IMPROVING VOCABULARY ACQUISITION AND RETENTION FOR ENGLISH LANGUAGE LEARNERS

Jason Gold

Effective Vocabulary Instruction for English Language Learners

Vocabulary is one of the most essential components of learning a language. There is little doubt among instructors and researchers that without proper and effective vocabulary instruction students of any age will be hard-pressed to keep pace and acquire sufficient language proficiency. According to Kim (2011), one of the main difficulties facing L2 learners is the vast number of words they need to acquire in order to become fluent in their L2. Nyikos and Fan (2007) claimed that "mastering vocabulary is one of the most challenging tasks that any learner faces while acquiring another language, and, thus, learners have consistently found it necessary to compensate for their limited vocabulary."

The purpose of this literature review is to explore several vocabulary strategies to determine their effectiveness in enhancing learning, use and retention of vocabulary among English Language Learners (ELLs). Particularly, this paper will focus on incidental vs. explicit learning, involvement load hypothesis, and form-focused instruction.

Rationale

Vocabulary instruction as part of second language learning is an issue that every L2 teacher faces and deals with on a daily basis. What vocabulary should students be taught? How should they be taught it? What methods work best? The purpose and rationale of this paper will be to shed some light on these questions, and help teachers identify some of the more effective strategies for vocabulary instruction regarding ELLs, especially methods that are proven and can work well in any learning environment with any group of students.

There is still much room for research and evaluation in this particular field as noted by Shintani (2011) who asserted: "Despite the long-running debate over the roles of input and output in second language acquisition and the numerous studies that have compared the effects of the two instructional options on the acquisition of grammatical features, little research has dealt with vocabulary acquisition" (p. 138).

A preliminary search of sources indicated there is considerable argument and debate on which methods are best. However, it appears most methodology can be grouped into one of two camps. Tekmen and Daloglu (2006) claimed: "Two types of vocabulary learning methods are often debated in the literature: explicit methods and implicit methods. Strong advocates on both sides are not hard to find" (p. 221).

Literature Review

The literature review consists of two main sections. In the first section, several approaches to vocabu-

lary acquisition, learning and retention for ELLs are reviewed⸺ specifically, incidental and explicit learning, involvement load hypothesis and form-focused instruction. In each section a brief definition and description of the strategy is followed by a review of research studies that examined the strategy. At the end of the literature review, a section on implications for the practice is presented.

Incidental vs. Explicit Vocabulary Learning

Lexical researchers have proposed two main approaches to vocabulary learning in a L2: explicit learning is learning vocabulary when the focus is on the words to be learnt, while incidental or implicit vocabulary learning is learning that occurs without the conscious intent to do so, when the learner's primary objective is something else, such as reading comprehension, learning from context. The vocabulary learning occurs unconsciously through the primary objective (Schmidt, 1994).

"Studies have shown that much of first language (L1) and advanced L2 learners' vocabulary knowledge is likely to come from incidental acquisition through extensive reading" (Nagy, 1997). However, "reading research has also shown that incidental vocabulary acquisition occurs in the L2, although only with relatively small gains and after repeated exposure" (Waring & Takaki, 2003). Despite decades of research and study, exactly how beneficial incidental vocabulary learning is through reading and in the classroom is still unclear. The following studies compare incidental learning with explicit learning among ELLs to determine which is most effective in the classroom.

Tekmen and Daloglu (2006) attempted to determine the relationship between learners' incidental vocabulary acquisition and their level of proficiency, and between acquisition and word frequency in text. In their study they used three groups of students from a Turkish university English program, consisting of intermediate, upper intermediate and advanced levels. They wished to determine how many words students would learn incidentally from all the available words in a given text and to what extent vocabulary acquisition through such learning depends on a learner's level of proficiency.

The results of their experimental research study showed significant lexical gains and retention through incidental acquisition among all three proficiency levels. However, the highest proficiency level had significantly higher gains than the intermediate levels. Broken down by level, the highest group (advanced) learned an average of 1 in 5.6 words tested (17.8%), the middle level students (upper intermediate) learned an average of 1 in 7.5 words tested (13%), and the lowest group learned an average of 1 in 9.6 words (10.4%). The researchers concluded that although learners were able to acquire some vocabulary by reading a text, the amount wasn't sufficient, and that "incidental acquisition alone is clearly insufficient for establishing a functional reading lexicon for L2 learners in academic settings" (2006, p. 236).

In another study regarding incidental vocabulary acquisition, Sonbul and Schmitt (2010) compared incidental vocabulary learning to learning aided by direct communication of word meanings (explicit learning). Three levels of vocabulary knowledge (form recall, meaning recall, and meaning recognition) were assessed using three tests (completion, L1 translation, and multiple choice). Sonbul and Schmitt stated at the outset that both incidental and explicit approaches are often complementary and useful when combined, but they wished to determine if the time taken to teach new words after they have been encountered in a reading is effective with overall learning and retention and ultimately worthwhile. Their study compared incidental learning from reading only (Read-Only) with a combination of incidental learning from reading plus explicit instruction (Read-Plus).

In their study, they used 40 female university medical students in Saudi Arabia who had started learning English as a school subject since age 12. A 700-word extract from a reading course book *The Language of Medicine in English* was chosen and 20 low-frequency or medical words were selected which occurred only once in the passage. After being matched for difficulty the words were divided between Read-Only

and Read-Plus conditions.

The results showed that incidental learning (Read-Only) had only small lexical gains, but direct instruction (Read-Plus) clearly added value to the learning process. With explicit instruction 20% of the target words were recalled and the meanings of over half were recognized, while with Read-Only there was just 7% meaning recall and about 38% meaning recognition. "Leaving L2 students to learn vocabulary in context does not seem to get them any deeper than meaning recognition knowledge (i.e. the ability to recognize word meanings on a multiple choice test). In any vocabulary teaching program, where the purpose is achieving deeper levels of vocabulary knowledge, direct instruction should be adopted" (2010, p. 258). However, they note that time-on-task and overall relative gains between explicit and incidental learning need to be kept in mind and considered in future studies.

Mason and Krashen (2004) also conducted a study to compare incidental and explicit learning methods on vocabulary growth and retention. Additionally, they analyzed time-on-task to determine if form-focused vocabulary instruction is worthwhile. They used 58 first-year English-beginner Japanese female students at a junior college in Osaka divided into two groups, a story-only group (aka, "read-only') and a story-plus (aka, "read-plus") study group.

Unsurprisingly, and as the authors had hypothesized, due to time spent incidental plus explicit instruction had nearly double the test scores of just incidental learning. The story-plus group got approximately double the score of the story-only group on the delayed posttest, but they also had devoted a lot more time to learning. Factoring in time-on-task, incidental-only learned more words per minute. Mason and Krashen claim the results suggest that "additional focus on form in the form of traditional vocabulary exercises is not as efficient as hearing words in the context of stories" (p. 183). The authors focus on the importance of time-on-task was a valuable addition to the research, but the overabundance of time spent on the story-plus group made their findings lose validity.

Taken together, many L2 researchers feel that incidental vocabulary acquisition can be an important means of enhancing vocabulary knowledge, but that an L2 lexicon cannot be significantly increased simply through incidental learning (Nation, 2001). The results on incidental learning show that it is more beneficial for higher proficiency ELLs who have already built a solid foundation of vocabulary. Early on, explicit learning is most helpful for language learners, but for more advanced learners incidental learning becomes more and more effective. Nearly all of the authors in the above studies concluded that incidental learning is helpful and necessary, but alone not sufficient for ELL vocabulary instruction. The best solution is to combine implicit techniques with direct instruction. The next sections discuss two such strategies, the involvement load hypothesis and form-focused instruction.

Involvement Load Hypothesis

First introduced by Laufer and Hulstijn (2001), the Involvement Load Hypothesis (ILH) states that vocabulary learning and retention are contingent on the amount of mental effort or involvement a given task requires, based on three factors: need, search, and evaluation. The first factor, need, refers to whether knowledge of certain words is required to complete a task. For example, need is moderate to answer comprehension questions that require knowledge of previously unknown words, and strong when one wishes to communicate a concept but lacks a word. The next factor, search, refers to the learner's attempt to discover the meaning of an unknown word. Search is necessary when one looks up the meaning of a word in a dictionary, and not necessary when definitions or glosses are provided and available. Lastly, evaluation involves comparing a new word with other words already known and deciding as to its suitability in a given context. For example, it is moderate when the learner must decide which meaning of a target word best fits a context, and is strong in sentence and composition writing (Keating, 2008). A given task's involvement

load, then, is the total score combination of the above three factors (strong presence = 2, moderate presence = 1, no presence = 0). The higher the involvement load of the task, the higher learning and retention is hypothesized to be.

In her study, Xu (2010) sought to determine how different reading tasks (reading with marginal glosses, reading with marginal glosses plus making sentences with target words, reading with a dictionary at one's disposal and reading with no external aid) affect the immediate word gains and retention of learners. She conducted her study using 125 randomly selected Chinese university freshmen studying English as a second language. Students were divided into four groups according to their English score from their college entrance exam and each group was given one of the above four different tasks. A reading passage from a CET-4 training book was selected, which contained 10 unknown words. Students had 15 minutes to do the reading comprehension without knowing the task of target word test, and afterwards received the posttest. Five days later they took a delayed posttest.

Results showed that groups 1 (glosses) and 2 (sentence making with glosses) did best, as predicted by the researcher. The study showed that tasks with a higher involvement load are more effective for vocabulary retention. Xu states that "making sentences with the target words does help students to remember the connection between the form of the word and its meaning, showing that the two cognitive components, search and evaluation.... are important when the students try to acquire new words incidentally through reading" (2010, p. 128). Her study also showed that dictionary use, although considered a high involvement task, did not have good retention results on either test, or that reading for global comprehension alone was not so effective.

In another study, Keating (2008) wished to test the claim that word learning and retention in a second language are contingent upon a task's involvement load (i.e., the amount of need, search and evaluation it imposes) on low-proficiency students. Using 79 beginning learners of Spanish at the University of Illinois, he randomly assigned them into three groups to complete one of three vocabulary learning tasks that varied in the amount of involvement they required: reading comprehension with marginal glosses (no effort), reading comprehension plus fill-in (moderate effort), or writing original sentences using the target words (strong effort).

Group 2 performed better than group 1, and group 3 performed best of all on immediate posttest. However, the delayed posttest showed group 2 did best, as group 3 students didn't retain much of what they had learned. Furthermore, when scores were adjusted to reflect time on task group 3 and group 2 showed little differences with words learned per minute than the reading-only group 1. Results of this study indicate the evaluation component of task-induced involvement is crucial to word learning, and that low-proficiency learners benefit more from more-involving tasks (higher involvement load). Keating (2008) states "learners benefit more from tasks that induce comparison of novel words with words already known, and that using the target words productively in original contexts is more beneficial than reading glossed words for basic comprehension" (p. 381). However, just how effective and efficient such tasks are when adjusting for time-on-task is still an issue that the author states needs further research.

Lastly, a recent study by Kim (2011) sought to investigate the involvement load hypothesis' effectiveness on L2 learners of different proficiency levels with two separate experiments. The first experiment randomly exposed nine classes of 64 U. S. undergraduate and Intensive English Program students (representing 27 different countries) to one of three tasks with different involvement loads (ILH = 1, 2, or 3). Each group had the same reading and 10 target words, but the first group was asked to do reading comprehension with marginal glosses (ILH = 1), the second group was asked to do reading comprehension with marginal glosses plus gap-fill in exercises (ILH = 2) and the final group was asked to write a composition incorporating the target words (ILH = 3). Afterwards each group took an immediate posttest based on Paribakht and Wesche's (1993) Vocabulary Knowledge Scale (VKS) to measure participants' initial vo-

cabulary learning and retention of new vocabulary knowledge, and two weeks later a posttest was given to measure retention.

Experiment 2 sought to examine how two tasks with the same theoretical involvement load (i.e. ILH = 3 for both tasks) affected learning and retention. According to the involvement load hypothesis, two tasks that induce the same ILH should promote similar results of vocabulary acquisition. Similar to experiment 1, participants were divided into two different proficiency levels and randomly assigned to one of two tasks: writing a composition using the same 10 target words as experiment 1 (ILH = 3) or writing an original sentence for each of the target words (ILH = 3). Afterward the same VKS test as Experiment 1 was given to the students, as well as the same delayed posttest.

> The results of Kim's two studies corroborated the Involvement Load Hypothesis: Experiment 1 indicated that higher involvement induced by the task resulted in more effective initial vocabulary learning and better retention of the new words. Experiment 2 provided some evidence that tasks were equally beneficial for vocabulary learning when their involvement loads were the same. Furthermore, the lack of differences between learners with two proficiency levels suggested that as long as the learners were able to complete vocabulary-focused tasks, the involvement load hypothesis applied to the learners with different proficiency levels (Kim, 2011, p. 129).

Experiment 1 showed that indeed tasks with higher ILH produced better acquisition and retention results, with group 3 outperforming groups 1 and 2 on both tests, and group 2 outperforming group 1. Experiment 2 showed tasks with similar ILH (ILH = 3 in this case) had similar results on acquisition and learning.

In conclusion, results from the research on the involvement load hypothesis indicate that tasks that involve higher evaluation or cognitive loads seem to provide for better learning and retention of vocabulary. In all studies the gains from incidental learning were the least, while methods involving moderate or high involvement loads consistently resulted in better scores and results. The pedagogical implications of this is that teachers should utilize explicit vocabulary exercises that make use of the involvement load hypothesis, such as making sentences, filling-in the blanks, after-reading activities, etc. and reviewing the words learned often in order to maximize learning and retention (Xu, 2010). However, time-on-task needs to be kept in mind, as spending more time on a given task does not always necessarily lead to greater lexical gains and retention. Kim (2011) notes that more than the 'need' or 'search' aspects of involvement load hypothesis, that 'evaluation' plays a much greater role in effectiveness regarding vocabulary acquisition and retention. However, more research is needed to determine this.

Form-Focused Instruction

Form-Focused Instruction (FFI) is a type of teaching that involves focusing learners' attention on the specific properties of the L2, such lexis, structure or phonology. There are generally considered to be two types of FFI. In integrated FFI, focus on linguistic form (vocabulary) occurs during the communicative activity itself, but overall meaning is still the primary task. For example, focus on some given vocabulary would occur while students' primary focus was reading a second language text. Isolated FFI, on the other hand, involves shifting the learners' attention away from meaning, such as pre-teaching vocabulary before a reading lesson, or stopping in the middle of a reading lesson to review vocabulary. Isolated FFI focuses primarily on language forms for an extended amount of time, while integrated FFI requires learners to shift their attention between the focus of the text and the vocabulary being taught (Spada & Lightbrown, 2008). While a number of studies (Laufer, 2005; and others) have shown that learning and retention are better when vocabulary instruction includes a form-on-focus component, there is little agreement as to how exactly FFI should be implemented, and if isolated or integrated is more beneficial.

In their study, File and Adams (2010) compared integrated and isolated form-focused instruction for vo-

cabulary development in an English-as-a-second-language reading lesson. They used two classes of ESL learners (N = 20, 10 male and 10 female) from a university preparation academic English course and followed a pretest-posttest-delayed posttest design to determine whether FFI influenced learning and retention of new vocabulary.

A statistical analysis of the results showed that both types of instruction led to more learning and retention of vocabulary knowledge than incidental exposure alone. Retention rates were similar for isolated and integrated instruction, but there was a trend for isolated instruction to lead to higher rates of learning. According to File and Adams, "one reason may be a lower cognitive load for isolated vocabulary instruction. Learners receiving isolated instruction only need to focus on the word that they are being taught at that time ... in contrast, when learners are taught vocabulary integrated with reading instruction, they may be focusing on several aspects of the instruction at once" (p. 240).

In another paper, Spada and Lightbrown (1993) also suggest that both types of form-focused instruction can be beneficial, depending on the learner, learning conditions and language features to be learned. They claimed form-focused instruction plays a role in "helping classroom learners in communicative language teaching and content-based instruction to use their L2 with greater fluency and accuracy (Lyster, 2004) and to use language forms that represent more advanced developmental levels (Doughty & Varela, 1998)." Spada and Lightbrown go on to explain that teachers who have experience teaching focus on meaning without attention to language form (FFI) have observed some language features never emerge in learners' language, and some non-target forms persist for years (p. 184). "Research and teaching experience have led to a growing consensus that instruction is most effective when it includes attention to both form and meaning" (p. 184). They claim that the question now isn't that FFI is beneficial for L2 instruction, but how it should be implemented and when it is most effective.

Spada and Lightbrown (1993) also choose to separate FFI into isolated and integrated instruction. Isolated FFI's primary purpose is to focus on and teach a particular language feature because students are unlikely to otherwise acquire the said feature from communicative activities. Isolated FFI is a form of explicit instruction. Integrated FFI, on the other hand, occurs during activities in which the primary focus is meaning, but "in which feedback or brief explanations are offered to help students express meaning more effectively or more accurately within the communicative interaction" (p. 187).

Both this paper and other studies have shown that both integrated and isolated form-focused instruction are beneficial and have their uses, depending on the student and situation. "Research and experience in communicative language teaching (CLT) and content-based instruction (CBI) affirm that not all language features need to be taught in isolated lessons. Instead, the current research on classroom learning shows that incidental learning allows students to acquire a great deal of language while focused on meaning in CLT and CBI" (p. 200).

In a different study, Laufer and Girsai (2008) conducted research investigating the effectiveness of form-focused instruction (FFI), meaning focused instruction (MFI), and contrastive analysis and translation (CAT) on L2 vocabulary acquisition using three similar classrooms of 10th graders learning English as a foreign language (Hebrew native speakers) who had studied English six years prior to the experiment. Each classroom was randomly assigned one of three treatments—the meaning-focused group performed content-oriented tasks that did not require attention to the vocabulary; the form-focused group performed text-based vocabulary tasks which focused on the target items, and the contrastive analysis and translation group were assigned text-based translation tasks from L2 into L1, and from L1 into L2. The authors hypothesized that CAT FFI would be at least as beneficial if not more so than the other types of FFI.

Results showed that FFI outperformed MFI, but CAT greatly outperformed both MFI and FFI. The MFI group learnt almost no vocabulary, the FFI group learned about 50% passive vocabulary and 27% active vocabulary, and CAT group learned 72% passive vocabulary and 51% active vocabulary. In terms of the

involvement load hypothesis, the translation CAT task required the most involvement, and subsequently led to the greatest gain. Of important note is that in this study all tasks received the same time-on-task, showing that explicit learning is more beneficial than incidental learning. "The research presented here suggests that second language learners may benefit from contrastive form-focused instruction in selected L2 areas through raising their awareness of interlingual difficulties, stretching their linguistics resources, and engaging in involving tasks" (Laufer & Girsai, 2008, p. 712).

In summary, both integrated and isolated form-focused instruction was shown to be an effective and useful tool for English language learning in the classroom. Isolated FFI's value is drawing student's entire focus onto the form of target words in order to better aid their reading comprehension or vocabulary retention for a given activity. Including pre-teaching vocabulary, this is a great way to gradually introduce and ease students into a new topic, making sure they focus on target words and concepts once they move on to text reading. Integrated FFI, much like incidental learning, can smoothly integrate focus on form when the main activity goal is on meaning and comprehension of a reading or topic. By learning when to utilize these tools and using them in tandem, teachers' vocabulary instruction can be adapted to the needs of the lesson and the class. File and Adams (2010) state that "teaching words integrated with reading may reduce planning time, may not require additional material preparation, and may help participants feel more comfortable asking for clarification of unknown vocabulary, allowing teachers to align instruction more closely to participants' learning needs" (p. 243).

Furthermore, the results of Laufer and Girsai's (2008) study surprisingly showed that form-focused instruction implementing translation exercises between students L1 and L2 was a rather effective teaching method, even more so than meaning recognition and text fill-in activities that usually are found in FFI teaching strategies. While translation had been popular in the past, research in the past few decades had disproved its overall effectiveness in lieu of other methods, such as those included in this paper. The authors' study shows though that when possible (due to limitations with classrooms consisting of students with more than one common L1) translation activities are a significantly beneficial tool to be added to FFI instruction. Such translation seems to inherently combine features of both integrated and isolated instruction, having students think about the form of the words both in English and their L1 to translate while working on meaning-focused activities. More research is needed on this topic, but this is an area of study that has great potential for ELL classrooms where the majority of students speak the same L1.

Implications for Classroom Practice

Based on the literature reviewed, there are several implications for classroom practice. The first implication is that a balanced mixture of incidental and explicit vocabulary teaching methods is the most effective strategy for teaching ELL classes. In all the studies included in this paper those that combined aspects from both produced the greatest vocabulary acquisition and retention among ELLs. It is up to the teacher to know his/her students' strengths and weaknesses and when to utilize each. Beginner ELLs tend to benefit the most from explicit instruction but as they move up to intermediate and advanced proficiency levels incidental learning comes to play a much larger and more important role in vocabulary acquisition. Students need to be explicitly taught vocabulary, word forms and learning strategies and have enough time to practice and get familiar with them before incidental learning really can take root and begin to have a significant impact on their learning.

The second implication is that tasks that require more involvement load lead to better overall vocabulary learning and retention. All the included studies on Involvement Load Hypothesis had similar results and were conclusive that the more effort a given task involves, the better the student learns and remembers it. Incidental was shown to be the least effective, while tasks that required high 'evaluation' consistently

produced the best results on both immediate and delayed posttests. Therefore when possible, teachers should try to incorporate a variety of tasks with high involvement load that make use of 'need', 'search,' and especially 'evaluation,' such as making sentences, filling-in the blanks, after-reading activities, etc., and reviewing the words learned often in order to maximize learning and retention. However, the only caveat to this is that time-on-task needs to always be kept in mind—it was shown that spending too much time on a given task may ultimately lead to fewer words learned compared to incidental learning. Teachers need to always be aware of the time assigned to complete tasks, as too much time may defeat the benefits of involvement load tasks.

Finally, the third implication is that learners need many opportunities to practice and use newly acquired words, especially regarding their productive knowledge. Some methods that had the highest scores on the immediate posttests also saw the greatest drop in score on the delayed posttests. This can be curtailed by not just teaching vocabulary in one lesson and assuming it was learned, but by recycling and reusing vocabulary and frequently using tasks with high involvement loads to ensure solid retention and understanding by students.

REFERENCES

Doughty, C. & Varela, E. (1998). Pedagogical choices in focus on form. *Focus on form in classroom and second language acquisition* (pp. 197−261). Cambridge: Cambridge University Press.

File, K. A., & Adams, R. (2010). Should vocabulary instruction be integrated or isolated? *TESOL Quarterly, 44*(2), 222−249.

Keating, G. (2008). Task effectiveness and word learning in a second language: The involvement load hypothesis on trial. *Language Teaching Research*, *12*(3), 365−386. DOI: 10.1177/1362168808089922

Kim, Y. (2011). The role of task-induced involvement and learner proficiency in L2 vocabulary acquisition. *Language Learning, 61*, 100−140.

Laufer, B. (2005). Form on focus in second language vocabulary learning. *EUROSLA Yearbook, 5*, 223−250. DOI: 10.1093/applin/amn018

Laufer, B. & Girsai, N. (2008). Form-focused instruction in second language vocabulary learning: a case for contrastive analysis and translation. *Applied Linguistics, 29(4)*, 694−716.

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

Lyster, R. (2004). Differential effects of prompts and recasts in form-focused-instruction. *Studies in Second Language Acquisition, 26*, 399−432.

Mason, B., & Krashen, S. (2004). Is form-focused vocabulary instruction worthwhile? *Regional Language Center Journal, 35*(2), 179−185.

Nagy, W. E. (1997). On the role of context in first and second language acquisition. *Vocabulary: Description, acquisition, and pedagogy* (pp. 64−83). Cambridge: Cambridge University Press.

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

Nyikos, M., & Fan, M. Y. (2007). A review of research on vocabulary learning strategies: Focus on learners voice and language proficiency. In A. Cohen and E. Macaro (Eds.), *Language learner strategies: 30 years of research and practice* (pp. 251−273). Oxford, UK: Oxford University Press.

Paribakht, T. S., & Wesche, M. B. (1993). Reading comprehension and second language development in a comprehension-based ESL program. *TESL Canada Journal, 11*, 9−29.

Schmidt, R. (1994). Deconstructing consciousness in search of useful definitions for applied linguistics.

Consciousness in Second Language Learning, *AILA Review*, *11*, 11−26.

Shintani, N. (2011). A comparative study of the effects of input-based and production-based instruction on vocabulary acquisition by young EFL learners. *Language Teaching Research, 15*(2), 137−158.

Sonbul, S., & Schmitt, N. (2010). Direct teaching of vocabulary after reading: is it worth the effort? *ELT Journal, 64*(3), 253−260. doi: 10.1093/ccpo59

Spada, N., & Lightbrown, P. (1993). Instruction and the development of questions in L2 classrooms. *Studies in Second Language Acquisition, 15*, 205−224.

Spada, N., & Lightbrown, P. (2008). Form-focused instruction: Integrated or isolated? *TESOL Quarterly, 42*, 181−207.

Tekmen, E., & Daloglu, A. (2006). An Investigation of incidental vocabulary acquisition in relation to learner proficiency level and word frequency. *Foreign Language Annuls, 39*(2), 220−243.

Waring, R., & Takaki, M. (2003). At what rate do learners learn and retain new vocabulary from reading a graded reader? *Reading in a Foreign Language, 15*, 130−163.

Xu, X. (2010). An Empirical Study on the Effect of Task on L2 Incidental Vocabulary Acquisition through Reading. *Asian Social Science*, *6*(7), 126−131. Retrieved from http://www.ccsenet.org/ass.