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The Effect of Teaching Critical Reading Strategies on EFL Learners' Vocabulary Retention

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Abstract

This study was an attempt to investigate whether teaching critical reading strategies had any significant effect on intermediate EFL learners' vocabulary retention. To fulfill the purpose of this study, 72 male and female students within the age range of 17 to 32 years studying at Farzan and Farzanegan language schools in Tehran at intermediate level were selected from a total number of 114 participants based on their performance on a piloted PET (2009) and a piloted teacher-made vocabulary recognition test and assigned to the experimental and control groups of 36 participants each. The same content (eight reading texts) was taught to both groups throughout the 19-session treatment with the only difference that the experimental group was taught critical reading strategies while in the control group the common comprehension-based approach was applied. At the end of the instruction, the piloted vocabulary retention post-test parallel to the vocabulary pre-test was administered to the participants of both groups after an interval of two weeks. Finally, the mean scores of both groups on the post-test were compared through an independent samples t-test which led to the rejection of the null hypothesis. Thus, teaching critical reading strategies proved to have a significant effect on intermediate EFL learners' vocabulary retention.

Keywords: reading comprehension, critical reading, critical reading strategies, vocabulary retention, intermediate EFL learners

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1. Introduction

One of the important ingredients of language is its lexiconan ingredient which is of prime and critical importance to the language learners. The lexicon, or in simple day-to-day term, vocabularies are the building blocks of a language without which people cannot communicate their intentions and, thus, the need for vocabulary is an issue of consensus among teachers and learners (Allen, 1983). The rapidly growing interest in the role of vocabulary in second or foreign language learning (e.g. Knight, 1994; Wesche & Paribakht, 1996; Zimmerman, 1997) demonstrates the foundational role vocabulary learning plays in acquiring a new language. For this reason, some (e.g. Hatch & Brown, 1995; Hulstijn, 1993) have even emphasized the need for a systematic and principled approach to the teaching and learning of vocabulary.

As a result, numerous types of approaches, techniques, exercises and practices have been introduced into the field to teach vocabulary. Since vocabulary learning is one of the major challenges foreign language learners face during the process of learning a language, Hulstijn (1993) suggests that teaching vocabulary should not only consist of teaching specific words but also aim at equipping learners with strategies necessary to expand their vocabulary knowledge. Many learners keep complaining that not long after they have memorized a word, it evades and based on what Allen (1983) says, even where teachers devote much time to vocabulary teaching, the results are often disappointing. Therefore, having to absorb and retain many unfamiliar words in a limited time without sufficient opportunity to internalize what have been learned requires vocabulary learning to be performed through elaborate and effective approaches.

It is noteworthy that there are many reports of strong relationship between vocabulary knowledge/achievement and reading comprehension (e.g. Grabe, 2004; Hilton & Hyder, 1995). This very interesting pattern of relationship demonstrates that vocabulary knowledge contributes significantly to reading comprehension; that is, the more words the learners are familiar with, the better comprehension they have from the

text (e.g. Anderson & Freebody, 1981; Koda, 1989). On the other hand, learners with high-level reading comprehension skills are able to acquire more vocabularies and retain them better (e.g. Coady, 1997; Paribakht & Wesche, 1999; Stoller & Grabe, 1993); consequently, vocabulary learning is a by-product of reading (Swanborn, 1999). Similarly, Huckin and Coady (1999) indicate that "except for the first few thousand most common words, vocabulary learning dominantly occurs through reading, with the learner guessing at the meaning of unknown words" (p. 182).

With respect to this mutual impact, it seems that both reading comprehension and vocabulary learning should be approached with effective strategies. This point is well supported by Beck, McKeown, and Kucan (2003) who state that former methods of vocabulary instruction, which required students to view definitions before reading a text and then perform on a quiz or figure out new vocabulary meaning from the context, proved to be less effective than once thought. Beck et al. further argue that such approaches are effective for neither teaching word meaning nor enhancing reading comprehension, and may, in fact, lead to misunderstanding of word meaning. Consequently, it seems that effective approaches are those that create ways in which the learner interacts with the text and actively uses the word meaning. Therefore, as suggested by Nagy, Herman, and Anderson (1985), instructional strategies that bring new vocabulary into a student's existing conceptual framework are effective in teaching vocabulary meaning and conceptual understanding; that is, strategic instruction will facilitate the students' process of struggling with the text in order to comprehend the major concepts and sub-concepts.

Referring to others (e.g. Haastrup, (1989); Mondria & Wit-de Boer, (1991); Xialong, (1988), as cited in Hedge, 2000), who suggest learning vocabulary in rich contexts rather than in isolation, Hedge recommends that learners infer new words in conditions which require more meticulous analysis and decision-making (p. 118). As Varaprasad (1997) argues, thinking and reading critically will help students judge the text, make arguments, and give reasons at later stages. It seems logical that

conducting such judgment and argumentation will be impossible in the absence of vocabulary use. Therefore, language learners should be given the chance to go through the text and focus on the author's assumptions, viewpoints, purposes, and ideology, i.e., to read critically. In fact, critical reading is a skill for discovering information and ideas within a text and it refers to a careful, active, reflective, and analytic reading (Kurland, 2000). It also gives learners the opportunity to think about and analyze the information critically, which means being able to look at the context with a wider perspective linked to their critical understanding (Wallace, 2003) and getting the chance to evaluate the context they face.

In line with the above-mentioned points, Shin (2004) states that a key component for students to grasp new words and their meanings and retain them later is to review the words more than just once. In fact, exposing students to an unknown word multiple times reinforces the word and its meaning and helps moving it from the short- to the long-term memory (e.g. Asselin, 2002; Findlan, Portman, & Shields, 2005). To do so, a variety of instructional methods is required and teachers need to review the words using different techniques and strategies. One such a technique and strategy could be critical reading because through critical reading the reader seeks ways to first understand and then confront the ideas of the writer and that often may require thinking and using the vocabulary of the text. A critical reader performs a mental action on the word-form and makes associations between the context and his own personal knowledge to infer word meanings (Wallace, 2003). In other words, a critical reader builds a bridge between the context and its vocabularies by focusing on the process of decoding meaning from printed signs through engaging with text rather than merely rote-reading the words on a page.

From the other point of view, Findlan et al. (2005) maintains, "Many exposures to a new word in a variety of contexts provide breadth and depth of meaning" (p. 37). Moreover, this is in line with the key point that Craik and Lockhart (1972) emphasize by stating that what matters in the retention of vocabularies is neither the intention to remember nor the

frequency of repetition, rather the depth of processing. Again, critical reading can bring about such a breadth and depth of meaning as readers get constantly involved in analyzing and interpreting the ideas of the writer and propose other ways of viewing the same ideas and arguments. In fact, when one reads words, phrases, or sentences in any language, one is stimulated to think (Mangal, 2005) and it is for this very reason that Halpern (1996) places comprehension in the realm of critical thinking and asserts that reading and critical thinking share a common basis. Thus, it can be concluded that critical reading may foster not only independent reading but also independent vocabulary learning due to the fact that it requires deep processing of the ideas in the text.

Besides, if critical reading is aligned with classroom interaction, then it provides a desirable chance for the learners to be frequently exposed to and use the new vocabularies in a meaningful way. This is due to the fact that in addition to reading the text critically, the learners will also need to discuss their ideas with their peers and the teacher and, consequently, may use the vocabularies of the text for this purpose. Therefore, if the teacher's aim is to help students sharpen their awareness regarding the effects of textual features that an author employs in order to deliver certain messages, it is necessary to spend more time discussing and examining each text critically during which the vocabularies of the text will be heard and used repeatedly in a meaningful and purposeful context. In fact, as Hieber, Lehr, and Osborn (2004, as cited in Austermuehle, Kautz, & Sprenzel, 2007) maintain, having a classroom rich in oral language and discussions about the text and exposing students to new words in the text will provide opportunities for learning to occur.

2. Review of the Literature

2.1 Reading comprehension

Reading may be considered the process of recognition and perception of the written or printed material. On the other hand, comprehension is the understanding of the meaning of the written material and covers the conscious strategies that lead to understanding. In fact, the process of

reading deals with language form, while comprehension, the end product, deals with language content (Sheng, 2000). For most teachers, reading comprehension is what they mean when they talk about a person's reading ability. It is the end result of the reading process and is what happens when all of the components interact successfully. More transparently, it can be said that reading comprehension is to recognize in all respects the information, feelings, and thoughts that are desired to be transmitted as they are, without having caused any misunderstanding in its course and without leaving any doubtful points behind (Kavkar, Oguzkan, & Sever (1994), as cited in Aksan & Kisac, 2009). A prosperous reading comprehension necessitates the active participation by the reader, commencing and arranging the reading process on his own (Harris & Sipay, 1990).

2.2 Critical reading strategies

In the literature, reading seems to be divided into two types. According to Burns, Roe, and Ross (1999, p. 219), literal comprehension is to take in ideas that are directly stated, i.e. the most basic type. Higher-order reading comprehension goes beyond literal understanding of a text. It involves higher-order thinking processes, known as critical reading. McDonald (2004, as cited in Tomasek, 2009) defines critical reading as an alternative way of reading that goes beyond the "typical approaches to reading such as information processing or personal response" (p. 118). Critical reading demands the reader to make judgments about what they read; this kind of reading requires posing and answering questions about the text and the author. Likewise, Richards and Schmidt (2002, p. 134) refer to critical reading as "Reading in which the reader reacts critically to what he or she is reading, through relating the content of reading material to personal standards, values, attitudes or beliefs, i.e. going beyond what is said in the text and critically evaluating the relevancy and value of what is read".

To sum up, critical reading is to read a text not only reflectively (Kurland, 2000) but also in a skeptical and analytical way and then to

judge the value of the text (e.g. Douglas, 2000; Goldman & Wiley, 2002; Thistlethwaite, 1990, as cited in Kobayashi, 2007) as well as the context they face (Wallace, 2003). This judgment and evaluation should happen while the reader maintains a view towards improving the nature of one's thought and one's subsequent actions (e.g. Paul & Elder, 2008, as cited in Tomasek, 2009). The requirement for the reader, thus, is to not only grasp what is said in the text, but also go far beyond it using his/her higher-order thinking skills, prior knowledge, or other information sources. Through adopting a social perspective, Carter and Nunan (2002) similarly define critical reading as "a reading practice which attends to the ideological underpinning of text, as signaled not so much by what writer chooses as a topic but how people, places, and events are talked about" (p. 220).

From an educational point of view, it is important for students to be capable of reading expository texts critically; reasoning through reading is an ability widely needed in the educational curriculum. Furthermore, according to Jones (2002), critical reading not only empowers students in EFL learning skills such as vocabulary and reading, but also teaches them how to reach real understanding of texts and how to think about them with a critical view. A critical reader performs a mental action on the word-form and makes associations between the context and his own personal knowledge to infer word meanings (Wallace, 2003).

Along these lines, there has been a strong effort towards developing effective strategies, techniques, and model lessons to foster critical reading and higher level thinking skills in reading. However, to fully understand a text and critically analyze it, different steps in the form of strategies were adopted in this study from Sousa (2004, pp. 105-106) which include previewing, contextualizing, questioning, reflecting, outlining and summarizing, evaluating an argument, and comparing and contrasting related readings.

Previewing is learning about a text before reading it and entails prediction based on the heading and subheadings, for example scanning and skimming. Contextulaizing requires placing a text in its historical,

biographical, and cultural contexts and includes making inferences and synthesizing. In questioning, the readers should ask questions about content and in reflecting they should examine their own responses and reflect upon the challenges to their personal beliefs and values and entails annotating, highlighting, and note taking. Outlining and summarizing require the readers to identify the main ideas and to restate and paraphrase. In evaluating an argument, which is testing the logic of the text as well as its credibility and emotional impact, readers are often asked to determine fact and opinion, find cause and effect relationships, determine claim and support, determine premise and conclusion, and finally analyze, interpret, and argue about the text. Ultimately, comparing and contrasting the related readings encompass exploring the likeliness and differences among texts for a better understanding (Sousa, 2004, pp. 105-106).

2.3 Vocabulary retention

Vocabulary retention has been defined as "the ability to recall or remember things after an interval of time. In language teaching, retention of what has been taught (e.g. grammar rules and vocabulary) may depend on the quality of teaching, the interest of the learners, or the meaningfulness of the materials" (Richards & Schmidt, 2002, p. 457). As it is obvious in the domain of vocabulary learning, the problem is not just in learning second language words; rather in remembering them. Bahrick (1984) states that how well people remember something depends on how deeply they process it. Therefore, various procedures have been recommended to facilitate vocabulary retention.

Concentration on features of the new word and its textual environment is supposed to facilitate retention. Learning in context depends on repeating, re-cycling, and re-presenting vocabularies as well as re-noticing them by the learner. It has been suggested (e.g. Haastrup, 1989; Modria & Wit-de Boer, 1991; Xialong, 1988, as cited in Hedge, 2000) that retention is related to the condition in which the meaning is inferred and the more analysis involved, the better the retention. There is,

yet, another aspect to the condition of inferring meaning of the word which enhances vocabulary retention. That is, retention depends in some way on the amount of mental and emotional energy used in processing a word and readers have developed certain strategies that could assist emotional and mental processing such as meta-cognitive strategies. Critical reading strategies might be another series of strategies that can boost the level of mental and emotional involvement of the learners with the word meaning because readers try to analyze the author's values and beliefs and evaluate them against their own.

Schouten-Van Parreren (1989), concentrating on reading with the primary goal of vocabulary acquisition, argues that a combination of three actions of inferring, verifying, and analyzing the meaning of each new word is very effective for this purpose. She defines guessing as inferencing meaning of an unknown word from the context. The second action, which is the action of verifying the guess, is looking up words in a dictionary. The third action according to Schouten-Van Parreren comprises the recognition of the relationship between new words and already known words in the target language or the mother tongue.

In spite of the fact that learners are recommended to learn words through reading texts, retention should not be confused with comprehension. Learning the word's meaning implies more than comprehending it in a particular text during a reading activity. The meaning of a word has to be retained in the long-term memory. As stated by Haycraft (1978), the words which are related to each other can be easily retained, because using the meaning of words together with the whole meaning of the sentences in which they are embedded is the deepest level of processing and ensures the best retention. To fulfill this aim, effective strategies have been developed to facilitate learning by actively involving the learner in conscious efforts and deep mental processing through reading to remember new words. One kind of such strategies is critical reading strategies.

3. Empirical Studies

Research on vocabulary in recent years has done a great deal to clarify the kinds of strategies learners use in understanding, using, and remembering words. One of the strategies, which has raised many discussions, is acquiring vocabulary through reading.

Reading is claimed by some scholars to be the major source of vocabulary growth in both L1 and L2 (e.g. Krashen, 1989; Swanborn, 1999). In this regard, Pulido (2004) carried out a study on the relationship between text comprehension and incidental vocabulary acquisition and examined the relationship between L2 passage comprehension, intake (form recognition), gain (meaning recognition and production), and retention of the new lexical items. Pulido's analyses revealed a generally robust consistent role of passage comprehension in lexical gain and retention, but differential patterns of relationships in intake due to effects of topic familiarity were found.

In another study, Min (2008) reported the results of a research with the purpose of comparing the effect of 'reading plus vocabulary-enhancement activities' (RV) and 'narrow reading' (NR), which entails repeated reading of thematically-related articles, on vocabulary acquisition and retention among secondary school EFL students. The results showed that the RV group, who practiced reading with focused vocabulary exercises, performed significantly better than the NR group on the acquisition and retention tests.

Adopting a different perspective, Prince (1996) maintains that reading develops the context for vocabulary recognition and learning and asserts that, "context provides the means to identify the meaning of the new word and not necessarily the means to learn it" (p. 489). He realizes that learning vocabulary through reading helps learners develop strategies such as anticipating and inferring and raises learners' self-reliance and awareness of words in discourse for communication in addition to exposing them to examples of collocation. Similarly, Fathi (2004) conducted a research on the effect of reading strategies on EFL

learners' vocabulary retention and found that applying reading strategies significantly enhanced vocabulary retention.

As a result, it can be concluded that through the teaching of reading and reading strategies, one of which can be application of critical reading strategies, vocabulary knowledge can be acquired gradually and incrementally in a myriad of contexts through repeated exposures (Crow, 1986). However, research on the direct effect of critical reading on vocabulary retention seems to be scarce as the researchers of the current study were not able to spot any study with such a focus.

Consequently, the issues discussed so far, namely the importance of vocabulary retention for EFL learners, the already proved relation between reading comprehension and vocabulary learning and retention, the importance of depth of processing and frequency of use in vocabulary retention, and the possibility that using critical reading strategies might provide both opportunities for the readers, as well as the negligence of critical reading and higher level thinking instruction in the context of the current research, led the researchers to seek ways to instruct such strategies and thereby foster learners' thinking abilities to probe its effect on their vocabulary retention.

In fact, the researchers of the current study were inspired by ideas such as those of Wallace (2003) who asserts that language teachers need to connect reading procedure to a wider project of critical literacy, which encompasses both micro and macro understanding of the text. Such a project, according to Wallace, would lead learners to gradually start thinking critically about the strategies they use to improve their vocabulary knowledge through reading and become not only better critical readers but also autonomous and strategic learners. Building upon this inspiration, the researchers intended to answer the following research question:

> Does teaching critical reading strategies have any significant effect on intermediate EFL learners' vocabulary retention?

In addressing the research question, the researchers stated the following null hypothesis:

$\mathbf{H_0}$: Teaching critical reading strategies does not have any significant effect on intermediate EFL learners' vocabulary retention.

If both teachers and learners care about the time and energy they spend to teach and learn effectively, definitely they would seek for efficient ways through which they can successfully meet their objectives. Conclusively, the findings of the present study will have implications for learners, teachers, and materials writers in the realm of TEFL in particular and education in general.

4. Method

4.1 Participants

The participants of the present study were 72 adult EFL learners aged within the range of 17 to 32 years. The sample comprised of 28 male and 44 female learners at the intermediate (from low to high) level of English language proficiency studying at Farzan and Farzanegan language schools in Tehran.

In the present study, the sample selection was done at two stages. At the first stage, a larger sample of 114 intermediate EFL learners was selected non-randomly and a piloted language proficiency test, sample Preliminary English Test (2009), was administered to them. Following the administration of PET, 79 EFL learners whose scores fell within the range of one standard deviation above and below the sample mean were chosen as the participants to take part in the second stage. At the second stage, in order to have a homogeneous sample in terms of vocabulary knowledge and to make sure that the target sample did not know the target vocabularies, which were supposed to be covered during the study, the 79 selected participants took part in a piloted teacher-made vocabulary recognition test. Those participants who answered less than 25% of the questions were assumed not to know the majority of the target vocabularies and were thus selected as the target sample (N = 72). The cutoff point of 25% was adopted from Yoshii and Flaitz (2002). The

selected participants were thus randomly divided into two groups, one experimental and one control with 36 learners in each.

It is worth mentioning that, 34 intermediate students (21 females and 13 males) formed the pilot group participants who were studying English at the same language schools where the main study was conducted and had the same characteristics and language proficiency level as those of the target sample.

4.2 Instructional materials

The main instructional material consisted of reading texts and the critical reading pamphlets. Eight texts were selected from a recently published course book on reading named 'Inside Reading 1' by Arline Burgmeier (2009) and were all given in the form of copies to both groups. The researchers designed a series of pamphlets covering the seven critical reading strategies and their sub-strategies introduced by Sousa (2004) and explained earlier in this paper. Each pamphlet ranged between four to eight pages and contained simple-to-grasp definition, applications, and a step-by-step easy and concrete explanation of each strategy followed by some examples and exercises for further practice in class for the experimental group. Additionally, two pamphlets, one on 'how to use dictionaries' and the other on 'general reading' were prepared and used for both groups.

4.3 Instrumentation

The *assessment* materials that were used included a test of general English proficiency, a vocabulary recognition pre-test, and a vocabulary retention post-test. The piloted sample PET (Preliminary English Test) published by Cambridge English for Speakers of Other Languages (ESOL, 2009) was utilized for homogenizing the participants of the study in terms of their English proficiency and it consisted of three papers, covering four skills of Reading (31 items), Writing (four items and two tasks), Listening (20 items) and Speaking. An 80-item vocabulary recognition test, which was designed and piloted by the researchers based

on the materials of the treatment, was used at the onset of the study to test the participants' degree of familiarity with the target vocabularies. This test consisted of multiple-choice, matching, and fill-in-the-blank items (for which the students were to select the appropriate word from a list and write it down in the blank), each of which tested one single vocabulary. It is worth mentioning that for the multiple-choice items, the students had to either find the most appropriate word from among the alternatives to complete the stem, or choose the best synonym or antonym from among the alternatives for the underlined word in the stem.

The post-test was composed of two sections: a) A 52-word list and b) A piloted 52-item teacher-made vocabulary retention test which was a parallel form of the test used at the onset of the study, that is the 80-item vocabulary recognition test used for homogenizing the participants, with the only difference that the vocabularies which 25% of the participants answered correctly at the homogenization stage (28 items) were omitted from this test. The purpose of the word list which contained the same vocabularies as the test was to make sure that the students would not mark the correct answer in the test by chance. The post-test is called vocabulary retention test because it was administered two weeks after the termination of treatment. The procedure of designing the tests is fully described in the procedure section hereunder.

5. Procedure

The first phase of the study was the preliminary study. In order to trial the most appropriate way of teaching critical reading strategies by means of the prepared pamphlets, finding the most suitable texts, checking the possible students' answers to the activities in the pamphlets as well as the reading course book (as its teacher guide was not available), the researchers ran a preliminary study during which the reading course was instructed through these strategies by an experienced lecturer at the English Department of Islamic Azad University, Central Tehran Branch.

The second phase was the pilot phase during which 34 intermediate students with similar characteristics to the target sample took all the assessment instruments including the sample PET (used for homogenization), a 110-item vocabulary test from which the basic pretest (80-item vocabulary test) was extracted, and then the extracted parallel vocabulary pretest and posttest. For all cases, item analysis was carried out and the malfunctioning items which had unacceptable facility and discrimination indices were discarded (i.e. ten items from PET, four in the reading, one in the writing, and five in the listening sections). As for the vocabulary tests, first the researchers selected 150 words from the target texts and gave the list of these words to the pilot group to mark the known words by providing a synonym or the meaning in either L1 or L2. As a result, 40 words which were proved as known by 60% of the students were discarded. In the next stage, a vocabulary test was designed based on the remaining 110 words and piloted with the same group. After running item analysis and discarding the malfunctioning items as well as those items, which were answered correctly by 60% of the participants, the researchers came up with an 80-item test (pre-test) which was later used for homogenizing the participants before the intervention. For the post-test, a vocabulary test parallel to the 80-item vocabulary pre-test (used for homogenizing) was designed in order to reduce the participants' memory effect in the posttest phase. No significant difference was obtained between the mean scores of the pilot group on the two tests showing that they were parallel.

The third phase comprised administration of the piloted tests to the target students for the purpose of participant selection. First, the piloted sample PET (2009) was administered to 114 male and female students at Farzan and Farzanegan language schools in Tehran in order to choose the participants who held the same level of language proficiency. Out of the 114 students, those whose scores fell between one standard deviation above and below the mean (N=79) were selected. Furthermore, in order to assure that the target sample was homogeneous in terms of vocabulary knowledge and not familiar with the target vocabulary, the 79

homogeneous students took part in the piloted 80-item teacher-made vocabulary recognition test containing the target vocabularies. Students were given one mark for each vocabulary item if they had chosen the correct response on the test as well as provided a synonym or a definition in either English or Persian on a separate list for each vocabulary. In case only the correct response was selected without providing the appropriate synonym or definition, the student would lose the mark for that vocabulary completely. Afterward, those who answered less than 25% of the test were considered as the main participants of the study.

When the vocabulary pre-test was administered for homogenizing the participants, any vocabulary item that was answered correctly by even one participant was omitted from the list of vocabularies to be taught during the treatment and thus discarded from the parallel post-test. Thus, the vocabulary post-test was reduced to 52 items. This was done for the purpose of ensuring that any post-test comparison between the two groups at the end of the treatment would detect their differences in the retention of words totally unknown to all individuals in both groups. This way the researchers tried to take care of the probable individual differences that could result in superfluous group differences and thus false conclusions at the end.

As a result of the homogenization, 72 remaining participants were randomly divided into experimental and control groups, each containing 36 students. to normalize the distribution of scores and homogeneity of variances, an independent-samples *t*-test was run to make sure there was no significant difference between the mean vocabulary scores of both groups prior to conducting the treatment. Since 36 is too large a number for the students in one English class, a collection of four classes were formed and each class was held twice a week.

Then, the treatment period commenced and continued for 19 sessions with each session lasting for 90 minutes. One of the researchers taught both groups. Eight selected texts were taught to the students in both groups but the only difference was their way of presentation; in the experimental group, teaching the critical reading strategies along with

their applications while reading the texts was targeted. As mentioned earlier, the main strategies were previewing, contextualizing, questioning, reflecting, outlining and summarizing, evaluating an argument, and comparing and contrasting related readings with sub-strategies explained at the beginning of the paper. Note has to be taken that although some of these strategies and their sub-strategies overlap with reading strategies, according to Sousa (2004), Dawson (1968), and Chapman (1993) they are considered as critical reading strategies. In each session, the new strategy was taught comprehensively with the help of the pamphlet and then the related activities in the pamphlet were carried out either in pairs or in groups. During these activities, the learners would get prepared to deal with the strategy so that they could later apply it when reading a text.

After teaching the strategy through modeling and guided practice, the focus was transferred to the text by going through the pre-, while-, and post-reading phases and then discussing different questions and inferences that the students had made. Strategies such as previewing, predicting, and skimming and scanning were practiced in the pre-reading phase. Participants were prompted to use note-taking and underlining strategies (e.g. impromptu, personal, implicit) while reading, which could lead to higher-order thinking. As one of the post-reading activities, the teacher would ask the students to read out loud and paraphrase while others would take note of their questions. For comprehension check, questions were raised and the answers were discussed by the students. Moreover, the students were encouraged to evaluate and interpret the text from different viewpoints and reflect upon each other's conclusions. They were asked to analyze how the text was constructed as well as what values it supported and whether they agreed with those values or not. The teacher also taught the students how to pose questions that would problematize the text and evoke thinking about issues of language, text, and meaning so that they could connect the text to their prior experience and knowledge and recognize how their beliefs and values influenced their understanding.

Moreover, for reflection strategy, the students were also asked to provide new examples on the topic and theme of the text based on their own experiences, share them with other students, and involve in more reflective and analytic debates. Application of some strategies like summarizing and outlining helped the students to self-correct, that is, through re-reading the text, checking the topic sentences, determining the main ideas, and relating passages to one another, they could overcome possible misunderstandings and thus could compare and contrast related texts better in line with the objective of focusing on intertextuality.

Students also received feedback from the teacher on their performances and every session before the new instruction the teacher reviewed the previous strategy. It must be added that the learned strategies were applied first to the new text and then to the previous texts to have more practice either inside or out of the class. Note has to be made that for efficient practice of the strategies, each text was given to the participants in the experimental group the session it was practiced to avoid pre-study of the texts by the students but every session the students would bring all the previous texts with them for the purpose of comparing them with one another and for applying the new strategies to the previous texts.

On the other hand, the control group was taught through the comprehension-based approach which is the typical method of teaching reading in the mentioned language schools. The participants of this group received the same texts as well as 'how to use dictionaries' and 'general reading' pamphlets and were taught through pre-, while-, and post-reading phases. Brainstorming was the main pre-reading activity during which the participants would also predict the content based on visual clues and the title and subtitles. The while-reading activity mainly included reading aloud as well as silently with the teacher explaining the paragraphs, vocabularies and the difficult structures. The students were free to use dictionaries during reading. The main post-reading activities included asking comprehension questions, conducting class discussions about the content of the text, and in the case of any volunteers, presenting

a very short oral summary to the class. The participants received feedback from the teacher on all of the activities they performed.

Two weeks after the completion of the treatment, the post-test was administered to both groups. Since the course was a reading course, the students were not told that they would take a vocabulary retention post-test and the interval of two weeks was chosen because less than this time the students might use their short-term memory to answer the questions and in more than two weeks further learning may occur (Pishghadam, Khodadady, & Khoshsabk, 2010). The posttest included two sections. The same 52 target vocabularies which none of the participants knew at the onset of the study were presented in two forms, one a vocabulary checklist in which the participants were required to write a synonym or a definition in L1 or L2, and the other in the form of a vocabulary retention test with multiple choice, fill-in-the-blank and matching items which was a parallel form of the vocabulary recognition pre-test. The reason for having the two forms for the pre-test was to check to what extent the participants were able to retain the vocabularies in both decontextualized (through the checklist) and contextualized (through the vocabulary test) ways.

It took 20 minutes to administer the vocabulary list and 40 minutes was allotted to administer the vocabulary retention post-test. In order to avoid the students' fatigue, a 10 minute gap was allowed between the two tests. Every individual was awarded a score of one for each vocabulary in the post-test provided that he/she had both selected the correct response from among the alternatives on the vocabulary retention post-test and provided the correct synonym or definition in Persian or English on the post-test checklist indicating retention of that vocabulary. If only one of these were correct, the candidate could have guessed the answer on the multiple choice test and would receive a score of zero on that vocabulary indicating lack of retention. At the end, the obtained data were analyzed to test the null hypothesis of the study.

6. Results

At the pilot phase, the researchers conducted item analysis and reliability estimate of the 110-item vocabulary test through which 30 malfunctioning items were omitted and the Cronbach Alpha came out to be 0.927 and 0.936 before and after item deletion, respectively. Then they designed another 80-item vocabulary test parallel to the 80 items remaining from the 110-item test. These two parallel tests (pre-test and post-test) were then piloted in two sessions in one day to investigate whether they were parallel or not. The calculation of the *F*-ratio between the variances obtained by the same pilot group on the two forms demonstrated a value of 0.047 with *p*-value of 0.829, meaning that there was no significant difference between the variances of the two sets of scores and proving that the two tests were parallel. Then the results of analysis for the 80-item parallel forms vocabulary pre- and post-tests revealed that the tests had a reliability of 0.886 and 0.889 as measured by Cronbach Alpha, respectively. Table 1 shows the calculation of *F*-ratio between the two parallel forms.

Table 1. Levene's test of equality of error variances

Dependent Variable: SCORES [a]			
F	df1	df2	Sig.
.047	1	66	.829

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept+TEST

Moreover, PET test was piloted and the internal consistency before and after removing the 10 malfunctioning items (which had unacceptable facility and discrimination indices according to Brown, 2004) were 0.77 and 0.86, respectively. Also, the inter-rater consistency between the two qualified raters using the predetermined PET rating scales came out to be 0.925 and 0.934 for the writing and speaking sections, respectively. The researchers used the Pearson correlation coefficient for this calculation and the results showed that there was a significant correlation between

the two raters. Therefore, this gave assurance to the researchers that the same raters could be used for the actual administration of the test.

To conduct the main study, the modified version of the PET was given to 114 EFL students and its reliability came out to be 0.87. Furthermore, the mean of the scores and the standard deviation for the 114 participants came out to be 59.01 and 9.002, respectively. Therefore, 79 participants, whose scores fell between 50.02 and 68.01, were selected and took part in the second phase of homogenization (vocabulary recognition test). Among these 79 participants, seven students answered more than 25% of the items and were omitted from the sample to ensure that the selected participants were unfamiliar with at least 75% of the target vocabularies and to come up with almost a homogeneous sample in terms of vocabulary knowledge. The mean score was 16.36 and the alpha coefficient for reliability of test scores came out to be 0.65. Therefore, the researchers came up with a sample of 72 participants who were randomly divided into two groups of experimental and control each containing 36 students. Table 2 demonstrates the descriptive statistics of the scores.

Table 2. Descriptive statistics of vocabulary recognition pre-test for control and experimental groups

Group Statistics							
	N	Mean		Std.	Skewness		
		Statistic	Std. Error	Statistic	Statistic	Std. Error	Ratio
Control Group	36	14.9167	.50924	3.05544	-.648	.393	-1.64
Experimental Group	36	14.9444	.47299	2.83795	-.353	.393	- .89

As it is demonstrated in Table2, Skewness ratios for the two groups fell within the acceptable range of ±1.96 and thus both distributions were normal.

To ensure that the two groups were truly homogeneous in terms of vocabulary knowledge, an independent-samples *t*-test comparing the

mean vocabulary scores of the control and experimental groups was run, the results of which are demonstrated in Table 3.

Table 3. T-test results for comparing the vocabulary recognition test scores of control and experimental groups at the homogenization phase

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	*T*	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Posttest	Equal variances assumed	.094	.760	-6.141	70	.000	-12.9444	2.10770	-17.1481	-8.74076
	Equal variances not assumed			-6.141	69.81	.000	-12.9444	2.10770	-17.1483	-8.74056

As displayed in Table 3, with the *F*-value of 0.115 and the *p*-value of 0.736 being larger than $\alpha = 0.05$, the variances between the two groups were not significantly different and consequently, homogeneity of variances was assumed. Therefore, the results of the *t*-test with the assumption of homogeneity of the variances ($t = -0.040$, df = 70, $p = 0.96 > 0.05$) indicated that there was no significant difference between the two groups' mean scores on the vocabulary recognition test prior to conducting the main study. As a result, the researcher being confident with the required conditions of the research continued the study by conducting critical reading strategies in the experimental group and employing the typical method of teaching reading in the control group.

When the treatment was over and after a two-week interval, the post-test including the 52-item checklist along with the 52-item vocabulary retention test was administered to both experimental and control groups. Prior to running an independent-samples *t*-test, the normality of the distribution of post-test scores in both experimental and control groups had to be checked. Table 4 shows the descriptive statistics of the control and experimental groups' post-test scores.

Table 4. Descriptive statistics of experimental and control groups on vocabulary retention post-test

Group Statistics							
	N	Mean		Std.	Skewness		
		Statistic	Std. Error	Statistic	Statistic	Std. Error	Ratio
Control Group	36	23.11	1.45	8.71	-.311	.393	-.079
Experimental Group	36	36.05	1.53	9.17	-.584	.393	-1.48

According to Table 4, the mean score of the experimental group came out to be 36.05 and higher than 23.11, which was the mean score of the control group; moreover, the skewness ratios fell within the acceptable range of ±1.96 signifying that the score distributions in both groups represented normality.

In order to test the null hypothesis of the study, an independent-samples *t*-test was legitimately run to compare the mean scores of the control and experimental groups. Table 5 displays the results of the independent-samples *t*-test run on the post-test mean scores of the two groups.

Table 5. *T*-test results for comparing the vocabulary retention post-test mean scores of control and experimental groups

Independent Samples Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	*T*	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Posttest	Equal variances assumed	.094	.760	-6.141	70	.000	-12.9444	2.10770	-17.1481	-8.74076
	Equal variances not assumed			-6.141	69.81	.000	-12.9444	2.10770	-17.1483	-8.74056

As displayed in Table 5, with the *F*-value of 0.094 and the *p*-value of 0.76 being larger than 0.05, the variances between the two groups were not significantly different, and thus, homogeneity of variances was assumed. Therefore, the results of the *t*-test with the assumption of homogeneity of the variances (t = -6.141, df = 70, p = 0.0005 < 0.05, two-tailed) indicated that there was a significant difference between the control and experimental groups' mean scores on the vocabulary retention post-test, thus leading to the rejection of the null hypothesis. Comparing the mean scores of the control and experimental groups, that is 23.11 and 36.05 respectively; the experimental group significantly outperformed the control group in vocabulary retention. Therefore, it can be concluded that teaching critical reading strategies did have statistically significant effect on intermediate EFL learners' vocabulary retention.

Subsequent to finding a significant difference between the mean scores of the two groups, the researchers had to determine how much of the obtained difference could be explained by the effect of the treatment. Therefore, the effect size was computed by Cohen's d and r using the *t*-value and df (Larson-Hall, 2010). This calculation was done to determine the strength of the findings of the research, that is to evaluate the stability of the research findings across samples, because the effect size is independent of sample size and can allow for meta-analysis across a range of different studies with different sample sizes. Cohen's d came out to be 1.47. According to Cohen's standard, values larger than 0.8 are considered to be large effect size (Larsen-Hall, 2010). Cohen's d of 1.47 corresponds with r value of 0.59 yielding eta square of 0.35 which indicated that teaching critical reading strategies accounted for 35% of the variability in the vocabulary retention scores of the experimental group. Therefore, the findings of the study could be considered strong enough for the purpose of generalization.

7. Discussion

As reported in the results section, the data strongly suggested that teaching critical reading strategies can increase the intermediate learners'

vocabulary retention. It is worth mentioning that the results were obtained under the condition that both groups had equal amount of reading practice and the only difference was the application of critical reading strategies in the experimental group. One reason for obtaining a better result in the critical reading group might have been that critical reading activities made it easier and more fun for the students to retain the target vocabularies due to the fact that they used those vocabularies in group discussions. This could have triggered a sense of involvement and enjoyment of the class activities. Moreover, these students spent a long time dealing with each text, because reading critically involves a wide range of effortful cognitive processes, such as comprehension, analysis, and evaluation of the text (e.g. Goldman & Wiley, 2002; Thistlethwaite, 1990). The longer time spent on the text might have resulted in providing opportunities for the students of the experimental group to comprehend the text deeper and to develop semantic networks and other kinds of associative links that ultimately enhanced learning and retention of new vocabularies.

It can also be argued that the more widespread application of critical reading strategies on texts, like any other strategy, could provide L2 readers with the support they need to improve their vocabulary and reading skills so that they may become more independent and successful readers and subsequently retain the vocabularies easier. In other words, critical reading strategies might have also made the students more autonomous and independent in learning vocabulary causing better retention due to the fact that they themselves took the responsibility in their learning.

It is worth mentioning that during the discussions, the experimental group used the vocabularies presented in the text which provided an opportunity for them to hear and deal with those words more frequently resulting in better vocabulary retention afterwards. Moreover, both groups were required to do homework activities outside the classroom; however, it seems that the type of homework activities for the experimental group which were critical reading activities such as text

summarizing, outlining, and paraphrasing proved to have a better impact. The researchers feel that through these activities, all students received the opportunity to engage in a type of intellectual discussion and make their voices heard. The more effective out-of-class activity as a justification for the better outcome of the experimental group can be accounted by Pimsleur's (1967) graduated-interval recall hypothesis which states that after learners acquire vocabulary, those words will rapidly fade from their memory if there is no effective reviewing process.

Another possible justification for the findings of the study might be the effectiveness of critical reading strategies in contextualizing vocabulary learning. That is, good retention of the vocabularies in the experimental group might have been due to their dealing with the contextualized vocabularies via applying the strategies of critical reading, namely evaluating, questioning, inferencing, interpreting, and the like while discussing the content of the texts inside the class. According to Oxford and Scarcella (1994), there is a strong idea among language experts that contextualized vocabulary learning is more effective than learning words in lists (out of context). They observed that while de-contextualized learning (word lists) might help learners memorize vocabulary for tests, learners were likely to rapidly forget words memorized from lists. Moreover, McCarthy (1990) argues that a word learned in a meaningful context is best remembered. Thus, since the learners in the experimental group critically analyzed and discussed the texts in which the new vocabularies appeared, they might have been provided with a richer context for learning and thus retaining those vocabularies.

Finally, the results of this study might have also been due to the positive impact of critical reading strategies on the reading comprehension and thus contributing to the vocabulary retention in an indirect way. As Stanovich (1986) states, the connection between reading comprehension and vocabulary knowledge is strong and unequivocal, although the precise nature of the causal relation between the two constructs is still under investigation. As Stanovich further maintains, the

correlation between reading ability and vocabulary knowledge is sizable throughout development.

Moreover, drawing upon the studies conducted by Coady (1997), Meara (1997), and Nation and Newton (1997), who suggest more explicit out-of-context vocabulary teaching at an early stage of language learning and more context-based vocabulary teaching at later stages of language learning, it could be inferred that critical reading strategies provided a rich context for vocabulary learning for the intermediate participants of this study. Furthermore, Hulstijn (2001) and Watanabe (1997) believe that readers' attention should be allocated to word knowledge in deeper level of processing; a contention which supports the findings of this study. Likewise, Huckin & Coady (1999) and Hulstijn (2001) argue that word knowledge should be mentally processed and elaborated in order to achieve successful vocabulary learning. As Schmitt and Schmitt (1995) noted, "The depth of processing hypothesis states that mental activities which require more elaborate thought, manipulation, or processing of a new word will help in the learning of that word" (p. 135). Moreover, Ellis (1995, p. 12) advocating this claim states that "Depth of Processing Hypothesis, when applied to vocabulary acquisition, holds that shallow processing like oral rehearsal does not lead to long-term retention of words but that deep processing, whereby semantic associations are accessed and elaborated, does".

8. Conclusion

Vocabulary learning is a process that takes a great deal of time and effort from EFL learners and according to Schmitt (2000, p. 137) "it is a slow process". Yet vocabulary is so vital for EFL learners that Wilkins (1972) claimed that, "without grammar very little can be conveyed, without vocabulary nothing can be conveyed" (p. 111). In many cases, the problem of learners is not insufficient input and inadequate exposure to new vocabularies but inability to retain the new words they encounter. Therefore, it seems that EFL learners need appropriate and efficient strategies to retain the new words and EFL teachers also need to find

efficient approaches and practices to equip learners with those strategies. As the results of this study suggested, one such efficient approach is equipping EFL learners with critical reading strategies, because one huge source of exposure to new words in L2 is reading texts.

Consequently, if learners know how to deal with this huge source, that is, how to process the reading texts, they can end up in better retention of the words they come across while reading. Therefore, it is concluded from the findings of this study, which were nevertheless limited in scope, that teaching critical reading strategies to EFL learners can have a significant positive effect on the retention of new vocabulary by such learners. As Schmitt (2000) puts it, "the deeper the processing, the better it is for retention and recall" (p. 132) and it is concluded from the findings of this study that critical reading can provide such deep processing.

The results of this study, along with those of the previous studies, can help a diversity of professions concerned with language teaching/learning. Among all, we can name teachers, syllabus designers, material developers as well as curriculum developers in language schools. In addition, another group concerned with language teaching/learning, that is, language learners can also take advantage of such strategies to learn and retain vocabularies more efficiently.

This study does not put an end to the research studies on the effectiveness of teaching critical reading strategies. Further study is needed to investigate the effect of the above-mentioned strategies at different levels of language proficiency, with a fixed gender, comparing children and adults, comparing learners with different learning styles, and even those whose major is not English. Furthermore, the effect of these strategies on vocabulary production, L2 grammar knowledge, speaking with argumentative genre, and discourse management can be investigated. Finally, since conducting studies with the same group of individuals, that is having a dependent sample, has more power and a higher α level, a similar study is suggested to be carried out in which the same group of participants undergo the control and experimental

conditions, the results of which could be compared with the findings of the current study.

References

Aksan, N., & Kisac, B. (2009). A descriptive study: Reading comprehension and cognitive awareness skills. *Procedia - Social and Behavioral Sciences, 1*(1), 834-837.

Allen, V. F. (1983). *Techniques in teaching vocabulary*. Oxford: Oxford University Press.

Anderson, R. C., & Freebody, P. (1981). Vocabulary knowledge. In J. Guthrie (Ed.). *Comprehension and teaching: Research reviews* (pp. 77-117). Newark: International Reading Association.

Anderson, R. C., & Freebody, P. (1983). Reading comprehension and the assessment and acquisition of word knowledge. In B. Huston (Ed.). *Advances in reading research* (pp. 231-256). Greenwich, CT: JAI Press.

Asselin, M. (2002). Vocabulary instruction. *Teacher Librarian, 29*(3), 57-59.

Austermuehle, D., Kautz, T., & Sprenzel, J. (2007). *Improving the knowledge and application of vocabulary within content areas.* Unpublished master's thesis, Saint Xavier University, Chicago, IL.

Bahrick, H. P. (1984). Semantic memory content in permastore: Fifty years of memory for Spanish learned in school. *Journal of Experiment Psychology: General*, *113*(1), 1-31.

Beck, I. L., McKeown, M. G., & Kucan, L. (2003). *Bringing words to life: Robust vocabulary instruction.* New York: Guilford.

Brown, D. (2004). *Language assessment: Principles and classroom practices*. New York: Longman.

Burgmeier, A., & Zimmerman, C. B. (2009). *Inside reading 1: The academic word list in context*. New York: Oxford University Press.

Burns, P. C., Roe, B. D., & Ross, E. P. (1999). *Teaching reading in today's elementary schools* (7th Ed.). Boston: Houghton Mifflin.

Carter, R., & Nunan, D. (2002). *The Cambridge guide to teaching English to speakers of other languages*. Cambridge: Cambridge University Press.

Chapman, A. (1993). *Making sense: Teaching critical reading across the curriculum*. New York: College Entrance Examination Board.

Coady, J. (1997). L2 vocabulary acquisition through extensive reading. In J. Coady & T. Huckin (Eds.). *Second language vocabulary acquisition* (pp. 225-237). Cambridge: Cambridge University Press.

Craik, F. I. M., & Lockhart, R. S. (1972). Levels of processing: A framework for memory research. *Journal of Verbal Learning and Verbal Behavior, 11*, 671-684.

Crow, J. T. (1986). Receptive vocabulary acquisition for reading comprehension. *The Modern Language Journal, 70*, 242-250.

Dawson, M. A. (1968). *Developing comprehension including critical reading*. Newark, DE: International Reading Association.

Ellis, N. C. (1995). Vocabulary acquisition: Psychological perspectives and pedagogical implications. *The Language Teacher, 19*(2), 12-16.

Fathi, M. (2004). *The effect of reading strategies on vocabulary retention.* Unpublished master's thesis. Allameh Tabatabaee University, Faculty of Foreign Languages, Tehran, Iran.

Findlan, C., Portman, C., & Shields, D. (2005). Word meanings. *Mathematics Teaching, 190*, 37-39.

Goldman, S. R., & Wiley, J. (2002, September). *Scientific literacy: The centrality of critical reading*. Paper presented at the international Conference Ontological, Epistemological, Linguistics and Pedagogical Considerations of Language and Science Literacy: Empowering Research and Informing Instruction, Victoria, British Columbia, Canada.

Grabe, W. (2004). Research on teaching reading. *Annual Review of Applied Linguistics, 24*, 44-69.

Halpern, D. F. (1996). *Thought and knowledge: An introduction to critical thinking* (3rd Ed.). New Jersey: Mahwa.

Harris, A. J., & Sipay, E. R. (1990). *How to increase reading ability: A guide to developmental and remedial methods*. New York: Longman.

Hatch, E., & Brown, C. (1995). *Vocabulary, semantics, and language education.* Cambridge: Cambridge University Press.

Haycraft, J. (1978). *Teaching vocabulary: An introduction to English language teaching.* London: Longman.

Hedge, T. (2000). *Teaching and learning in the language classroom*. Oxford: Oxford University Press.

Hilton, C., & Hyder, M. (1995). *Vocabulary*. London: Letts Educational.

Huckin, T., & Coady, J. (1999). Incidental vocabulary acquisition in a second language: A review. *Studies in Second Language Acquisition, 21*(2), 181-193.

Hulstijn, J. H. (1993). When do foreign-language readers look up the meaning of unfamiliar words? The influence of task and learner variables. *The Modern Language Journal, 77*, 139-147.

Jones, L. (2002). A critical review of media studies advocacy and its underlying assumptions and agendas. *EFL Journals, 59*(3), 219-231.

Knight, S. (1994). Dictionary use while reading: The effects on comprehension and vocabulary acquisition for students of different verbal abilities. *The Modern Language Journal, 78*(3), 285-299.

Kobayashi, K. (2007). The influence of critical reading orientation on external strategy use during expository text reading. *Educational Psychology, 27*(3), 363-375.

Koda, K. (1989). The effects of transferred vocabulary knowledge on the development of L2 reading proficiency. *Foreign Language Annals, 22*(6), 529-540.

Krashen, S. D. (1989). We acquire vocabulary and spelling by reading: Additional evidence for the input hypothesis. *The Modern Language Journal, 73*, 440-464.

Kurland, D. J. (2000). *What is critical reading?* Retrieved December 26, 2009, from http://www.criticalreading.com/critical_reading.htm

Larson-Hall, J. (2010). *A guide to doing statistics in second language research using SPSS*. New York: Routledge.

Mangal, S. K. (2005). *Advanced educational psychology*. New Delhi: Prentice-Hall.

McCarthy, M. J. (1990). *Vocabulary*. Oxford: Oxford University Press.

Meara, P. (1997). Towards a new approach to modeling vocabulary acquisition. In N. Schmitt & M. McCarthy (Eds.). *Vocabulary: Description, acquisition and pedagogy* (pp. 109-121). Cambridge: Cambridge University Press.

Min, H. (2008). Reading plus vocabulary enhancement activities and narrow reading. *Language Learning*, *58*(1), 73-115.

Nagy, W. E., Hermann, P. A., & Anderson, R. C. (1985). Learning words from context. *Reading Research Quarterly, 20*, 233-253.

Nation, P., & Newton, J. (1997). Teaching vocabulary. In J. Coady & T. Huckin (Eds.). *Second language vocabulary acquisition* (pp. 238-254). Cambridge: Cambridge University Press.

Oxford, R., & Scarcella, R. (1994). Second language vocabulary learning among adults: State of the art in vocabulary instruction. *System, 22*(2), 231-243.

Paribakht, T. S., & Wesche, M. (1999). Reading and "incidental" L2 vocabulary acquisition: An introspective study of lexical inferencing. *Studies in Second Language Acquisition, 21*(2), 195-224.

Pimsleur, P. (1967). A memory schedule. *The Modern Language Journal, 51*(2), 73-75.

Pishghadam, R., Khodadady, E., & Khoshsabk, N. (2010).The impact of visual and verbal intelligences-based teaching on the vocabulary retention and written production of Iranian intermediate EFL learners. *MJAL, 2*(5), 379- 395.

Prince, P. (1996). Second language vocabulary learning: The role of context versus translations as a function of proficiency. *The Modern Language Journal, 80*, 478-493.

Pulido, D. (2004). The relationship between text comprehension and second language incidental vocabulary acquisition: A matter of topic familiarity? *Language Learning*, *54*(3), 469-523.

Richards, J. C., & Schmidt, R. (2002). *Longman dictionary of language teaching and applied linguistics* (3rd Ed.). London: Pearson Education.

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

Schouten-Van Parreren, C. (1989). Vocabulary learning through reading: Which conditions should be met when presenting words in texts? *Vocabulary Acquisition AILA Review, 24*(6), 75-85.

Sheng, H. J. (2000). A cognitive model for teaching reading comprehension. *English Teaching Forum, 38*(4), 12-15.

Shin, F. (2004). Books, not direct instruction, are the key to vocabulary development. *Library Media Connection, 22*(4), 20-21.

Sousa, D. A. (2004). *How the brain learns to read?* Thousand Oaks, CA: Sage.

Stanovich, K. E. (1986). Matthew effects in reading: Some consequences of individual differences in the acquisition of literacy. *Reading Research Quarterly, 21*, 360-406.

Stoller, F. L., & Grabe, W. (1993). Implications for L2 vocabulary acquisition and instruction from L1 vocabulary research. In T. Huckin, M. Haynes, & J. Coady (Eds.). *Second language reading and vocabulary learning* (pp. 24-45). Norwood, NJ: Ablex.

Swanborn, M. S. L. (1999). Incidental word learning while reading: A meta-analysis. *Review of Educational Research, 69*(3), 261-286.

Thistlethwaite, L. L. (1990). Critical reading for at-risk students. *Journal of Reading, 33*(8), 586-593.

Tomasek, T. (2009). Critical reading: Using reading prompts to promote active engagement with text. *International Journal of Teaching and Learning in Higher Education, 21*(1), 127-132.

Varaprasad, C. (1997). Some classroom strategies: Developing critical literacy awareness. *English Teaching Forum Online, 35*(3), 24-37.

Wallace, C. (2003). *Critical reading in language education.* New York: Palgrave Macmillan.

Watanabe, Y. (1997). Input, intake, and retention: Effects of increased processing on incidental learning of foreign language vocabulary. *Studies in Second Language Acquisition*, *19*(3), 287-307.

Wesche, M., & Paribakht, T. S. (1996). Assessing second language vocabulary knowledge: Depth versus breadth. *The Canadian Modern Language Review, 53*, 13-40.

Wilkins, D. A. (1972). *Linguistics in language teaching*. London: Edward Arnold.

Yoshii, M., & Flaitz, J. (2002). Second language incidental vocabulary retention: The effect of text and picture annotation types. *CALICO Journal*, *20*(1), 33-58.

Zimmerman, C. B. (1997). Do reading and interactive vocabulary instruction make a difference? An empirical study. *TESOL Quarterly, 31*, 121-140.