quickly encode her ideas into L1 before continuing her flow of thought, to develop her thoughts more fluently, and to verify the meaning of her L2 word choice against her L1.

In addition, Wang and Wen (2002) investigated the use of L1 in L2 writing with respect to L2 proficiency level and two types of writing tasks (i.e., narrative and argumentative writing). They discovered that the use of L1 increased for learners with low L2 proficiency: A great deal of the composition process for these learners appeared to consist of translating directly from their L1 to L2. The advanced learners, on the other hand, were found to use their L1 strategically for different purposes. In addition, more L1 use was found in narrative than in argumentative writing.

Wang (2003) also examined the use of L1 by eight Chinese ESL learners with different L2 proficiency levels as they wrote an informal personal letter and an argumentative essay. Interestingly, Wang found that the learners with high proficiency level switched to their L1

교보문고 KYOBO Book Centre

more often than those with low proficiency level. However, the L1 use of the former group was qualitatively different from that of the latter group. The type of writing had no influence on the learners' use of L1.

These studies illustrate that learners strategically rely on their L1 to encode and verify meaning, generate ideas, and search for appropriate lexical items, all of which are executed in the learners' L1 to ease the process of L2 writing. In spite of the many benefits of using L1 in L2 writing, the reliance on L1 can create difficulties for learners when their L1 differs linguistically from the L2. Theoretically, the use of L1 in L2 writing – which corresponds to the formal stage or the L1 lemma mediation stage in Jiang's (2000) model – would inevitably result in writing that bears a resemblance to the learners' L1 writing.

IV. CONCLUSION

The empirical evidence based on existing research supports the reciprocally advantageous, bidirectional relationship between vocabulary and writing. Specifically, writing can help learners to maximize their retention of vocabulary when learning new words, while an instructional focus on vocabulary can help learners to use vocabulary more productively and effectively in writing. Furthermore, learners can reduce their cognitive processing load while writing by using formulaic expressions, which in turn may enable them to use the additional attentional resources to engage in more reflective and self-regulatory writing. Moreover, learners can acquire appropriate knowledge of the lexico-grammatical aspects of language more easily through the use of corpora, which is crucial for developing writing skills. At a more abstract level, the theoretical evidence indicates that vocabulary (i.e., the lemma and lexeme components of lexical items) plays a central role in producing sentences – and therefore in generating content for writing. All the more, the role of vocabulary is crucial for connecting sentences cohesively and constructing coherence of content by creating meaningful texts for readers.

Based on the empirical and theoretical evidence provided, I strongly encourage writing teachers to integrate vocabulary learning into their writing instruction. Muncie (2002) claimed that writing can help learners to convert their receptive vocabulary knowledge to productive knowledge by allowing them to experiment with the productive use of new words. Moreover, writing provides learners with opportunity for pushed output. Swain (1995, p.128) argued that "output may stimulate learners to move from the semantic, open-ended, non-deterministic, strategic processing prevalent in comprehension to the complete grammatical processing needed for accurate production." Since writing does not permit learners to rely on non-linguistic clues (e.g., gesture, back-channeling, contextual clues, etc.) for communication, learners must depend exclusively on language to convey their

교보문고 KYOBO Book Centre

meaning to readers. Accordingly, writing fosters a learning enviroment in which learners are supplied with ample opportunity for pushed output.

It is imperative for writing instructors to make sure that learners acquire sufficient vocabulary knowledge before writing. Lee (2003) and Lee and Muncie (2006), for example, showed that multiple exposures to and elicitations of target words through teacher and peer interactions (e.g., negotiation, discussion, and elaboration) with guided writing can improve learners' productive use of the target words and their lexical frequency profile of low frequency words in their writing. More importantly, considering the vital role vocabulary assumes in establishing coherence in a text, examining vocabulary at this stage of writing will enable learners to activate their background knowledge and generate content for their writing.

Words can also be learned through writing, as have been demonstrated by studies supporting the Involvement Load Hypothesis. In addition to increasing learners' depth of processing of words, however, it is also important to design learning tasks that require learners to retrieve words repeatedly (Folse, 2006). According to Schmitt (2000), lexical knowledge has been found to be more susceptible to attrition than other linguistic aspects of language. It is, therefore, essential to engage learners in repeated retrieval activities after they have learned new words. Fluent lexical retrieval is crucial for fluent language production and can be transferred to writing skills as well (Snellings, van Gelderen, & de Glopper, 2002, 2004).

Since learners encounter various lexical problems in L2 writing and this can have far-reaching consequences for their writing performance, writing instruction with a focus on vocabulary seems inevitable. Moreover, reliance on learners' L1 may not be the fundamental solution to their problems, since this reliance can prohibit them from advancing to the final integration stage of L2 lexical development. In the past, vocabulary has been rather neglected and treated as just one component of writing. However, the present paper clearly shows that vocabulary may be more intrinsically related to writing than has been assumed. If so, a focus on vocabulary may not only be necessary in writing instruction; it may provide the key to developing learners' writing skills.

REFERENCES

Bereiter, C., & Scardamalia, M. (1987). *The psychology of written composition*. Hillsdale, NJ: Erlbaum.

Biber, D., Conrad, S., & Cortes, V. (2004). *If you look at...* : Lexical bundles in university teaching and textbooks. *Applied Linguistics, 25*, 371-405.

교보문고 KYOBO Book Centre

Blaxton, T. (1989). Investigating dissociations among memory measures: Support for a transfer-appropriate processing framework. *Journal of Experimental Psychology: Learning, Memory, and Cognition, 15*, 657-668.

Bloch, J. (2009). The design of an online concordancing program for teaching about reporting verbs. *Language Learning & Technology, 13*, 59-78.

Breeze, R. (2008). Researching simplicity and sophistication in student writing. *International Journal of English Studies, 8*, 51-66.

Carrell, P. L. (1982). Cohesion is not coherence. *TESOL Quarterly, 16*, 479-488.

Conklin, K., & Schmitt, N. (2008). Formulaic sequences: Are they processed more quickly than nonformulaic language by native and nonnative speakers? *Applied Linguistics, 29*, 1-18.

Cobb, T. (1999). Applying constructivism: A test for the learner as a scientist. *Educational Technology, Research and Development, 47*, 15-31.

Coxhead, A., & Byrd, P. (2007). Preparing writing teachers to teach the vocabulary and grammar of academic prose. *Journal of Second Language Writing, 16*, 129-147.

Cumming, A. (1989). Writing expertise and second-language proficiency. *Language Learning, 39*, 81-141.

Cumming, A. (1990). Metalinguistic and ideational thinking in second language composing. *Written Communication, 7*, 482-511.

De Bot, K., Paribakht, T. S., & Wesche, M. B. (1997). Toward a lexical processing model for the study of second language vocabulary acquisition: Evidence from ESL reading. *Studies in Second Language Acquisition, 19*, 309-239.

De Larios, J. R., Marín, J., Murphy, L. (2001). A temporal analysis of formulation processes in L1 and L2 writing. *Language Learning, 51*, 497-538.

Engber, C. A. (1995). The relationship of lexical proficiency to the quality of ESL compositions. *Journal of Second Language Writing, 4*, 139-155.

Fan, M. (2000). How big is the gap and how to narrow it? An investigation into the active and passive vocabulary knowledge of L2 learners. *RELC Journal, 31*, 105-119.

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

Francis, G. (1993). A corpus-driven approach to grammar: Principles, methods, and examples. In M. Baker, G. Francis, & E. Tognini-Bonelli (Eds.), *Text and technology* (pp. 137–156). Amsterdam: Benjamins.

Gaskell, D., & Cobb, T. (2004). Can learners use concordance feedback for writing errors?.*System, 32*, 301-319.

Gass, S. M., & Selinker, L. (2008). *Second language acquisition: An introductory course* (3rd ed.). New York: Routledge.

교보문고 KYOBO Book Centre

Granger, S., Kraif, O., Ponton, C., Antoniadis, G., & Zampa, V. (2007). Integrating learner corpora and natural language processing: A crucial step towards reconciling technological sophistication and pedagogical effectiveness. *ReCALL, 19*, 252-268.

Grant, L., & Ginther, A. (2000). Using computer-tagged linguistic features to describe L2 writing differences. *Journal of Second Language Writing, 9*, 123-145.

Halliday, M. A. K. (1994). *Introducing functional grammar* (2nd ed.). London: Arnold.

Halliday, M. A. K., & Hasan, R. (1976). *Cohesion in English*. London: Longman.

Hanaoka, O. (2007). Output, noticing, and learning: An investigation into the role of spontaneous attention to form in a four-stage writing task. *Language Teaching Research, 11*, 459-479.

Hemchua, S., & Schmitt, N. (2006). An analysis of lexical errors in the English compositions of Thai learners. *Prospect, 21*, 3-25.

Hinkel, E. (2003). Simplicity without elegance: Features of sentences in L1 and L2 academic texts. *TESOL Quarterly, 37*, 275-301.

Hsieh, W. -M., & Liou, H. -C. (2008). A case study of corpus-informed online academic writing for EFL graduate students. *CALICO Journal, 26*, 28-47.

Hulstijn, J. H., & Laufer, B. (2001). Some empirical evidence for the involvement load hypothesis in vocabulary acquisition. *Language Learning, 51*, 539-558.

Hunston, S. & Francis, G. (2000). *Pattern grammar: A corpus-driven approach to the lexical grammar of English*. John Benjamins. Amsterdam.

Jiang, N. (2000). Lexical representation and development in a second language. *Applied Linguistics, 21*, 47-77.

Jiang, N., & Nekrasova, T. N. (2007). The processing of formulaic sequences by second language speakers. *The Modern Language Journal, 91*, 433-445.

Kaur, J., & Hegelheimer, V. (2005). ESL students' use of concordance in the transfer of academic word knowledge: An exploratory study. *Computer Assisted Language Learning, 18*, 287-310.

Keating, G. D. (2008). Task effectiveness and word learning in a second language: The involvement load hypothesis on trial. *Language Teaching Research, 12*, 365-386.

Kennedy, C., & Miceli, T. (2001). An evaluation of intermediate students' approaches to corpus investigation. *Language Learning & Technology, 5*(3), 77-90.

Kim, N-B. (2014). A trend analysis of vocabulary articles in the journal of English Language & Literature Teaching. *English Language & Literature Teaching, 20(1)*, 287-309.

Laufer, B. (1998). The development of passive and active vocabulary: Same or different? *Applied Linguistics, 19*, 255-271.

교보문고 KYOBO Book Centre

Laufer, B., & Hulstijn, J. H. (2001). Incidental vocabulary acquisition in a second language: The construct of task-induced involvement. *Applied Linguistics, 22*, 1-26.

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

Laufer, B., & Nation, I. S. P. (1999). A vocabulary size test of controlled productive ability. *Language Testing, 16*, 33-51.

Laufer, B., & Paribakht, T. S. (1998). The relationship between passive and active vocabularies: Effects of language learning context. *Language Learning, 48*, 365-391.

Lee, Y. C., Chon, Y. V., & Shin, D. (2012). Vocabulary size of Korean EFL university learners: Using an item response theory model. *English Language & Literature Teaching, 18(1)*, 171-195.

Lee, S. H. (2003). ESL learners' vocabulary use in writing and the effects of explicit vocabulary instruction. *System, 31*, 537-561.

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.

Lee, D., & Swales, J. (2006). A corpus-based EAP course for NNS doctoral students: Moving from available specialized corpora to self-complied corpora. *English for Specific Purposes, 25*, 56-75.

Leki, I., & Carson, J. G. (1994). Students' perceptions of EAP writing instruction and writing needs across the disciplines. *TESOL Quarterly, 28*, 81-101.

Levelt, W. J. M. (1989). *Speaking from intention to articulation*. Cambridge, MA: MIT Press.

Levelt, W. J. M. (1993). Language use in normal speakers and its disorders. In G. Blanken, E. Dittman, H. Grimm, J. Marshall, & C. Wallesch (Eds.), *Linguistic disorders and pathologies. An international handbook* (pp. 1-15). Berlin: Mouton de Gruyter.

Liu, D. (2011). Making grammar instruction more empowering: An exploratory case study of corpus use in the learning/teaching of grammar. *Research in the Teaching of English, 45*, 353-377.

Lightbown, P. M. (2007). Transfer appropriate processing as a model for classroom second language acquisition. In Z. H. Han (Ed.), *Understanding second language process* (pp.27- 44). Clevedon, UK: Multilingual Matters.

Manchön, R., Murphy, L., & Roca, J. (2007). Lexical retrieval processes and strategies in second language writing: A synthesis of empirical research. *International Journal of English Studies, 7*, 149-174.

Morris, C. D., Bransford, J. D., & Franks, J. J. (1977). Levels of processing vs. transfer appropriate processing. *Journal of Verbal Learning and Verbal Behavior, 16*, 519-533.

교보문고 KYOBO Book Centre

Muncie, J. (2002). Process writing and vocabulary development: Comparing lexical frequency profiles across drafts. *System, 30*, 225-235.

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

O'Sullivan, Í., & Chambers, A. (2006). Learners' writing skills in French: Corpus consultation and learner evaluation. *Journal of Second Language Writing, 15*, 49-68.

Qi, D. S. (1998). An Inquiry into language-switching in second language composing processes. *Canadian Modern Language Review, 54*, 413-435.

Schmitt, N. (2000). *Vocabulary in language teaching*. Cambridge: Cambridge University Press.

Schönefeld , D. (2001). *Where lexicon and syntax meet*. Berlin: Mouton de Gruyter.

Schoonen, R., van Gelderen, A., de Glopper, D., Hulstijn, J., Simis, A., Snellings, P., & Stevenson, M. (2003). The role of linguistic knowledge, speed of processing, and metacognitive knowledge. *Language Learning, 53*, 165-202.

Sinclair, J. M. (1991). *Corpus, concordance, collocation*. Oxford: Oxford University Press.

Snellings, P., van Gelderen, A., & de Glopper, K. (2002). Lexical retrieval: An aspect of fluent second language production that can be enhanced. *Language Learning, 52*, 723-754.

Snellings, P., van Gelderen, A., & de Glopper, K. (2004). The effect of enhanced lexical retrieval on second language writing: A classroom experiment. *Applied Psycholinguistics, 25*, 175-200.

Sun, Y.-C. (2007). Learner perceptions of a concordancing tool for academic writing. *Computer Assisted Language learning, 20*, 323-343.

Swain, M. (1995). Three functions of output in second language learning. In G. Cook & B. Seidlhofer (Eds.), *Principle and Practice in Applied Linguistics: Studies in Honor of H. G. Widdowson* (pp. 125-144). Oxford: Oxford University Press.

Sweedler-Brown, C. (1993). ESL essay evaluation: The influence of sentence-level and rhetorical features. *Journal of Second Language Writing, 2*, 3-17.

Todd, R. W. (2001). Induction from self-selected concordances and self-correction. *System, 29*, 91-102.

Vannestål, M. E., & Lidquist, H. (2007). Learning English grammar with a corpus: Experimenting with concordancing in a university grammar course. *ReCALL, 19*, 329-350.

Victori, M. (1999). An analysis of writing knowledge in EFL composing: A case study of two effective and two less effective writers. *System, 27*, 537-555.

Wang, L. (2003). Switching to first language among writers with differing second-language proficiency. *Journal of Second Language Writing, 12*, 347-375.

교보문고 KYOBO Book Centre

Wang, W., & Wen, Q. (2002). L1 use in the L2 composing process: An exploratory study of 16 Chinese EFL writers. *Journal of Second Language Writing, 11*, 225-246.

Webb, S. (2005). Receptive and productive vocabulary learning: The effects of reading and writing on word knowledge. *Studies in Second Language Acquisition, 27*, 33-52.

Webb, S. (2008). Receptive and productive vocabulary sizes of L2 learners. *Studies in Second Language Acquisition, 30*, 79-95.

Webb, S. A. (2009). The effects of pre-learning vocabulary on reading comprehension and writing. *The Canadian Modern Language Review, 65*, 441-470.

Witte, S. P., & Faigley, L. (1981). Coherence, cohesion, and writing quality. *College Composition and Communication, 32*, 189-204.

Yeh, Y., Liou, H. -C., & Li, Y. -H. (2007). Online synonym materials and concordancing for EFL college writing. *Computer Assisted Language Learning, 20*, 131-152.

Yoon, H. (2008). More than a linguistic reference: The influence of corpus technology on L2 academic writing. *Language Learning & Technology, 12*, 31-48.

Yoon, H., & Hirvela, A. (2004). ESL student attitudes toward corpus use in L2 writing. *Journal of Second Language Writing, 13*, 257-283.

Examples in: English
Applicable Languages: English
Applicable Levels: Tertiary

Seung Won Jun
Dept. of International Studies
R.O.K. Air Force Academy
635 Danjae Ro, 335-1, Namil Myeon
Cheongwon Kun, Chungbuk 363-849, Korea
Tel: (043) 290-6425 CP: (010)-5072-0316
Email: seungwon.jun@gmail.com

Received in April 15th, 2014
Reviewed in May 26th, 2014
Revised version received in June 5th, 2014

교보문고 KYOBO Book Centre