# Vocabulary Knowledge and Lexical Inferencing

Boubekri Abdelhekim[1]
*Mohammed V University, Rabat*

**Abstract**

The relation between vocabulary knowledge and lexical inferencing is a complex one. Each time a word is used in a different context, the word acquires a new nuance of meaning which the reader must infer on the basis of linguistic and encyclopaedic knowledge. In this study, we investigated the behavior of Moroccan EFL learners when they are faced with a situation in which the dictionary meaning of a word clashes with its contextual use. More specifically, a task of 40 (plus another 20 distracters) multiple choice questions was designed in such a way that the test item does not fit the context in which it occurs, as in the following example: "The boss *finished* the worker". Five options were provided for each question: three were synonymous with the test item, the fourth option was a fake word and the fifth was "none of these" (a. ended b. hiphed c. stopped d. completed e. none of these). The reasoning behind this task is to test whether subjects will prefer one of the synonyms, which they may have already learnt but which are not appropriate to context, or the nonce word by way of guessing, or else abstain from all attempts to interpret the sentence by choosing "none of these". The answers were classified according to these three categories and a chi-square test was run. The results ($\chi^2$ = 15.93, df = 2, p < .001) indicate that subjects preferred synonyms over the other two categories. On a first reading, this might be interpreted as a tendency to stick to memorized senses, rather than venturing on an unsafe guess, irrespective of whether or not those senses are appropriate. On a closer scrutiny, however, it is very probable that the sentences were interpreted metaphorically on the basis of the conventional meaning of the test items. In the example provided above, the informants may choose c (i.e. stopped) instead of the other options because it makes sense in context. On this interpretation, this study will have shown that EFL learners prefer interpretations based on already acquired word meanings over cancelling those meanings when they are not readily appropriate.

## 1. Introduction

Second Language Acquisition (SAL) is the field in applied linguistics that is devoted to the study of the process by which individuals learn a second language. Most research that has been carried out so far in this area has depended on linguistic theorizing. This is because a native speaker's knowledge is what an L2 learner is assumed to target, and SLA, as a sub-discipline of applied linguistics, has to use a methodology that refers to the findings and theories of linguistics, which attempts to modal that knowledge (cf. Corder, 1973). Among the phenomena that have gained interest in SLA is lexical

---

[1]Bio: A teacher of English. He is also a third year doctoral student at Mohammed V University, Rabat, Morocco. He is interested in Second Language Acquisition and Applied Linguistics. Contact: boubekri755@gmail.com

inferencing in relation with vocabulary knowledge. Lexical inferencing is a crucial process that any L2 learner has to rely on when encountering unknown words in trying to understand a given text. In this paper, we will shed light on the phenomenon of lexical inferencing in relation with vocabulary knowledge in L2, and consider the extent to which research findings in this field can bring theory and practice together.

### 1.1.      The mental lexicon: rich or poor?
What is going on in the mental lexicon of any language user remains a mystery. Linguists try to find a window through which we can have some information about it. What is agreed upon among linguists is that the items, stored in the lexicon are stored with specific features and with specific meaning (Murthy, 1989; Jackendoff, 2002; David Crystal, 2008). The question which imposes itself is whether speakers store the same item many times as long as it is associated with different meanings, or it is stored with just a poor representation and language users use the context to infer the meaning of the item. In other words: is the representation of the lexical knowledge rich or poor?

Word meaning is treated by two major approaches, notably the dictionary approach and the encyclopaedic approach. As Evans & Green (2006, p. 207) note, the distinction between the dictionary view and the encyclopaedic view, in terms of theory, has been at the core interest of Lexicologists (linguists who study word meaning) and lexicographers (dictionary writers). This distinction exists at the level of the mental representation of the word. Later approaches, particularly cognitive semantics, adopt a different view which is that the distinction between 'dictionary knowledge' (word meaning) and 'encyclopaedic knowledge' (non-linguistic or 'world knowledge') is artificial. Therefore, "the dictionary knowledge is a subset of more general encyclopaedic knowledge'" (ibid).

The dictionary approach determines word meaning in terms of semantic features or primitives. For instance, the word *husband* is represented as [+MALE, +ADULT, +MARRIED]. These binary features can be part of defining other words, such as wife [-MALE, +ADULT, +MARRIED], *man* [+MALE, +ADULT], *woman* [-MALE, +ADULT], *boy* [+MALE, -ADULT], *girl* [-MALE, -ADULT] and so on. These features determine the 'dictionary knowledge' as opposed to 'encyclopaedic knowledge'. They are part of linguistic knowledge – i.e. competence. That is to say, they constitute the denotation of the word *husband* apart from the stereotypical connotations relating to sexual practices and organized life. Formal semanticists adopt this view and claim that the essential aspects of a word's meaning are the pieces of information contained in the word's definition. It happens that a word's contribution to the sentence can change its meaning. Therefore, the word must have more than one sense. In this case, the word can be said to be polysemous.

According to Evans & Green (2006), the dictionary view has some limitations. To begin with, the strict separation of lexical knowledge from 'world knowledge' is problematic. The second challenge is related to the background knowledge. That is to say, words cannot be defined in a context-independent way. The third problem is that it considers "a word's meaning or sense as primary and determines how it can be used" (Evans & Green, 2006, p. 211). This view

opposes the usage-based approach which "holds that a word only comes to be meaningful as a consequence of use" (ibid).

Cognitive semanticists reject the 'dictionary view' of word meaning in favour of the 'encyclopaedic view'. The encyclopaedic view holds that there is no principled distinction between semantics and pragmatics. In fact, we can think of semantics and pragmatics in terms of a continuum. For example, what we know about the word *apple* contains information about its texture, shape, taste, smell, colour, whether we like it or not and anything an apple suggests like funny cartoons involving apple shape, for example. This suggests that there is no distinction between dictionary knowledge and encyclopaedic knowledge; in fact, there is only encyclopaedic knowledge which subsumes dictionary knowledge. Cognitive semanticists go further and claim that words as lexical entries play the roles of prompts which trigger the encyclopaedic knowledge. This means that lexical items are points of access to encyclopaedic knowledge. In this respect, Evans & Green (2006, p. 221) claim that "words are not containers that present neat pre-packaged bundles of information. Instead, they provide access to a vast network of encyclopaedic knowledge". To illustrate, consider the lexical item *fast* in the following examples as discussed by Pustejovsky (1995):

(1) A fast car
(2) A fast typist
(3) A fast decision

In the first example, the lexical item "fast" is related to an entity which is capable of moving quickly. In the second example, it is related to an entity which is capable of performing an action quickly. While in the third, it means that the decision taken required just a little time for completion. A close scrutiny of the lexical item *fast* in the above examples can inform us that there is nothing in the word *fast* or in the phrases provided in the examples that dictate these interpretations. However, "each putatively conventional sense of *fast* has associated with its selectional restrictions" (Evans, unpublished article: 4). That is, it is the encyclopaedic knowledge that is exploited by the language user to compute the meaning of the word based on its selectional restrictions: in the example (1), the main function of the car is movement; therefore, it is the movement of the car that is quick. However, in (2), the main function of the typist is the performance of typing; therefore, it is typing that is done quickly. In (3), it is the completion of the task that is done quickly. The decision is not a machine that can move or perform an action; it is a task that needs to be carried out. What can be concluded is that meaning construction is an "on-line" process that is done during the production and comprehension of utterances. Thus, lexical representation is highly schematic.

In a nutshell, the dictionary approach adheres to the idea that the mental lexicon is rich while the encyclopaedic approach stresses the idea that the mental lexicon is poor and that it is context which determines lexical meaning. In this theoretical debate, applied linguists have not contributed much. Instead, they are more interested in the practical side, as the following section on lexical inferencing demonstrates.

## 1.2.        *Lexical inferencing in L2*

Most research done on lexical inferencing takes reading as the major area of investigation (Paribakht & Wesche 1993, 1997, 1999, 2000; Sternberg 1987; Hulstijn 2001; Huckin & Cody, 1999). Lexical inferencing is considered as a sub-type of the more general inferencing process that operates at all levels of text comprehension, involving the 'connections people make when attempting to reach an interpretation of what they read and hear' (Brown & Yule, 1983, p. 265). Lexical inferencing plays a major role in the relationship between reading comprehension and vocabulary development in the sense that, while reading, readers face unfamiliar words the meanings of which they have to guess by using contextual clues, encyclopaedic knowledge, and/or the dictionary knowledge to achieve comprehension. Early studies focused on two dimensions in the vocabulary knowledge research, namely the "width" and the "depth" of vocabulary knowledge. "Width" refers to the number of items that a leaner requires to understand a reading text, while "depth" refers to "the extent to which learners have acquired various properties of words such as their syntactical functions and their collocations" (Tavakoli, 2012, p. 100). These two key dimensions do not work in an independent way from the other variables that interfere in the process of lexical inferencing while reading. Such variables as word frequency, language proficiency, motivation, and others have certain roles in relation with lexical inferencing, which applied linguists have been trying to determine.

It has been widely accepted that the acquisition of vocabulary is done incidently while reading (Sternberg, 1987). Wesche & Paribakht (2010, p. 9) state that research "had been whetted by claims supporting L1 reading as a likely major engine of vocabulary growth during schooling (Nagy et al., 1985; Saragi et al., 1978; Sternberg, 1987) and by related work on L2 vocabulary learning from reading (Dupuy & Krashen, 1993; Elley & Mangubhai, 1983; Krashen, 1989; Pitts et al., 1989)". These studies suggest that L1 and L2 learners increase their vocabulary mastery due to incremental learning through extensive reading. Accordingly, L1 and L2 learners do not develop their vocabulary knowledge through memorization; instead, their vocabulary knowledge increases through the interaction with words used in context. This proposes that, while reading, learners acquire just the word meaning that is provided by context in which the word is used. However, to get the meaning provided by context demands some inferencing by the learner using the items that exist in the context of the unknown word, in addition to the knowledge of the world. Hence, inspired by Faerch, Haastrup (1991a, p. 13) defines lexical inferencing as:

> making informed guesses as to the meaning of a word in light of all available linguistic cues in combination with the learner's general knowledge of the world, her awareness of context and her relevant linguistic knowledge.

This definition entails that, in addition to the recognition of the phonological and graphic form of the word, the learner has to use his inferential strategies to guess the meaning of the word. All in all, vocabulary acquisition in L2 is a dynamic process that involves the recognition of the lexical and graphic form of a word, knowledge of the

world, in addition to the use of the inferential strategies to get its contextual meaning.

Some researchers (e.g. Carton, 1971; Sternberg, 1987) have developed some explanatory frameworks for the general inferencing process. These explanatory frameworks have proposed different taxonomies of cues of inferencing. We will limit ourselves to the taxonomies proposed by Carton (1971) since his in-depth study was carried out in the area of foreign language learning, while Sternberg (1987) focused on American high school students learning low-frequency L1 English words through reading. Carton distinguished three main cue-types of lexical inferencing: 1) intra-lingual cues: for instance plural or tense markers that indicate word-class; 2) interlingual cues: from L1 or another language (Ln), such as cognates; 3) extralingual cues: world knowledge-based cues.

Research on L2 Lexical inferencing is not really interested in the theoretical debate about whether the mental lexicon is rich or poor, but rather with the practical problems that learners face when trying to acquire vocabulary knowledge and their pedagogical implications. In the present study, we try to bridge the gap between theory and practice by investigating the behavior of Moroccan EFL learners when they are faced with a situation in which the dictionary meaning of a word clashes with its contextual use.

## 2. Methodology

### 2.1.    Design

Previously, two approaches to word meaning were identified. The first approach (the dictionary approach) postulates that words are stored in the mental lexicon with their various senses that reflect different contexts in which those words can occur. The second approach (the encyclopaedic approach) postulates that the mental lexicon stores lexical entries that represent abstract senses which are concretized only by contextual use. To be more precise, according to the first approach, when faced with a word with multiple senses (i.e. polysemous items), language users select the stored sense that best suits the context. In this case, lexical inferencing is just a matter of selection (cf. Cruise, 1986). By contrast, lexical inferencing, according to the second approach, will depend on the context in which the word occurs, in addition to the world knowledge on the assumption that lexical entries represent a single abstract sense.

For psycholinguistic purposes, the two approaches can be pronounced in terms of two hypotheses. For ease of reference, they will be referred to by (MSH) for "The Multiple Senses Hypothesis" and (ASH) for "The Abstract Sense Hypothesis":

> **MSH**: Lexical inferencing is the selection of the most suitable sense to context from the list of multiple senses that are stored in the mental lexicon.
>
> **ASH**: Lexical inferencing is the concretization of an abstract sense using context and world knowledge.

Both hypotheses are liable to verification. Accordingly, if our informants opt for one of the synonyms, even if it is not appropriate to the context, the MSH will be supported. But if they opt for the "fake word", they will be assumed to

consider the meaning of the underlined word as abstract and they construct a meaning for the "fake word" based on the context given.

In order to test the two hypotheses, we created unusual contexts where the target words (the underlined words in the task) are not appropriate in the context provided. More precisely, we inserted test words in contexts where they would not normally occur in English, and we asked our informants to choose between "synonym but not appropriate" options and "fake words". We also added "none of these" as a third category in case a subject decides not to take risks. The following is an example of a test question:

(4) The boss is <u>mixing</u> his car.
{ a. blending    b. slixing    c. combining    d. confusing    e. none of these}

In this example, 'blending', 'combining', and 'confusing' are synonyms of the underlined word '<u>mixing</u>', but none of them is appropriate in the context given. The word 'slixing' is a nonce word which can be the last resort to the respondent if s/he uses context to answer. If s/he does not want to take risks, s/he will choose 'none of these' as a safe decision. The assumption is that if priority is given to synonyms or to "none of these", that would be an indication that comprehension depends on stored lexical meanings only. But if more importance is given to nonce words, that should be evidence of the predominant role of context and world knowledge in the process of computing a coherent interpretation of a sentence.

### 2.2.    Instrument

To carry out our study, we prepared a task constituted of 40 test items and 20 distracters. The 20 distracters were ordinary questions in which the test item had a correct answer. In each sentence in the forty items, a word was underlined and five choices were provided. The informants were asked to circle the answer that corresponds best to the meaning of the underlined word as used in the sentence. None of the five possible answers was correct: three were synonymous with the underlined word but not appropriate to context, a 'fake word' that does not belong to the English language, and 'none of these' as another option if the informants choose not to take risk. Generally, informants took about twenty-five minutes to complete the task.

Various types of words were used as test items. There were 20 verbs, 10 nouns, 7 adjectives and 3 adverbs. Verbs and nouns were dominant in the task because they were the most frequent types of words in the English language, compared with other open-class categories. We did not include closed-class items because our focus was lexical inferencing, not grammatical inferencing.

### 2.3.    The Population Sample

Subjects from two levels were chosen: the intermediate level and the advanced level. These two levels were intentionally chosen to guarantee good knowledge of English. Level has been operationalized as the subjects' level of education according to the Moroccan Educational system because we were unable to choose subjects on the basis of proficiency. The intermediate level corresponds to the second year of baccalaureate, and the advanced level to the third year at

university. Sixty subjects were in both levels (thirty subjects in each level): twenty-four subjects were male (40%) and thirty-six were female (60%).

## 3. Findings and Discussion

The 20 distracters used in the task were intended to test the informants' level, in addition to their earnest in dealing with the task: the performance of the two groups is expected to be significantly different, given the difference of their study levels. Indeed, the advanced level group scored better (Mean: 14.66; SD: 2.30) than the intermediate level group (Mean: 12.46; SD: 2.40). A t-test was run and the difference between the means was found highly significant: t-value: -3.61; df: 58; p: 0,001. These results mean that in terms of level of proficiency the advanced level subjects performed better than the intermediate level subjects. Therefore, the students did their best to provide what they thought was the correct answer.

Concerning the frequency of the tested items, namely 'fake word', 'synonym but not appropriate', and 'none of these', the results show that informants relied heavily on 'synonym but not appropriate' rather than 'fake word' or 'none of these' in response to the task given. Informants opted for 'synonym but not appropriate' 1237 times (58.32%), but only 317 times for 'fake word' (14.94%) and 567 times for 'none of these' (26.73%). More than half of the answers were based on the choice of 'synonym but not appropriate.' A chi-square test was run and the results were found statistically significant ($\chi^2$ = 640,16; df: 2;  p < .000).

These results suggest that the subjects apparently select an already stored rather than rely on a poor representation of word meaning to compute an interpretation that is appropriate to the context in which a word occurs. On a first reading, these results might be taken to suggest that the "Abstract Sense Hypothesis" (ASH) should probably be rejected, in favour of the "Multiple Senses Hypothesis" (MSH). On a closer scrutiny, however, it is very probable that the sentences were interpreted metaphorically on the basis of the conventional meanings of the test items, as will be explained later in this section.

The low frequency of "none of these" options seems to be motivated by the general cooperative principles of communication proposed by Grice (1975) (see also Sperber & Wilson (1995) and other works on relevance), particularly the idea that interactants are rational beings and that they generally cooperate to make conversation successful. Given the formal context in which the task was administered, the subjects probably reasoned that one of the options was the right answer. The high frequency of 'synonymous but not appropriate' answers suggest that informants used the context given just when it was obvious and readily appropriate; otherwise they used other clues such as interlinguial ones. In many cases, it seems that they relied on L1 (i.e. Moroccan Arabic) or L2 (i.e. French) resources such as words that seem similar to those in the task. For example, in sentence (13) below in which some informants opted for choice 'd. completed' for the underlined word '*finished*' in the sentence 'The boss *finished* the worker', the informants who opted for this choice were probably influenced by their L1 in which the corresponding verb "sala" (finished) is frequently used with the meaning "done with". Concerning the influence of the second

language, some informants used their knowledge of French words to choose the answer even if it is not appropriate in the context given. In sentence (15) below, some informants opted for the choice 'd. Commenced' for the underlined word '*started*' in the sentence 'the man *started* in the pool'. Apparently, these subjects relied on their knowledge of French to select this option because the French verb 'commencer' corresponds to 'start' in English, although this option does not make sense in this context.

Another interpretation of our data is that the sentences were probably interpreted metaphorically on the basis of the conventional meaning of the test items. Consider the following examples:

(5) The boss *finished* the worker.

{ a. ended   b. hiphed   c. stopped   d. completed   e. none of these }

(6) The boy *dressed* eggs and milk for breakfast.

{ a. wore     b. put on     c. clothed     d. spulsed     e. none of these}

(7) The man *started* in the pool.
{ a. dwarted     b. initiated     c. began     d. commenced     e. none of these}

The descriptive statistics indicate that, in the case of (5), the informants opted for a "synonymous but not appropriate" choice 53 times, for a "fake word" once, and for "none of these" 6 times. In sentence (6), they opted for a "synonymous but not appropriate" answer 13 times, for a "fake word" 22 times, and for "none of these" 25 times. This difference can be accounted for by the fact that sentence (5) can be interpreted metaphorically on the basis of the conventional meaning of the test items, while sentence (6) cannot. In the case of (5), nearly half of the informants who selected a "synonymous but not appropriate" option chose c (i.e. stopped), which makes sense in this context. So, although the synonymous options are not acceptable Standard English answers in this context, they could become so by a stretch of imagination. In comparison, most of the informants chose either the fake word (20 times) or "none of these" (25 times) in the case of (6). Most probably, the informants were unable to construct any plausible interpretation on the basis of the synonymous but inappropriate choices. For some of them, the "fake word" was a resort by the elimination strategy. By choosing "none of these", the informants apparently implied that the context was not obvious and they could not construct a meaning using the provided cues. Therefore, they did not want to take the risk of making a choice that none of the test items helped to make.
Another explanation of the tendency to avoid fake words may be called 'the security strategy'. That is to say, learners of English as a foreign language do not depend on context if it is not obvious enough to give a meaning to the unknown words so as not to commit a mistake. That is why the frequency of 'synonymous but not appropriate' choices was higher than the two other categories, and the frequency of 'none of these' was higher than 'fake word' when context was not obvious enough. However, when the context was obvious and the items of the sentence were clear to the learner, the frequency of the

'fake word' and 'none of these' was higher than 'synonymous but not appropriate' options.

In a nutshell, we cannot rely on the results we got to adhere to the idea that learners of a second language store all the senses of each word because in some sentences, where the context was obvious and well-understood by informants, they opted for the 'fake word' and not for 'synonymous but not appropriate'.  The data collected suggest that when informants know the context and the words given well, the frequency of "fake word" as a choice increases, hence, they use their inference strategies rather than the stored synonyms. Therefore, we may say that the lack of knowledge of the contextual and cultural specificities of a language can hinder the learners from using their inferential strategies to guess the right contextual meaning.

Comparison between the intermediate and the advanced levels supports this conclusion. The chi-square test indicates that the difference between two groups is highly significant ($\chi^2$: 15.93; df: 2; p < .001). The difference is particularly important in connection with fake words and "none of these". The intermediate level group opted for fake words 177 times, while the advanced level group ticked them only 140 times. As to 'none of these', the intermediate level group opted for it 244 times, while the advanced level group chose it 323 times. These results suggest that the higher the learners get in terms of level, the more careful they become in terms of using words they do not know or committing themselves to inferring a meaning from unobvious contexts. This is supported by the results we got: the intermediate level informants opted for 'fake word' more than 'none of these', while the advanced level informants opted for 'none of these 'more than 'fake words'. The high frequency of "none of these" suggests that the informants were not able to construct a contextual meaning based on the cues they have. The tendency to search for meaning is not limited to such contexts. In fact, the works in pragmatics and discourse analysis has shown that interactants try to construct a meaning even if the messages are disorganized and errors characterize performance (e.g. spelling mistakes) (cf. Brown & Yule, 1983). Therefore, the fact that our informants opted for "none of these" should be interpreted as reflecting a default strategy to treat all messages as potentially meaningful except when there is evidence to the contrary.

These results may be interpreted as a tendency toward inferring the possible meaning using the provided cues by the intermediate level learners without calculating the risks they may get from this attempt. However, the advanced level informants were more careful in dealing with the issue, so they did not embark themselves in an endeavor which may result in incorrect meaning. The results we got tend to support this idea in that the choice of "none of these" options by advanced level informants was higher than their counterparts in the intermediate level.

## 4.  Conclusions
This study has shown that EFL learners prefer interpretations based on already acquired word meanings over cancelling those meanings when they are not readily appropriate. It also revealed that lexical inferencing includes different aspects that cannot be simply covered by investigating the usual

vocabulary tasks given to L2 learners at school. The task used, in our case, includes unusual contexts that revealed some hidden aspects of lexical inferencing, notably that L2 learners do not use context as a basis to infer the meaning of unknown words unless it is obvious as suggested by our results. Otherwise, they simply base their interpretations on already acquired word meanings.

We can draw several pedagogical implications from the data collected. To begin with, the context should be obvious in any given vocabulary task to help L2 learners acquire the contextual meaning of unknown words. Second, L2 learners have to be equipped with the necessary background knowledge, in addition to the skills of how to use it effectively to infer the meaning of individual words. Third, supplementary materials are required to foster the acquisition of words by L2 learners. In general, L2 learners have to be armed with all types of cues, in addition to the skills of using them effectively for a better success of lexical inferencing.

## References

Brown, G. & Yule, G. (1983). *Discourse Analysis*. Cambridge: Cambridge University Press.

Carter, R. (1998). *Vocabulary: Applied linguistic perspectives*. London, UK: Routledge.

Carter, R & McCarthy, M. (1988). *Vocabulary and Language Teaching*: USA, Longman INC.

Carton, A. (1971). Inferencing: A process in using and learning language. In P. Pimsleur and T. Quinn (eds) *The Psychology of Second Language Learning* (pp. 45-58). Cambridge: Cambridge University Press.

Corder, P. (1973). *Introducing Applied Linguistics*. Harmondsworth: Penguin.

Cruise, (1986). *Lexical semantics*. Cambridge: CUP

Crystal, D. (2008). *A Dictionary of Linguistics and Phonetics* 6th Edition. Maden USA: Blackwell Publishing.

Dupuy, B., & Krashen, S. D. (1993). Incidental vocabulary acquisition in French as a foreign language. *Applied Language Learning*, 4(1), 55–63

Elley, W. and Mangubhai, F. (1983). The impact of reading on second language learning. *Reading Research Quarterly* 19, 1567.

Evans, V. & Green, M. (2006). *Cognitive Linguistics: An Introduction*. Edinburgh: Edinburgh University Press.

Grice, P. (1975). 'Logic and conversation', in P. Cole and J. L. Morgan (eds), *Syntax and Semantics 3: Speech Acts*. New York: Academic Press, pp. 41–58.

Haastrup, K. (1991). *Lexical Inferencing Procedures or Talking about Words: Receptive Procedures in Foreign Language Learning with Special Reference to English*. Tubingen, Gunter Narr.

Hulstijn, J.H. (2001). Intentional and incidental second-language vocabulary learning: A reappraisal of elaboration, rehearsal and automaticity. In P. Robinson (ed.) *Cognition and Second Language Instruction* (pp. 258-286). Cambridge: Cambridge University Press.

Huckin, T. and Coady, J. (1999). Incidental vocabulary acquisition in a second language: A review. In M. Wesche and T.S. Paribakht (eds) *Incidental L2 Vocabulary Acquisition: Theory, Current Research and Instructional*

*Implications.* Special Issue: Studies in Second Language Acquisition 21, 181193.

Jackendoff, R. (2002). *Foundations of language: Brain, meaning, grammar, evolution.* Oxford University Press.

Krashen, S. (1989). We acquire vocabulary and spelling by reading: Additional evidence for the input hypothesis. *Modern Language Journal,* 73, 440-463.

Lakoff, G. (1987). *Women, Fire and Dangerous Things: What Categories Reveal About the Mind.* Chicago: University of Chicago Press.

Murthy, L. (1989*). The Representation of Hyponyms in the Bilingual's Mental Lexicon. A Psycholinguistic Study.* Unpublished M. Phil Dessertation. Hyderabad. CIEFL.

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

Paribakht, T. S. and Wesche, M. (1993). Reading comprehension and second language development in a comprehension-based ESL program. *TESL Canada Journal* 11, 929.

Pitts, M., White, H. and Krashen, S. (1989). Acquiring second language vocabulary through reading: A replication of the Clockwork Orange study using second language acquirers. *Reading in a Foreign Language* 5 (2), 271-275.

Pustejovdky, J. (1995). *The Generative Lexicon.* Massachusetts, USA. Library of Congress Cataloging-in-Publication Data.

Saragi, T., Nation, I.S.P. and Meister, G. (1978). Vocabulary learning and reading. *System* 6, 7278.

Singleton, D. & Little, D. (1991). The Second Language Lexicon: Some Evidence from University-Level Learners of French and German. *Second Language Research* 7/1: 61-81.

Sperber, D., & Wilson, D. (1995). *Relevance: Communication and cognition* (2nd. ed.). Oxford, England: Blackwell.

Sternberg, R. J. (1987). Most vocabulary is learned from context. In M.G. McKeown and M.E. Curtis (Eds) *The Nature of Vocabulary Acquisition* (pp. 89-105). Hillsdale, NJ: Lawrence Erlbaum.

Tavakoli, H. (2012). *A Dictionary of Language Acquisitio*n. Tahran, Iran. Rahnama Press.

Wesche, M.B. & Paribakht, T.S. (2010). *Lexical Inferencing in a First and Second Language: Cross-linguistic Dimensions.* Bristol: Multilingual Matters.