THE RELATIONSHIP BETWEEN BREADTH AND DEPTH OF VOCABULARY KNOWLEDGE AND READING COMPREHENSION

SOODEH HAMZEHLOU MOGHADAM

A dissertation submitted in partial fulfillment of the
requirements for the award of the degree of
Master of Education (Teaching English as a Second Language)

Faculty of Education
Universiti Teknologi Malaysia

JUNE 2012

I am indebted to the bravery and audacity of the martyrs of my country who died with respect and honor and left such peace and freedom for us

and

To my beloved parents, thank you for always being there for me, supporting me and encouraging me to be the best that I can be.

ACKNOWLEDGMENT

This research would not have been possible without the support of many people. I am heartily thankful to my supervisor, Prof. Madya Dr. Zaidah bt. Zainal, who was abundantly helpful and offered invaluable assistance, support and guidance. Without her continued support and interest, this thesis would not have been the same as presented here. My sincere appreciation also extends to my dear husband who has provided assistance at various occasions. His views and tips are useful indeed. Also, I wish to express my love and gratitude to my beloved families for their supports and endless love, through the duration of my studies. Lastly, I offer my regards and blessings to all of those who supported me in any respect during the completion of the research.

ABSTRACT

The aim of this study is to investigate the role played by learners' vocabulary knowledge in their reading comprehension performance. It intends to determine whether the breadth and depth of vocabulary knowledge are related to EFL learners' reading comprehension, and to investigate which one of these variables, that is, depth or breadth of vocabulary knowledge, makes a more important contribution to reading comprehension. Finally, it attempts to investigate whether there is a relationship between these two dimensions of vocabulary knowledge. The participants of the study were 58 EFL Iranian students of Intensive English Course (IEC) in UTM based on purposive non-random sampling. To collect data, three tests were administered to the students during their class time to measure the students' breadth and depth of vocabulary knowledge along with their reading comprehension ability. The results obtained from the analysis of the data indicated that while both breadth and depth of vocabulary knowledge play an important role in EFL learners' reading comprehension performance, depth of vocabulary knowledge makes a more important contribution. The results further revealed that depth and breadth of vocabulary knowledge are positively correlated, that is, those learners who had large vocabulary size tend to have a deeper knowledge of the words, too.

ABSTRAK

Matlamat kajian ini adalah untuk menyelidik peranan yang dimainkan oleh pelajar-pelajar pengetahuan kosa kata dalam prestasi kefahaman mereka melalui pembacaan. Ia bercadang untuk menentukan sama ada keluasan dan kedalaman pengetahuan kosa kata berkaitan dengan kefahaman dalam pembacaan oleh pelajar EFL atau tidak, dan menyelidik pemboleh ubah yang manakah, keluasan atau kedalaman pengetahuan kosa kata, lebih penting sumbangannya kepada kefahaman dalam pembacaan. Akhirnya, ia cuba menyelidik sama ada terdapat hubungan antara kedua-dua dimensi kosa kata. Penyertaan dalam kajian ini adalah dikalangan 58 pelajar-pelajar EFL dari Iran dari Kursus Intensif Inggeris (Intensive English Course (IEC)) di UTM berdasarkan kepada persampelan bukan-random purposif. Untuk mengumpul data, tiga ujian telah diberikan kepada pelajar-pelajar semasa di kelas untuk mengukur keluasan dan kedalaman pengetahuan kosa kata bersama-sama dengan keupayaan pemahaman membaca mereka. Hasil yang diperoleh daripada analisis data menunjukkan bahawa, semasa kedua-dua kedalaman dan keluasan terhadap pengetahuan kosa kata memainkan peranan penting dalam prestasi pemahaman membaca pelajar–pelajar EFL, kedalaman pengetahuan kosa kata didapati lebih memberi sumbangan. Hasil lebih lanjut mengungkapkan bahawa kedalaman dan luasnya pengetahuan kosa kata berkolerasi positif, maksudnya, mana-mana pelajar yang mempunyai saiz kosa kata yang besar akan cenderung mempunyai lebih pengetahuan terhadap perkataan-perkataan itu.

TABLE OF CONTENT

LIST OF TABLES

LIST OF FIGURES

LIST OF ABBREVIATIONS

BNC	British National Corpus
EFL	English as a Foreign Language
ESL	English as a Second Language
ETS	Educational Testing Service
L1	First Language
L2	Second Language
PBT	Paper Based Test
SPSS	Statistical Package for Social Sciences
TOEFL	Test Of English as a Foreign Language
VKS	Vocabulary Knowledge Scale
VLT	Vocabulary Levels Test
WAT	Word Associates Test

LIST OF APPENDICES

CHAPTER1

INTRODUCTION

1.1   Introduction

Language acquisition is an active procedure, which requires on the part of the learners to continually acquire vocabulary of the target language. Acquiring adequate words to build one's mental library of lexicon is crucial, so as to allow the learners to function well in a given context. Several studies in both first language (L1) and second language (L2) have indicated that vocabulary knowledge is one of the best predictors of reading ability and the capability to obtain new details from texts (Nation, 2001; Qian, 2002; Read, 2000).

Grabe and Stroller (2001) highlight the part of extensive vocabulary knowledge in reading comprehension; they think that students need to recognize a wide number of words to be able to read effortlessly. In teaching reading, for instance, a teacher may need to scaffold students' knowledge on difficult vocabulary found in the text. This process is considered important for students to comprehend the text. Furthermore, in selecting text for teaching reading, a teacher may need to be aware of the number of difficult words found in the text. A text with no difficult words may not be challenging for the students, while a text with too many difficult words may be demotivating for them. This suggests that fluent reading is closely related to the vocabulary knowledge of the students.

Hu and Nation (2000), andSchmitt (2000) also hold the opinion that theamount of familiar and unfamiliar vocabulary is one of the most significant elements in discerning the complication of a text. Likewise, Stahl (2003) says that the relationship between vocabulary and reading comprehension is a "robust" one and that vocabulary knowledge has constantly been the "foremost predictor of a text's difficulty" (p.241). Although it can be assumed that the same prediction be made for foreign language acquisition, only a few studies have been found to qualify this assumption (Akbarian, 2010; Baleghizadeh and Golbin, 2010; Farvardin andKoosha, 2011).

One of the reasons of lack of research in this area is that people make mistakes in differentiating L2 and foreign language acquisition. L2 generally is the language that is learnedor acquired after L1; however the term has a restricted picture when it is contrasted to the term foreign language, in which L2 acts as an identified medium of communication among people who speak some other languages as their mother tongue, and the foreign language plays no significant role in the community and is mostly learnt only in the classroom (Elis, 1994). Ignoranceof the differences between L2 and foreign languagewill result in confusion in the practice of language learning, teaching and research work.

This chapter further explains the background of the study, statement of problem, purpose of the study, objectives of the study, research questions, significance of the study, scope of the study, vocabulary knowledge framework, definition of terms and summary.

1.2   Background of the Study

This study has been initiated by my interest to study the relationship between vocabulary size and depth and reading comprehension among Iranian students. Since the last 20 years, there has been an influx of Iranian students studying in foreign

universities all over the world. These foreign universities, such as those in Malaysia, require students to be proficient in English language in order to survive the academic environment which particularly required them to master reading skills. However, professors complain about the English proficiency level of Iranian students. This has sparked my interest to investigate this issue.

A number of investigations have been conducted on the area of the relationship between vocabulary and reading comprehension. Koda (1989) conducted a study on 24 college students who were learning Japanese as a foreign language, the outcomes showed strong correlations between self-made vocabulary test and two reading tests, one including cloze test and the other, paragraph comprehension. Koda reported a correlation of .74 between their grades on the vocabulary test and their paragraph comprehension test. This shows that vocabulary and reading skill are interrelated and correlatestrongly with each other; however this research does not show which aspect of vocabulary knowledge has been a predictor of reading comprehension performance.

In addition, Zhang and Anual (2008) carried out a study to examine the role of vocabulary knowledge on reading comprehension. The outcomes indicated that students' vocabulary knowledge at the 2,000-word and the 3,000-word levels were correlated to their reading comprehension. This alsoacknowledgesthe significant role of vocabulary knowledge in reading comprehension performance.

Moreover, Nassaji (2006), one of the Iranian scholars, investigated the specific role of learners' depth of vocabulary knowledge in lexical inference in an Iranian context. The outcomes demonstrated that those who had inadequate depth of vocabulary knowledge were not able to use particular types of strategies effectively in comparison to those who had stronger depth of vocabulary knowledge. These findings substantiate the outcomes of Frantzen's (2003) study, which indicated that student' vocabulary knowledge was the most crucial element influencing L2 readers' proficiency to employ context clues.

Although recent research in Iranian context demonstrated the significant role of vocabulary knowledge in reading comprehension performance, it is still not clear which aspects of vocabulary knowledge are the best predictors of language ability. While Baleghizadeh andGolbin (2010) discovered that vocabulary size correlates higher with reading comprehension scores (r = .84, p < .05), they call for more replication to add to the precision of such a relationship. Meanwhile,Akbarian (2010) and Farvardin andKoosha (2011) assert that in their study, they figured out vocabulary size and depth might play an equal role in predicting reading comprehension performance, especially as the learners' proficiency increases.

Considering the aforementioned Iranian contexts, little research has been conducted on the relationship between the breadth and depth of vocabulary knowledge and reading comprehension in Iranian contexts. The context of the learning state and cultural values of the learner's society is supposed to have an intense impact on vocabulary acquisition. It is a normal observation that students from dissimilar English experience do not always learn equally (Griffiths and Parr, 2001; Pennycook, 1997; Pierson, 1996; White, 1989).

English as a Foreign Language (EFL) and English as a Second Language (ESL) distinction has been important in language pedagogy because, in each case the contextsin which the teaching takes place, is very different and requires different materials, syllabus and pedagogy. Hence, the current research aims at discovering the effects of vocabulary knowledge on Iranian EFL learners' reading comprehension and finding out which aspect of vocabulary knowledge would be a better predictor of reading comprehension performance.

1.3   Statement of Problem

Lack of vocabulary is one of the main problems for EFL/ESL learners, particularly among Iranian students. Vocabulary learning is dominant in language

acquisition, whether the language is a second or a foreign language (Decarrico, 2001) and crucial to the learners' overall language acquisition (Gao, 2003). One of the fundamental reasons for this notion is that a lot of unknown words, which learners encounter while reading could cause difficulties in processing the text. Students and teachers alike know that many of the reading comprehension breakdowns experienced by students involve word recognition and lexical access.

A text with many common words, in comparison to rare words, would allow the learners to understand easily. For instance, let us study the following texts:

1. <u>Flabbergasted</u> by the incident, the crowd <u>roared</u> for justice.
2. <u>The angry crowd shouted for justice.</u>

Text one contains two rare words thattheir meaning may be difficult for learners to process in comparison to text two. Inability to recognize the meaning of the rare words, due to lack of vocabulary knowledge, may lead to comprehension problem.

Reading is a challenging task for foreign language learners. The number of vocabulary students know will aid them in comprehending a text. Hancock (1998) has and idea that in reading, "comprehension involves understanding the vocabulary, seeing relationships among words and concepts, organizing ideas, recognizing the author's purpose, evaluating the context, and making judgments" (p. 69). This means that the reader should have a good understanding of vocabulary knowledge and the way words are connected to each other and the way they make sense. This enables readers to read between the lines and comprehend the message of the author. As a result of its complication, researchers have explored and investigated many different areas of reading. Some have probed the impacts of vocabulary knowledge (Alderson, 2000; Joshi and Aaron, 2000; Martin-Chang and Gould, 2008; Nagy and Scott, 2000; Pressley, 2000). The fact that how vocabulary knowledge assists reading comprehension would be a critical area to investigate because it could provide teachers with new methods to teach.

L1 reading researchers have long mentioned the significance of both breadth and depth of vocabulary knowledge in reading comprehension (Anderson andFreebody, 1981; Beck et al., 1982; Mezynski, 1983). While numerous studies were documented on the breadth of vocabulary knowledge (Koda 1989; Laufer 1992a, 1996;Qian 1999), not many can be found on the depth of vocabulary knowledge.

In L2 study, there has been minor understanding of the role of depth of vocabulary knowledge up to now, and not many research have been reported on the relationship between depth of vocabulary knowledge and reading comprehension (De Bot et al., 1997;Qian, 1998, 2002). Similarly, studies on the depth of vocabulary knowledge in the context of EFL are limited(Alshwairkh, 2002; Farahani, 2006; Kaivanpanah and Zandi, 2009; Nassaji, 2006). This is likely since depth of vocabulary knowledge is harder to gauge than is vocabulary size (Schmitt and McCarthy, 1997).

Meantime, Vermeer (2001, p. 218) expresses that "too little is known about the relationship between these various aspects of word knowledge" (i.e. size and depth of word knowledge). Additionally, Milton (2009) calls for further investigation on vocabulary acquisition to provide more details and enlighten the area so that an obvious, comprehensive, and clear explanation of the conception of vocabulary knowledge is formed.

In summary, to build a mental representation of a text, one should be able to have a good understanding of a text and this sounds inevitable without having good vocabulary knowledge. Since the concept of vocabulary knowledge and the relationships of its various aspects (breadth and depth)have been conducted in ESL context and the results were sporadically contradicted to some research done in Iran,the present study tries to shed some light on the issue and open new horizons to EFL language researchers.

1.4 **Purpose of the Study**

Having established the background and problems of the study, it is deemed important that an investigation into vocabulary knowledge area is called for. Therefore, the main purpose of this study is to investigate the relationship between vocabulary knowledge aspects (breadth and depth) and reading comprehension performance.

In particular, this study investigates whether there is a correlation between vocabulary size and depth of vocabulary, vocabulary size and reading comprehension, depth of vocabulary and reading comprehension and to determine which aspect of vocabulary knowledge would be a better predictor of reading comprehension performance.

The results of this study would give more insights to teachers, program developers and policy makers who are responsible for developing guidelines for teaching and learning of vocabulary and the skills of reading, which in turn would have implications for assessment and evaluation of these knowledge and skills.

1.5 **Objective of the Study**

The objectives of this study are as follows:

1. To investigate the correlation between vocabulary size and depth of vocabulary.
2. To investigate the correlation between vocabulary size and reading comprehension.
3. To investigate the correlation between depth of vocabulary and reading comprehension.
4. To identify which aspect of vocabulary knowledge (breadth or depth) would be a better predictor of reading comprehension performance.

1.6   Research Questions

Based on the objectives of the study four research questions are addressed:

1. Is there any correlation between vocabulary size and depth of vocabulary?

2. Is there any correlation between vocabulary size and reading comprehension?

3. Is there any correlation between depth of vocabulary and reading comprehension?

4. Which aspect of vocabulary knowledge (breadth or depth) is a better predictor of reading comprehension performance?

1.7   Significance of the Study

Reading and vocabulary appear to be the most significant and functional activities in any language class. Studies on these two aspects can be of great value for management of education both at secondary and tertiary levels. Lafford et al. (2000) also propose that the study of L2 vocabulary knowledge is fundamental since lexical errors are the most recurring ones and, concurrently, they form an important obstruction to communication. Considering the key role of vocabulary knowledge, not much is known about how and what aspect of vocabulary knowledge can have significant effect on reading comprehension in the Iranian context.

EFL teachers sometimes challenge students' incapability to deal with hard words in reading comprehension. Considering the fact that breadth and depth are two connecting aspects of vocabulary knowledge, knowing an abundant vocabulary cannot assist learners a great deal if their comprehension is insubstantial and shallow. This means to have a good understanding, both aspects of vocabulary knowledge-depth and breadth- are required. Therefore, although the size of vocabulary knowledge is a crucial element on evaluating the reading comprehension, depth of vocabulary, in addition to what is expected, plays a significant part in reading comprehension performance.

This study is to contribute more understanding of the relationship between breadth and depth of vocabulary knowledge and reading comprehension. Moreover, it identifies the most effective predictor of reading comprehension performance.

1.8   Scope of the Study

The study only concentrates on the relationship between breadth and depth of vocabulary knowledge and reading comprehension among Iranian students of Intensive English Course (IEC) of UTM in Johor Bahru, Malaysia.

As this study tackles the issue of breadth and depth of vocabulary knowledge, it does not include students' understanding of clauses, although I note the importance of this aspect. This is to ensure that the research is of manageable size. In addition, this study attempts to relate vocabulary knowledge and reading comprehension; therefore, other EFL or ESL macro skills such as listening, writing and speaking are not included. By setting the parameter of these variables clearly, the results obtained are more reliable and valid.

1.9   Vocabulary Knowledge Framework

Various but compatible frameworks have been suggested by L2 researchers to explain vocabulary knowledge. For instance, Chappell (1998) believes that vocabulary knowledge includes four aspects: 1) vocabulary size; 2) lexicon organization; 3) process of lexical access; and 4)knowledge of word characteristics. This means the relationship, and model of words in the cognitive glossary of a learner, understanding the features of the words, lexical access and the number of words are at the focus of attention.

Moreover, Henriksen (1999) proposes that lexical proficiency should include three aspects: 1) receptive and productive knowledge; 2) depth of knowledge; and 3) precision of knowledge. Henriksen's first aspect reflects enhancements of lexical knowledge, her second aspect describes knowledge elements also recognized in the vocabulary depth aspect discussed earlier (Chapelle, 1998; Qian, 1998; 1999), and her third aspect espouses the status – shared by (2001) – that word knowledge is composed of two aspects: receptive and productive.

The framework that is suggested by Qian (2002) and is enhanced on the basis of initial models of vocabulary knowledge (Chapelle, 1998; Qian, 1998; 1999; Henriksen, 1999; Nation, 2001), presents that vocabulary knowledge consists of four inherently linked aspects: 1) vocabulary size which points out the number of words of which a learner has at least some shallow knowledge of meaning; 2) depth of vocabulary knowledge, which incorporates all lexical attributes, such as phonemic, graphemic, morphemic, syntactic, semantic, collocational, and phraseological features, together with rate of occurrence and register; 3) lexical arrangement, which points out the storage, link, and statement of words in the cognitive lexicon of a learner; and 4) automaticity of receptive-productive knowledge which refers to all basic procedures through which access to word knowledge is attained for both receptive and productive roles. The four aspects appear to be inherently linked and cooperate with one another in all central processes of vocabulary usage and growth.

1.9.1 Nation's Multidimensional Vocabulary Knowledge Framework

In a sort of simplistic way we could say that vocabulary knowledge means knowing words' form, meaning and use (Nation: 2001: 35). This is a very empirical way of explaining vocabulary knowledge, but it is clearly a restricted one. Following (Nation 2001:23) "words are not isolated units of language, but fit into many interlocking systems and levels, there are many things to know about any particular word and there are many degrees of knowing". Several frameworks that describe and

explain the different characteristics of word knowledge were explained. A moderately perfect framework canbe seen in Table 1-1.

Table 1-1: Nation's Multidimensional Vocabulary Knowledge Framework(adapted from Nation's (2001) Table 2-1, p. 27)

FORM		
Spoken form	R	What does the word sound like?
	P	How is the word pronounced?
Written form	R	What does the word look like?
	P	How is the word written or spelt?
POSITION		
Grammatical patterns	R	In what patterns does the word occur?
	P	In what patterns must we use the word?
Collocations	R	What words or types of words can be expected before and after the word?
	P	What words or types of words must we use with this word?
FUNCTION		
Frequency	R	How common is the word?
	P	How often should the word be used?
Appropriateness	R	Where would we expect to meet this word?
	P	Where can this word be used?
MEANING		
Concept	R	What does this word mean?
	P	What word should be used to express this meaning?
Associations	R	What other words does this word make us think of?
	P	What other words could we use instead of this one?

Note. R: Receptive knowledge, P: Productive knowledge

Receptive knowledge usually means recognition of vocabulary when listening or reading while productive knowledge means use of words in speech and writing. To learn a word, a person must obtain both receptive and productive knowledge of all above aspects. This is a big project for all but the most frequent words for languagelearners on account of the amount of knowledge that should be obtained.

This study adapts Nation's (2001) multi-componential framework as a starting point to identify the aspects of word knowledge to be investigated, because it is the most comprehensive and subsumes all past efforts at modeling a multidimensional framework.

As Table 1-1 shows, word knowledge is composed of both receptive and productive knowledge. Since reading is a receptive task, we deal with the receptive knowledge of the word knowledge. Regarding the divisions of the framework, and considering the aspects of vocabulary knowledge (breadth and depth), which are investigated in this study, written form of the words and their frequency are considered as breadth of vocabulary knowledge; and the grammatical patterns, collocations, appropriateness, concept and associations that they have are considered as depth of vocabulary knowledge. All these dimensions are tested in Vocabulary Level Test and Word Associates Test respectively, to see which aspect is a predictor factor of language ability.Further elaboration is provided in Chapter 2.

1.10   Definition of Terms

The following are the definitions of terms, which are used in this research and are defined according to the purpose of this research in order to assist better comprehension of the readers. The extended definitions are taken from the linguist points of view as follows:

- *First language* in this study refers to Persian, whichis generally a person's mother tongue or the language acquired first.

- *Second language* in this study refers to English, which one has learnt after learning the mother tongue; however, it functions as a recognized means of communication among members who speak some other languages as their mother tongue (Ellis, 1994).

- *Foreign language* in this study refers to English, which one has learnt after learning the mother tongue; however, it plays no major role in the community and is primarily learnt only in the classroom (Ellis, 1994).

- *Vocabulary knowledge* constitutes knowing a word in terms of forms (spelling, pronunciation), meanings (translation, synonyms), function (morphological patterns, multiword units) and relation with other words (Nation, 2001).

- *Breadth of vocabulary knowledge (vocabulary size)* is the number of words the learners know in the target language (Nation, 2001).

- *Depth of vocabulary knowledge* is what learners know about a target word, e.g. meaning, register, and morphological, syntactic, and collocational properties (Nation, 2001).

- *Receptive vocabulary*is a form of word that is perceived while listing or reading (Nation, 2001).

- *Word associates test* is generally used in second language vocabulary acquisition research studies to measure the learner's depth of vocabulary knowledge (Read, 1993) and to investigate the connections L2 learners hold in their developing mental lexicons (Wharton, 2011).

- *Reading comprehension* is the understanding of the contents of a written text after perceiving it.

As mentioned above, the terms are explained according to the purpose of this research. For example second language and foreign language are distinguished, although they are interrelated; and only specific aspects of vocabulary knowledge have been defined.

1.11   Summary

As established earlier about the relationship between vocabulary knowledge and reading comprehension, the present study therefore, attempts to explore the relationship between breadth and depth of vocabulary knowledge and reading comprehension among Iranian IEC students of UTM. Further accounts of these two aspects will be given in the literature review.

REFERENCES

Adams, M. J. (2004). 'Modelling Connections between Word Recognition and Reading', in R. Ruddell and N. Urnau (eds.), *Theoretical Models and Processes of Reading* (Newark, DE: International Reading Association, 5th edn): 1219- 43.

Akagawa, Y. (1995). *The effects of background knowledge and careful attention on reading comprehension and vocabulary acquisition*. Unpublished doctoral dissertation. Temple University, Philadelphia, PA.

Akbarian, I. (2010). The relationship between vocabulary size and depth for ESP/EAP learners.*System*, 38, 391- 401.

Alderson, J. C. (2000). *Assessing Reading*. Cambridge: Cambridge University Press.

Alshwairkh, S. A. (2002). *The depth of vocabulary knowledge and learning strategies of Saudi students in EFL context*. Colorado State University.

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

Astika, G. (1993). Analytical assessment of foreign students writing.*RELC Journal*, 24(1), 61-72.

Baker, S., Simmons, D. C., andKameʻenui, E. J. (1998).*Vocabulary acquisition: Research bases*. In D. C. Simmons and E. J. Kameʻenui (Eds.), What reading research tells us about children with diverse learning needs: Bases and basics. Mahwah, NJ: Erlbaum.

Baleghizadeh, S., andGolbin, M. (2010).The Effect of Vocabulary Size on Reading Comprehension of Iranian EFL Learners.LiBRI. *Linguistic and Literary Broad Research and Innovation*, Vol. 1, Issue 2, 33-46.

Barnett, M. A. (1989). *More than Meets the Eye: Foreign Language Reading: Theory and Practice*. Englewood Cliffs, New Jersey: Prentice Hall Regents.

Bauer, L. and Nation, I.S.P. (1993). Word families. *International Journal of*

Lexicography, 6, 1–27.

Baumann, J. F., Kameʻenui, E. J., and Ash, G. E. (2003). Research on vocabulary instruction: Voltaire redux. In J. Flood, D. Lapp, J. R. Squire, and J. M. Jensen (Eds.), *Handbook on research on teaching the English language arts* (2nd ed., pp. 752-785). Mahwah, NJ: Erlbaum.

Beck, I. L., Perfetti, C. A., andMcKeown, M. G. (1982).Effects of long-term vocabulary instruction on lexical access and reading comprehension.*Journal of Educational Psychology*, 74, 506–521.

Becker, G. (2000). How important is transient error in estimating reliability? Going beyond simulation studies. *Psychological Methods*, 5, 370-379.

Becker, W. C. (1977). Teaching reading and language to the disadvantaged – What we have learned from field research. *Harvard Educational Review*, 47, 518-543.

Bernhardt, E. (1991). *Reading Development in a Second Language: Theoretical, Empirical, and Classroom Perspectives*. New Jersey: Ablex.

Bogaards, P., andLaufer, B. (2004). *Vocabulary in a Second Language*. John Benjamins Publishing Company, Amsterdam.

Bossers, B. (1991). On thresholds, ceilings and short-circuits: the relation between L1 reading, L2 reading and L2 knowledge. In J. H. Hulstijin and J. F. Matter (Eds.), *AILA Review*, 8, 45-60.

Bromley, K. (2004). Rethinking vocabulary instruction. *The Learning and Literacy Spectrum,14*, 3-12.

Carrell, P., andEisterhold, J. (1983).Schema theory and ESL writing.*TESOL Quarterly*, 17(4), 553-573.

Carver, R.P. andLeibert, R.E. (1995). The effects of reading library books at different levels of difficulty upon gain in reading ability. *Reading Research Quarterly*, 30, 26-48.

Cervatiuc, A. (2007). *Highly Proficient Adult Non-Native English Speakers'' Perceptions of their Second Language Vocabulary Learning Process*.Unpublished PhD Dissertation. Calgary: University of Calgary.

Chapelle, C. (1994). Are C-tests valid measures for L2 vocabulary research? *Second Language Research,* 10, 157-187.

Chappelle, C. (1998). Construct definition and validity inquiry in SLA research, In L.F. Bachman and A.D. Cohen (Eds.), *Interface between Second Language*

Acquisition and Language Testing Research, (p. 32-70).

Chui, A.S.Y. (2006). A study of the English vocabulary knowledge of university students in Hong Kong.*Asian Journal of English Language Teaching,* 16, 1-23.

Cunningham, A.E. andStanovich, K.E. (1991). Tracking the unique effects of print exposure in children: Associations with vocabulary, general knowledge, and spelling. *Journal of Educational Psychology*, 83, 264-274.

Davidson, J., Elcock, J., and Noyes, P. (1996). A preliminary study of the effect of computer-assisted practice on reading attainment.*Journal of Research in Reading, 19* (2), 102-110.

Day, R., andBamford, J. (1998). *Extensive Reading in the Second Language Classroom*. Cambridge: Cambridge University Press.

Day, R., and Park, J. (2005). Developing reading comprehension questions. *Reading in a Foreign Language*, 17 (1).

De Bot, K., Paribakht, T. S., andWesche, M. B. (1997). Toward a lexical processing model for the study of second language vocabulary acquisition. *Studies in Second Language Acquisition*, 19, 309-329.

Decarrico, J. S. (2001). *Reading for academic purpose: Guideline for the ESL/EFL teacher*. Boston: Heinle and Heinle.

Ellis, R. (1994). *The study of second language acquisition*. Oxford: Oxford University Press.

Eskey, D. E. (1988). Holding in the bottom: An interactive approach to the language problems of second language readers. In P. Carrell, J. Devine, and D. Eskey (Eds.), *Interactive Approaches to Second Language Reading*. Cambridge, UK: Cambridge UP.

Farahani, F. (2006). *The relationship between depth of vocabulary knowledge and EFL learners' lexical inferencing strategy use and success* (Unpublished master's thesis). Shiraz Azad University.

Farvardin, M. T. andKoosha, M. (2011). The Role of Vocabulary Knowledge in Iranian EFL Students' Reading Comprehension Performance: Breadth or Depth? *Theory and Practice in Language Studies*, Vol. 1, No. 11, 1575-1580.

Francis, W.N. andKucera, H. (1982). *Frequency analysis of English usage*. Boston: Houghton Mifflin Company.

Frantzen, D. (2003). Factors affecting how second language Spanish students derive

meaning from context. *Modern Language Journal*, 87, 168-199.

Gao, X. (2003). *Changes in Chinese students' learner strategy use after arrival in the UK: A qualitative inquiry*. Great Britain: Palgrave Macmillan.

Garcia, G. E. (1991). Factors influencing the English reading test performance of Spanish- speaking Hispanic students. *Reading Research Quarterly*, 26, 371-392.

Gascoigne, C. (2005). Toward an understanding of the relationship between L2 reading comprehension and grammatical competence. *The Reading Matrix*, 5 (2).

Goodman, K.S. (1968). *The Psychological Nature of the Reading Process*. Detroit: Wayne State University Press.

Gough, P. B. (1972). *One second of reading*. In J.F. Kavanagh, and I.G. Mattingly (Eds.), Language by Ear and Eye. Cambridge: Cambridge University Press.

Grabe, W. (1991). Current developments in second language reading research.*TESOL Quarterly*, 25, 375-406.

Grabe, W., and Stroller, F.L. (2001).*Reading for Academic Purposes: Guidelines for ESL/EFL Teacher*. Celce-Murcia. Heilen and Heilen: Boston.

Griffiths, C. and Parr, J. M. (2001). Language Learning Strategies: Theory and Perception. *ELT Journal*, 55(3), 247-254.

Gu, Y., and Johnson, R. K. (1996). Vocabulary learning strategies and language learning outcomes.*Language Learning*, 46 (4), 643-79.

Guthrie, J.T., Schafer, W.D., Wong, Y., andAffterbach, P. (1995). Relationships of instruction to amount of reading: An exploration of social, cognitive and instructional connections. *Reading Research Quarterly*, 30, 8-25.

Haastrup, K., andHenriksen, B. (2000). Vocabulary acquisition: acquiring depth of knowledge through network building. *International Journal of Applied Linguistics*, 10, 221-240.

Hancock, O.H. (1998). *Reading skills for college students (4th ed.)*. Upper Saddle Rivers, NJ: Prentice Hall.

Haynes, M., and Baker, I. (1993).American and Chinese readers learning from lexical familiarization in English text. In T. Huckin, M. Haynes, and J. Coady (Eds.), *Second language reading and vocabulary learning* (pp. 130-152). Norwood, NJ: Ablex.

Henriksen, B. (1999). Three dimensions of vocabulary development. *Studies in*

Second Language Acquisition, 21, 303-317.

Herman, P.A., Anderson, R.C., Pearson, P.D., and Nagy, W.E. (1987). Incidental acquisition of word meanings from expositions with varied text features. *Reading Research Quarterly*, 23, 263-284.

Hu, H. C. and Nation, I. S. P. (2000).Unknown word density and reading comprehension.*Reading in Foreign Language*, 13(1), 403-430.

Huang, H. F. (2006). *Breadth and Depth of Vocabulary Knowledge: Which Really Matters in the Academic Reading performance of Chinese University Students?*Unpublished Master's Thesis, McGill University, Montreal, Canada.

Jeng-yih, T. H. (2010). The Effects of Collocation Instruction on the Reading Comprehension and Vocabulary Learning of Taiwanese College English Majors.*The Asian EFL Journal Quarterly*, Vol. 12, Issue 1, 47-87.

Joshi, Malatesha, R. (2005). Vocabulary: A Critical Component of Comprehension,*Reading and Writing Quarterly*, 21, 209-219.

Joshi, R.M. and Aaron, P.G. (2000). The component model of reading: Simple view of reading made a little more complex. *Reading Psychology*, 21, 85–97.

Kamil, M. L., andHiebert E. H. (2005). The teaching and learning of vocabulary: Perspectives and persistent issues. In E. H. Hiebert and M. Kamil (Eds.), *Teaching and learning vocabulary: Bringing scientific research to practice*. Mahwah, NJ: Erlbaum.

Kaivanpanah, S., andZandi, H. (2009).The role of depth of vocabulary knowledge in reading comprehension in EFL context.*Journal of Applied Sciences*, 9(4), 698-706.

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

Krashen, S. D. (2004). *The Power of Reading: Insights from the Research* (Westport, CT: Libraries Unlimited, 2nd edn).

Lafford, B., Collentine, J. G., and Karp, A. (2000). The acquisition of lexical

meaning by second language learners: An analysis of general research trends with evidence from Spanish. In B. Lafford and R. Salaberry (Eds.), *Studies in Spanish second language acquisition: The state of the science*, 130-159. Washington, DC: Georgetown University Press.

Laufer, B. (1989). "What Percentage of Text-lexis is Essential for Comprehension?" In Special language: *From Humans Thinking to Thinking Machines*, eds. Christer Lauren, and Marianne Nordman, 316-323. Clevedon: Multilingual Matters.

Laufer, B. (1992a). How much lexis is necessary for reading comprehension? In H. Béjoint and P. Arnaud (Eds.), *Vocabulary and applied linguistics*, London: MacMillan.

Laufer, B. (1992b). "Reading in a Foreign Language: How Does L2 Lexical Knowledge Interact with the Reader's General Academic Ability?" *Journal of Research in Reading*, 15: 95-103.

Laufer, B. (1994). The lexical profile of second language writing: Does it change over time? *RELC Journal*, 25(2), 21-32.

Laufer, B. (1996). "The Lexical Threshold of Second Language Reading Comprehension: What It Is and How It Relates to L1 Reading Ability." In *Approaches to Second Language Acquisition*, eds. Kari Sajavaara, and C. Fairweather, 55-62. Jyvaskyla: University of Jyvaskyla.

Laufer, B. (1997). "The Lexical Plight in Second Language Reading: Words You Don't Know, Words You Think You Know, And Words You Can't Guess." In *Second Language Vocabulary Acquisition*, eds. James Coady and Thomas Huckin, 20-34. Cambridge: Cambridge University Press.

Laufer, B. (2003). Vocabulary acquisition in a second language: Do learners really acquire most vocabulary by reading? *Canadian Modern language Review*, 59(4), 565-585.

Laufer, B., and Goldstein, Z. (2004), 'Testing Vocabulary Knowledge: Size, Strength, and Computer Adaptiveness'.*Language Learning*, vol. 54, no. 3, 339-436.

Laufer, B. and Nation, I.S.P. (1995) Vocabulary size and use: Lexical richness in L2 written production. *Applied Linguistics*, 16 (3), 307-322.

Laufer, B. and Nation, I.S.P. (1999). A vocabulary-size test of controlled productive ability.*Language Testing*, 16(1), 33-51.

Laufer, B. andRavenhorst-Kalovski, G. C. (2010). Lexical threshold revisited: Lexical text coverage, learners' vocabulary size and reading comprehension, *Reading in a Foreign Language*, vol. 22, no. 1, 1.

Lee. S. L. andMunice, J. (2006). From respective to productive: Improving ESL learners' use of vocabulary in a post-reading composition task. *TESOL Quarterly*, 40 (2), 295-320.

Lewis, M. (2002). *Implementing the Lexical Approach: Putting Theory into Practice*. England: Language Teaching Publication.

MacMillan. F. M. (2007). The Role of Lexical Cohesion in the Assessment of EFL Reading Proficiency.*Arizona Working Papers in Second Language Acquisition and Teaching*, 14, 75-93.

Manyak, P. C., and Bauer, E. B. (2009). English vocabulary instruction for English learners. *The Reading Teacher*, 63(2), 174-176.

Martin-Chang, S. L., and Gould, O. N. (2008). Revisiting print exposure: Exploring differential links to vocabulary, comprehension and reading rate. *Journal of Research in Reading*, 31(3), 273-284.

Martinez-Lang, A. (1995). Benefits of Keeping a Reading Journal in the Development of Second Language Reading Ability.*Dimension*, 65-79.

McEnery, T., Xiao, R., andTono, Y. (2006).*Corpus-based language studies: An advanced resource book*. London, UK: Routledge.

Meara, P. (1996). The dimensions of lexical competence. In G. Brown, K. Malmkjaer and J. Williams (Eds.), *performance and competence in second language acquisition* (pp. 35-33). Cambridge: Cambridge university press.

Meara, P., and Jones, G. (1988). Vocabulary size as a placement indicator. In P. Grunwell (Ed.), *Applied linguistics in society* (pp. 80–87). London: CILT.

Meara. P., and Jones, G. (1989). *Eurocentres Vocabulary Test 10 KA*. Zurich: Eurocentres.

Meara, P. and Milton, J. (2003) *X-Lex, The Swansea Levels Test*. Newbury: Express.

Mehrpour, S., Razmjoo, S. A. andKian, P. (2011).The Relationship between Depth and Breadth of Vocabulary Knowledge and Reading Comprehension among Iranian EFL Learners.*Journal of English Language Teaching and Learning*, No. 222, 97-127.

Mezynski, K. (1983). Issues concerning the acquisition of knowledge: Effects of vocabulary training on reading comprehension. *Review of Educational*

Research, 53, 253-279.

Milton, J. (2009). *Measuring second language vocabulary acquisition*. Cambridge: Multilingual Matters.

Nagy, W. E., Herman, P. A., and Anderson, R. C. (1985). "Learning Words from Context." *Reading Research Quarterly,* 20: 223-253.

Nagy, W. E., and Scott, J. A. (2000). Vocabulary processes. In M. L. Kamil, P. Mosenthal, P. D. Pearson, and R. Barr (Eds.), *Handbook of reading research* (Vol. 3, pp. 269-284). Mahwah, NJ: Erlbaum.

Nassaji, H. (2006). The relationship between depth of vocabulary knowledge and L2 learners' lexical inferencing strategy use and success.*The Modern Language Journal*, 90(3), 387-401.

Nation, I.S.P. (1983). Testing and teaching vocabulary. *Guidelines*, 5, 12-25.

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

Nation, I.S.P. (1993) Using dictionaries to estimate vocabulary size: essential, but rarely followed, procedures. *Language Testing*, 10, 1: 27-40.

Nation, I.S.P. (1998). "Helping learners take control of their vocabulary learning". *GRETA* 6/1: 9-18.

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

Nation, I. S. P. (2006).*Learning Vocabulary in Another Language* (8 ed.): Cambridge University Press.

Nation, I. S. P. andWaring, R. (1997). Vocabulary size, text coverage and word lists. In Schmitt, N. and M. McCarthy (Eds.): *Vocabulary: Description, Acquisition and Pedagogy*: Cambridge, Cambridge University Press, 6-19.

National Reading Panel. (2000). *Teaching children to read: An evidence-based assessment of the scientific research literature on reading and its implications for reading instruction*. Washington DC: National Institute of Child Health and Human Development.

Nurweni, A., and Read, J. (1999). The English vocabulary knowledge of Indonesian University students.*English for Specific Purposes*, 18, 161-175.

Paribakht, T., andWesche, M. (1997). Vocabulary enhancement activities and reading for meaning in second language vocabulary acquisition. In J. Coady, and T. Huckin, (Eds.) *Second Language Vocabulary Acquisition* (pp. 174-

200). Cambridge: Cambridge University Press.

Pennycook, A. (1997). *Cultural alternatives and autonomy*. In Benson, Phil and Peter Voller (Eds.), 35-53.

Pierson, H. D. (1996). *Learner culture and learner autonomy in the Hong Kong Chinese context*.In Pemberton et al., (Eds.) 49-58.

Pressley, M. (2000). Comprehension instruction in elementary school: A quarter-century of research progress. In B.M. Taylor, F.F. Graves, and P. Van Den Broek (Eds.), *Reading for meaning: Fostering comprehension in the middle grades*. Newark, DE: International Reading Association.

Pringprom, P. (2011). Relationship between Vocabulary Size and Reading Comprehension.*FLLT Proceedings*, 182-191.

Qian, D. (1998). *Depth of vocabulary knowledge: assessing its role in adults' reading comprehension in English as a second language*. Unpublished doctoral thesis, University of Toronto.

Qian, D. (1999). Assessing the roles of depth and breadth of vocabulary knowledge in reading comprehension. *The Canadian Modern Language Review*, 56, 282-308.

Qian, D. (2002). Investigating the relationship between vocabulary knowledge and academic reading performance: An assessment perspective. *Language Learning*, 52, 513-536.

Qian, D., andSchedl, M. (2004). Evaluation of an in-depth vocabulary knowledge measure for assessing reading performance.*Language Testing*, 21(1), 28-52.

Ouellette, G. P. (2006). What's meaning got to do with it: The role of vocabulary in word reading and reading comprehension. *Journal of Educational Psychology, 98*(3), 554- 566.

Rashidi, N. and Khosravi, N. (2010). Assessing the role of depth and breadth of vocabulary knowledge in reading comprehension of Iranian EFL learners. *Journal of Pan-Pacific Association of Applied Linguistics*, *14*(1), 81-108.

Read, J. (1989). *Towards a deeper assessment of vocabulary knowledge*. Paper presented at the 8th World Congress of Applied Linguistics. Sydney, NSW, Australia, August, 1987. ED 301048. Washington, DC: ERIC Clearinghouse on Languages and Linguistics.

Read, J. (1993). The development of a new measure of L2 vocabulary knowledge.*Language Testing*, 10 (3), 355-371.

Read, J. (1995a). Refining the word associates format as a measure of depth of vocabulary knowledge. *New Zealand Studies in Applied Linguistics*, 1, 1-17.

Read, J. (1995b). *Validating the word associates format as a measure of depth of vocabulary knowledge*. Unpublished manuscript.

Read, J. (1997) *Vocabulary and testing*. In N. Schmitt and M. McCarthy: 303-320. [24.1].

Read, J. (1998). Validating a test to measure depth of vocabulary knowledge. In A. Kunnan (ed.), *Validation in language assessment* (pp. 41-60). Mahwah, NJ: Lawrence Erlbaum.

Read, J. (2000). *Assessing vocabulary*. Cambridge: Cambridge University Press

Read, J. (2004). Research in teaching vocabulary.*Annual Review of Applied Linguistics*, 24, 146-161.

Read, J. (2007). Second language vocabulary assessment: Current practices and new directions. *IJES*, vol. 7(2), 105-125. Retrieved from Academic Search Complete database.

Reinking, D., and Rickman, S. S. (1990). The effects of computer-mediated texts on the vocabulary learning and comprehension of intermediate-grade readers.*Journal of Reading Behavior*, *22*, 395-411.

Richards, J. C. (1976). The role of vocabulary teaching.*TESOL Quarterly*, 10(1): 77–89.

Richards, J. C., and Rogers, T. S. (2001). *Approaches and methods in language teaching (2nd ed.)*. Cambridge, UK: Cambridge University Press.

Richek, M. (2005). Words are wonderful: Interactive, time-efficient strategies to teach meaning vocabulary. *The Reading Teacher*, *58*(5), 414-423.

Ricketts, J., Nation, K. and Bishop, D. (2007). Vocabulary is important for some, but not all reading skills. *Scientific Studies of Reading*, 11(3), 235–257.

Rumelhart, D.E. (1980). Schemata: The Building Blocks of Cognition. In R.J. Spiro, B.C. Bruce, and W.F. Brewer (Eds.), *Theoretical Issues in Reading Comprehension: Perspectives from Cognitive Psychology, Linguistics, Artificial Intelligence, and Education*. Hillsdale, NJ: Lawrence Erlbaum.

Schfelbine, J.L. (1990). Students factors related to variability in learning word meanings from context. *Journal of Reading Behavior*, *22*, 71-97.

Schmitt, N. (1998). Tracking the incremental acquisition of second language vocabulary: A longitudinal study. *Language Learning*, 48, 281-317.

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

Schmitt, N. and McCarthy, M. (1997). *Vocabulary: Description, Acquisition and Pedagogy*. Cambridge: Cambridge University Press.

Schmitt, N., andMeara, P. (1997). Researching vocabulary through a word knowledge framework. *Studies in Second Language Acquisition, 19,* 17-36.

Schmitt, N., Schmitt, D., andClapham, C. (2001). 'Developing and Exploring the Behaviour of Two New Versions of the Vocabulary Levels Test', *Language Testing,* 18(1): 55-88.

Schoonen, R., and Verhallen, M. (1998). Aspects of vocabulary knowledge and reading performance. In: Paper Presented at the Annual Meeting of the American Educational Research Association, San Diego.

Scrivener, J. (2005).*Learning teaching*. Oxford, UK: Macmillan Education.

Shen, M. Y. (2008). EFL learners' responses to extensive reading: survey and pedagogical applications. *The Reading Matrix*, 8 (2), 111-123.

Shin, D., and Nation, I. S. P. (2007). Beyond single words: The most frequent collocations in spoken English. *ELT Journal Advance Access*; doi:10.1093/elt/ccm091.

Sinclair, J. (2003). *Reading concordances*. Harlow, UK: Pearson Education Limited.

Singer, H. andRuddell, R. B. (1985). *Theoretical Models and the Processes of Reading. (3rd ed.).* Newark, DE: International Reading Association, Location: Dallas SIL Library 372.4 T396t. Interest level: specialist.

Sosa, A. V., and MacFarlane, J. (2002). Evidence for frequency-based constituents in the mental lexicon: Collocations involving the word of. *Brain and Language*, 83(2), 227-236.

Stahl, S. A. (1986). Three principles of effective vocabulary instruction.*Journal of Reading*. 29, 662-668.

Stahl, S. A. (2003). Vocabulary and readability: how knowing word meanings affects Comprehension. *Topics in Language Disorders*, 23(3), 241-247.

Stahl, S.A. and Clark, C.H. (1987). The effects of participatory expectations in classroom discussion on the learning of science vocabulary.*American Educational Research Journal*, 24, 541-556.

Stahl, S.A. and Fairbanks, M.M. (1986). The effects of vocabulary instruction: A

model-based meta-analysis. *Review of Educational Research*, 56, 72-110.

Tannenbaum, K. R., Torgesen, J. K., & Wagner, R. K. (2006). Relationships between word knowledgeand reading comprehension in their-grade children. Scientific Studies of Reading, 10, 381–398.

Thornbury, S. (2002).*How to Teach Vocabulary*.Ed. by Harmer, J. Longman, England.

Vermeer, A. (2001). Breadth and depth of vocabulary in relation to L1/L2 acquisition and frequency of input.*Applied Psycholinguistics*, 22, 217□234.

Vermeer, A. (2004). The Relation between Lexical Richness and Vocabulary Size in Dutch L1 and L2 Children. In P. Bogaards and B. Laufer (Eds.), *Vocabulary in a second language*. Amsterdam: John Benjamins, pp.173-189.

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

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

Wharton, C. P. (2011). *Changing Associations: The Effect of Direct Vocabulary Instruction on the Word Associations of Japanese College Students*. Unpublished master thesis, University of Birmingham, UK.

White, C.J. (1989). Negotiating communicative language learning in a traditional setting. *ELT Journal*, 1 (43): 23-25.

White, T. G., Graves, M. F., and Slater, W. H. (1990). Growth of reading vocabulary in diverse elementary schools: Decoding and word meaning. *Journal of Educational Psychology*, 82, 281- 290.

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

Wixson, K. K. (1986). Vocabulary instruction and children's comprehension of basal stories.*Reading Research Quarterly*, 21, 317-329.

Wolter, B. (2002). Assessing proficiency through word associations: Is there still hope? *System*, 30, 315- 329.

Wood, J. (2001) Can software support children's vocabulary development?*Language Learning and Technology*, 5(1), 166–201.

Xue, G. and Nation, I. S. P. (1984). A university word list. Language *Learning Communication*, 3 , 215-229.

Yu, A. B. (1996). Ultimate life concerns, self, and Chinese achievement motivation. In M. Bond (Ed.), *The handbook of Chinese psychology* (pp. 227–246). Hong Kong, China: Oxford University Press.

Zahar, R., Cobb, T., and Spada, N. (2001). Acquiring vocabulary through reading: effects of frequency and contextual richness. *Canadian Modern Language Review*, 57(4), 544-72.

Zhang, L. J. (2001). 'Nurturing ESL Reader Autonomy', *Guidelines*, 23(1): 36-40.

Zhang, L. J. (2002a). 'Exploring EFL Reading as a Metacognitive Experience: Reader Awareness and Reading Performance'.*Asian Journal of English Language Teaching*, 12: 65-90.

Zhang, L. J. (2002b) 'Metamorphological Awareness and EFL Students' Memory, Retention, and Retrieval of English Adjectival Lexicons', *Perceptual and Motor Skills*, 95(3): 934-44.

Zhang, L. J. (2003). 'Research into Chinese EFL Learner Strategies: Methods, Findings and Instructional Issues', *RELC Journal,* 34(3): 284-322.

Zhang, L. J. (2008). 'Constructivist Pedagogy in Strategic Reading Instruction: Exploring Path– ways to Learner Development in the English-as-a-second-language Class– room', *Instructional Science: An International Journal of the Learning Sciences,* 36(2): 89-130.

Zhang, L.J., andAnual, S.B. (2008). The role of vocabulary in reading comprehension: the case of secondary school students learning English in Singapore. *RELC Journal*, 39 (1), 51-76.

Zhang, L. J., Gu, P. Y., and Hu, G. (2007). 'A Cognitive Perspective on Singaporean Primary School Pupils' Use of Reading Strategies in Learning to Read in English', *British Journal of Educational Psychology*.

Zimmerman, C. B. (1997). Historical Trends in Second Language Vocabulary Instruction.Ed. by Coady, J. andHuckin, T.*Second Language Vocabulary Acquisition*, (5-19). UK: Cambridge.