

TURKISH EFL LEARNERS' AWARENESS AND USE OF ENGLISH
MORPHOLOGY IN GUESSING THE MEANINGS OF UNKNOWN WORDS
FROM CONTEXT: A CASE STUDY

Graduate School of Education
of
Bilkent University

by

HAKAN AKKAN

In Partial Fulfillment of the Requirements for the Degree of
MASTERS OF ARTS
in

THE DEPARTMENT OF
TEACHING ENGLISH AS A FOREIGN LANGUAGE
BILKENT UNIVERSITY
ANKARA

June 2008

BILKENT UNIVERSITY
GRADUATE SCHOOL OF EDUCATION
MA THESIS EXAMINATION RESULT FORM

JULY 9, 2008

The examining committee appointed by Graduate School of Education
for the thesis examination of the MA TEFL student

Hakan Akkan

has read the thesis of the student.

The committee has decided that the thesis of the student is satisfactory.

Thesis title	Turkish EFL Learners' Awareness and Use of English Morphology in Guessing the Meanings of Unknown Words in Context: A Case Study
Thesis Advisor	Asst. Prof. Dr. JoDee Walters Bilkent University, MA TEFL Program
Committee Members	Asst. Prof. Dr. Julie Mathews-Aydınlı Bilkent University, MA TEFL Program. Asst. Prof. Dr. Arif Sarıçoban Hacettepe University, Faculty of Education Department of Foreign Languages Teaching; Division of English Language Teaching.

ABSTRACT

TURKISH EFL LEARNERS' AWARENESS AND USE OF ENGLISH
MORPHOLOGY IN GUESSING THE MEANING OF UNKNOWN WORDS
FROM CONTEXT: A CASE STUDY

Hakan Akkan

MA Department of Teaching English as a Foreign Language

Supervisor: Asst. Prof. Dr. JoDee Walters

July 2008

This study investigated Turkish university preparatory school EFL learners' awareness and use of English affixes as a knowledge source in guessing the meanings of unknown words in written contexts. In addition, this study also examined Turkish learners' use of prefixes and suffixes separately.

The study was conducted with the participation of 10 pre-intermediate students at the English Language Preparatory School of Gaziosmanpaşa University. The data was gathered through think aloud procedures. The participants were asked to read a reading passage and try to infer the meanings of 13 target words that included prefixes, suffixes, or both. The participants were tape-recorded during the think aloud procedures.

The tape recordings were transcribed in order to provide the data. The data analysis involved reading and rereading of the tape scripts. Then, knowledge sources

were identified and classified, and the participants' successful and unsuccessful used of English morphology was examined.

This study implies that English affixes are effective knowledge sources in determining the meanings of unknown words. Thus, EFL teachers should teach students strategies about how to use English prefixes and suffixes in inferring the meanings of unknown words in context-

Key Words: Vocabulary learning strategies, guessing strategies, knowledge sources, English affixes.

ÖZET

TÜRK ÖĞRENCİLERİN İNGİLİZCE ÖNEK VE SON EKLERİ KULLANARAK PARÇADAN KELİMENİN ANLAMINI TAHMİN ETMELERİ: BİR ÖRNEK OLAY İNCELEMESİ

Hakan Akkan

Yüksek Lisans, Yabancı Dil Olarak İngilizce Öğretimi Bölümü

Tez Yöneticisi: Yrd. Doç. Dr. JoDee Walters

Temmuz 2008

Bu çalışmada Türk öğrencilerin İngilizcedeki önek ve sonekleri kullanarak parçadan bilinmeyen kelimelerin anlamlarını nasıl ve hangi ölçüde tahmin ettikleri araştırılmıştır. Ayrıca, bu çalışma Türk öğrencilerin İngilizce önek ve sonekleri ayrı ayrı nasıl kullandıklarını araştırmıştır.

Çalışma Gaziosmanpaşa Üniversitesi İngilizce Hazırlık Okulunda ortadüzey İngilizce bilgisine sahip 10 öğrenci ile gerçekleştirilmiştir. Veriler, öğrencilerin düşüncelerini sesli söyleme yöntemiyle toplanmıştır. Öğrencilerden bir okuma parçasını okumaları ve içinde İngilizce önek, sonek veya her ikisinde bulunduğu 13 hedef kelimeyi tahmin etmeleri istenmiştir. Sesli düşünce söyleme prosedürü süresinde, öğrencilerin sesleri bir ses kaydediciye kaydedilmiştir.

Verileri elde etmek için ses kayıtları kağıda dökülmüştür. Veri analizi bu kayıtların tekrar tekrar okunmasıyla yapılmıştır. Öğrencilerin kullandıkları bilgi kaynakları belirlenmiş ve sınıflandırılmıştır. Sonra, öğrencilerin başarılı ve başarısız İngilizce ekleri kullanımları incelenmiştir.

Bu çalışma İngilizce önek ve soneklerin bilinmeyen kelimelerin anlamlarını bulmada etkili olduklarını göstermektedir. Bu yüzden, İngilizce öğretmenlerinin öğrencilerine İngilizce önek ve sonekleri nasıl kullanacaklarıyla ilgili stratejileri öğretmelerinin faydalı olacağı görülmüştür.

Anahtar Kelimeler: Kelime öğrenme stratejileri, tahmin etme stratejileri, ipuçları, İngilizce ekler.

ACKNOWLEDGEMENTS

First of all, I would like to express my deepest gratitude to my thesis advisor, Asst. Prof. Dr. JoDee Walters, for her patience, invaluable and expert academic guidance, friendly attitude and continuous support throughout the study. Without her help, I would never imagine finishing my thesis.

I would like to thank Asst. Prof. Dr. Julie Mathews-Aydınlı, the director of MA TEFL program, for her supportive assistance and friendly attitude. I would also like to thank my committee member, Asst. Prof. Dr. Arif Sarıçoban, for his contributions and positive attitude.

I would like to thank Prof. Dr. Zehra Seyfikli, Rector of Gaziosmanpaşa University, who gave me permission to attend the program. I would also like to thank my colleague, Seçil Büyükbay, who never hesitated to help me during data collection process. I would like to thank the students who participated in this study.

My special thanks go to my colleagues, Gülçin Berkil and Fatih Elaziz, for their friendly attitudes and support throughout my study.

I owe special thanks to my mother and my father for their endless love, patience, and encouragement. Without their love and affection, I would not be able to succeed in life.

Last but not the least, many special thanks go to my wife who supported and encouraged me throughout my study.

TABLE OF CONTENTS

ABSTRACT	iii
ÖZET	v
ACKNOWLEDGEMENT	vii
TABLE OF CONTENTS	viii
LIST OF TABLES	xi
CHAPTER I: INTRODUCTION	1
Introduction	1
Background of the Study	2
Statement of the Problem	5
Research Questions	7
Significance of the Study	7
Conclusion	8
CHAPTER II: LITERATURE REVIEW	9
Introduction	9
Words	9
Definition	9
Vocabulary Acquisition	10
Receptive versus Productive Vocabulary	12
High Frequency Words versus Low Frequency Words	13
Teaching and Learning Vocabulary	16
Intentional versus Incidental Vocabulary Learning	16
Vocabulary Learning Strategies	20

Guessing Strategies	26
Strategies in Guessing the Meanings of Unknown Words	26
Factors Influencing Guessing Behaviors	27
Knowledge Sources in Guessing the Meaning of Unknown Words.....	30
Conclusion	33
CHAPTER III: METHODOLOGY	34
Introduction	34
Setting	34
Participants	35
Instruments	36
The Pretest.....	36
The Reading Passage.....	37
The Checklist	40
Procedure.....	40
Data Analysis	42
Conclusion	43
CHAPTER IV: DATA ANALYSIS	44
Introduction	44
Data Analysis Procedure	45
Analysis of the Think-Aloud protocols.....	46
Overall Results	46
Use of Affixes	50
Participants' Use of English Prefixes and Suffixes.....	56
Conclusion	61

CHAPTER V: CONCLUSIONS	62
Introduction	62
General Results and Discussion	63
Overall Results	63
Knowledge Sources.....	63
To what extent do Turkish university preparatory school EFL learners refer to English prefixes and suffixes in order to guess the meanings of an unknown word in written contexts?	66
Do Turkish university preparatory school EFL learners recognize and use English prefixes more or less effectively than English suffixes when guessing the meaning of an unknown word in written context?	69
Limitations	73
Implications.....	73
Suggestions for Further Study.....	75
Conclusion	76
REFERENCES.....	77
APPENDIX A: THE PRETEST	83
APPENDIX B: THE READING PASSAGE.....	85

LIST OF TABLES

Table 1 - Prefixes and suffixes in the target words	38
Table 2 - The readability statistics	39
Table 3 - Students' successful and unsuccessful guesses.....	46
Table 4 - Successful and unsuccessful inferences for unknown words	47
Table 5 - Students' use of knowledge sources.....	48
Table 6 - Students' successful use of knowledge sources	49
Table 7 - The ratio of use of English morphology to other knowledge sources	51
Table 8 - The number of students' attempts to use English morphology as a knowledge source.....	52
Table 9 - Students' use of English morphology as a knowledge source	54
Table 10 - The checklist.....	55
Table 11 - Students' use of prefixes and suffixes as a knowledge source.....	56
Table 12 - Participant 1 responses	57
Table 13 - Participant 3 responses	58
Table 14 - Participant 5 responses	58
Table 15 - Participant 6 responses	59
Table 16 - Participant 8 responses	59
Table 17 - Participant 9 responses	60
Table 18 - Participant 10 responses	60

CHAPTER I: INTRODUCTION

Introduction

The notion that we learn a lot of our vocabulary through reading, or more particularly comprehensible written input, is now entrenched in second and foreign language teaching (Nation & Waring, 2004). Learners naturally encounter unfamiliar words while reading a text and use a variety of strategies to understand those unknown words. Stoller and Grabe (1995) pointed out that by becoming familiar with only a few stems, prefixes, and suffixes, students will recognize the meaning of many words; one root or affix can often provide a student with a clue to the meaning of dozens of words. Reflecting this idea, analyzing word structure is one of the efficient ways to deduce the meaning of an unknown word in a text (Paribakht & Wesche, 1999). Moreover, it is beneficial for students whose native languages are not related to the target language, to become aware of the similarities and differences of the two languages. Lado (1957) assumed that the student who comes in contact with a foreign language will find some features of it quite easy and others extremely difficult. Those elements that are similar to his native language will be easy for him and those elements that are different will be difficult. Turkish learners often have difficulties in the reading process and they rarely use guessing strategies such as analyzing word structure. This study tries to discover Turkish university preparatory school EFL learners' morphological awareness and use of English morphology as a knowledge source in attempting to guess the meaning of unfamiliar words in context.

Background of the Study

There are thousands of words in a language. Thus, vocabulary learning is a difficult process because it is impossible to attain mastery of all words in a language (Nation, 2001). Individual learners attempt to learn vocabulary in two ways; intentionally, through which learners learn vocabulary deliberately, and incidentally, through which learners learn new words from context. Learning from context may occur during extensive reading, while listening to stories, television, or radio, both in the first language and second language. Paribakht and Wesche (1999) revealed that most vocabulary learning occurs naturally when learners attempt to understand new words they hear or read in context. Similarly, Coady and Huckin (1999) claimed that much second language vocabulary learning occurs incidentally while the learner is engaged in extensive reading. Empirical studies demonstrate that reading is an effective way of learning new words (Fraser, 1999; Krashen, 1989).

Through the reading process, learners encounter many unknown words. In order to overcome this problematic part of reading, learners use a variety of strategies to discover the meaning of an unknown word. If learners do not know a word, they must discover its meaning by guessing from structural knowledge of the language, guessing from an L1 cognate, guessing from context, using reference materials, or asking someone (Schmitt, 1997). By and large, lexical inferencing involves the use of linguistic cues in combination with the learners' general knowledge of the world, their awareness of context, and their relevant linguistic knowledge (Haastrup, 1991).

There are certain sources of information L2 learners frequently refer to when guessing from context. The first one is the use of sentence level grammar, from

which learners deduce the syntactic category of the word. Another knowledge source used by L2 learners in order to infer the meaning of unfamiliar words is word morphology. Learners' knowledge of L2 word morphemes (i.e. stems, and affixes such as *-less*, *-ly*) enables them to deduce the meaning of an unknown word (Paribakht & Wesche, 1999). Third, learners' familiarity with the topic and theme is an important source of clues for inferring the meaning of unknown words (Pulido, 2007). Cognates are another influential factor in the guessing process. Related languages abound in cognates, such as German *buch*, Danish *bog*, and English *book*. Interlingual cues in a text such as loan words or cognates, and any other kind of transfer between the native language and the target language are some of the features that are available for use in inferring the meaning of unknown words from context (Carton, 1971). In addition, learners use their knowledge of sound relationships or the phonetic similarity between the target word and another word in the learners' mental lexicon to guess the meaning of an unknown word (Paribakht & Wesche, 1999).

A number of factors affect students' attempts to infer the meaning of unfamiliar words. First, text characteristics influence learners in terms of both their motivation and their success in guessing the meanings of unknown words. For example, according to Paribakht and Wesche (1999), theme-related texts appear useful for vocabulary expansion because words appear repeatedly and take on salience, thus enriching the meanings from varied contexts. In addition to that, the text should have a manageable difficulty level (Paribakht & Wesche, 1999). Second, cultural familiarity with the text helps learners understand the text better. Vocabulary gains are greater when participants read culturally familiar texts (Pulido, 2004).

Third, word characteristics are also influential in guessing the meaning of an unknown word. Some words look as if they are composed of meaningful morphemes (Laufer, 1997). These words have deceptive morphological structures. For instance, *shortcomings* looks like a compound of *short* and *comings* meaning *short visits*. Similarly, *outline* may be misinterpreted as *out of line*. These are actual misinterpretations provided by students in Laufer's (1997) study. Haynes (1993) also maintained that the internal structure of the words, including phonemic, phonetic, graphemic, and morphological clues, are influential in determining word meaning. Frequency of occurrence of a word is another important factor when attempting to guess the meaning of unknown words. Sternberg (1987) pointed out that multiple occurrences of an unknown word increase the number of available cues when attempting to guess the meaning of an unfamiliar word.

Another important factor affecting guessing from context is individual differences. More proficient learners are more successful guessers and use a wider variety of guessing strategies than those who are less proficient (Paribakht, 2005). In addition, a critical level of vocabulary knowledge is essential for successful use of guessing strategies (Laufer, 1997).

Finally, native language is influential on the word guessing process. Learners of related languages are more advantaged than the learners of unrelated languages. Nation (2001) claimed that the similarity between the learner's first language and the second language is an important factor affecting guessing from context.

Of all the guessing strategies, morphological knowledge as a strategy has an important role in reading and inferring the meaning of unknown words. Paribakht and Wesche (1999) demonstrated that learners' knowledge of L2 word derivations

(e.g. stems and affixes) is the second most important knowledge source used in inferring the meaning of unknown words. Furthermore, Nassaji (2003) demonstrated that students use world knowledge most frequently, and the second most frequently used knowledge source in attempting to derive the meaning of unfamiliar words is morphology.

Research establishes that morphological awareness contributes to the decoding of morphologically complex words and contributes to the development of reading comprehension in L1 (Carlisle, 2000). In addition, Parel (2004) ascertains that in the first language, there is ample evidence that sensitivity to word structure impacts reading achievement; however, there are very few L2 studies (Mori, 2003; Parel, 2004) on the role of morphological awareness and its use by L2 learners when attempting to derive the meaning of unknown words from context. Parel (2004) revealed in her study that sensitivity to word morphology in conjunction with information from the context might help L2 learners in determining the meanings of unknown words encountered in written contexts.

Statement of the Problem

Incidental learning by means of guessing from context is the most important source of vocabulary learning (Nation, 2001). Learners use a variety of guessing strategies when attempting to guess the meaning of unknown words. For instance, Carlisle (2003) pointed out that morphemic awareness might be regarded as an analytic skill that involves inferences about word structure and meaning. Developing morphological awareness may become very important for readers (Carlisle, 2000). However, there have been very few studies (e.g. Mori, 2003; Parel, 2004) on the roles of L2 morphological awareness in reading. Parel (2004) also asserted that very

little is known about the relationship of sensitivity to word structure to reading achievement in the second language. To my knowledge, there has been no empirical study of Turkish learners' awareness and use of English affixes when making inferences about unknown words in written contexts. In addition to that, there has been no study comparing Turkish learners' awareness and use of prefixes and suffixes appearing in unknown words, even though prefixes do not exist in the Turkish language. Moreover, there has been no study which looked at EFL learners' use of prefixes and suffixes separately in guessing the meanings of unknown words in context.

English is the only compulsory second language being taught at all schools throughout Turkey. In the foreign language classrooms, vocabulary acquisition has long been a central issue for students as the grammar based main course book and the skills books are filled with new lexis that the students must acquire. However, the Turkish EFL students do not use a wide variety of vocabulary learning strategies except for looking in a dictionary for the meanings of unknown words when they encounter new words while reading.

Similarly, students at Gazioasmanpaşa University do not use many of the vocabulary learning strategies in reading classes apart from looking in a dictionary and asking the teacher or their classmates. The reason for this situation could be that the students may not know most of the guessing strategies and they may not be aware of the role of English morphemes as a clue to decode and infer the meaning of unfamiliar words. Moreover, the students might not be aware of many features of English morphology, since Turkish and English are unrelated languages with few aspects in common. I would like to know whether the EFL students at GOP

University use English affixes as a knowledge source to infer the meanings of unknown words encountered in written contexts. I would also like to investigate whether they refer to prefixes more or less than suffixes.

Research Questions

This study will address the following research questions:

1. To what extent do Turkish university preparatory school EFL learners refer to English prefixes and suffixes in order to guess the meaning of an unknown word in written contexts?
2. Do Turkish university preparatory school EFL learners recognize and use English prefixes more or less effectively than English suffixes when guessing the meaning of an unknown word in written context?

Significance of the Study

There is limited research on L2 students' use of morphological cues as a knowledge source in attempting to infer the meanings of unfamiliar words in context. Thus, this study might contribute to the literature by providing a description of how or whether Turkish university preparatory school EFL learners use morphological cues in inferring word meaning from context.

At the local level, this study will be the first on L2 students' awareness and use of English morphology as a knowledge source in order to guess the meanings of unfamiliar words in context at Gaziosmanpaşa University. This study attempts to provide empirical support for the extent to which Turkish university preparatory school EFL learners use English morphology as a knowledge source in guessing the

meaning of a word. This study may be beneficial for EFL teachers and students in developing strategies for dealing with unknown words containing affixes.

Conclusion

In this chapter, the background of the study, the statement of the problem, the significance of the study, and the research questions have been presented. The next chapter reviews the relevant literature on the teaching and learning of vocabulary, learning strategies, and vocabulary learning strategies. The third chapter deals with the methodology, and presents the participants, the instruments, and the data collection procedure. The fourth chapter presents the analysis of the data collected. In the last chapter, the findings, pedagogical implications, limitations of the study, and suggestions for further research are discussed.

CHAPTER II: LITERATURE REVIEW

Introduction

This research study seeks to investigate Turkish learners' knowledge and use of English affixes as a knowledge source in inferring the meaning of unfamiliar words in context. This chapter reviews the literature on vocabulary, learning strategies and vocabulary learning strategies. In addition, guessing strategies, knowledge sources, and factors affecting successful guessing are also examined in this chapter.

Words

Definition

“Words are the basic building blocks of language, the units of meaning from which larger structures such as sentences, paragraphs and whole texts are formed” Read states (2000, p. 1). However, Read (2000) states that the word is not an easy concept to define, either in theoretical terms or for various applied purposes. For example, *wait* is a content word, but then there are *waits*, *waited*, and *waiting*. Likewise, *stimulate* and *stimulation* and *society*, *societies*, *Societies*, *Society*, and *society's* may be considered different words. Read (2000) maintains that the base and inflected forms of a word are known as a lemma. In all cases, we would normally regard these as different forms of the same word (Nation, 1990; Read, 2000; Schmitt, 2000).

Vocabulary Acquisition

What does it mean to learn a new word? At least, we must recognize it as a word and enter it into our mental lexicon (Ellis, 1997). In addition, Ellis (1997) maintains that the acquisition of L2 words usually involves a mapping of the word form onto pre-existing conceptual meanings. Furthermore, many authors claim that vocabulary acquisition is incremental in nature (Nation, 1990; Schmitt, 2000). Complete mastery of a word requires a number of aspects of word knowledge, not all of which can be completely learned. Some aspects are mastered before others. For instance, learners may know a word's meaning or spelling but they may not know its collocations (Schmitt, 2000).

When learners are exposed to a word for the first time, they pick up some sense of form and meaning, but learners do not fully master the word. As the learners gain a few more exposures, some other features of a word might be learned. Henriksen (1999) provided a good description of the various aspects of incremental development of vocabulary knowledge. The first dimension is that learners can have varying degrees of knowledge a word from zero to partial to precise. The second dimension is that depth of knowledge of a word requires mastery of a number of lexical aspects, and the third dimension is that words are first learned receptively, and then develop to become productive.

Furthermore, Schmitt and Meara (1997) assert that there has been an increasing awareness that there is much more to knowing a word than just learning its meaning and form. In order to master a word in a native-like and fluent manner, learners should be aware of the aspects of word knowledge listed by Nation (1990).

1. The spoken form of a word.
2. The written form of a word.
3. The grammatical behavior of a word.
4. The collocational behavior of a word.
5. How frequent the word is.
6. The stylistic register constraints of a word.
7. The conceptual meaning of a word.
8. The associations a word has with other related words (P. 31).

However, even native speakers do not have full command of each word in their lexicon (Schmitt & Meara, 1997). For most native speakers, many of the words are known receptively, but not productively, and native speakers may not have knowledge of all of the above word knowledge types for receptive words (Nation, 1990).

Thus, knowing a word would imply familiarity with all of its features. In the case of learning a second language, knowing a word may be partial. Learners cannot know all aspects of a word. It takes time for second language learners to fully master a word. Thus, some words might be used receptively and others productively. Taken together, this indicates that vocabulary acquisition is not an easy process.

According to Laufer (1997), there are certain factors that facilitate or make it difficult to learn words. The facilitating factors are: familiar phonemes, phonotactic regularity, fixed stress, inflexional regularity, derivational regularity, morphological transparency, generality, register neutrality, and one form for one meaning; on the other hand, the presence of foreign phonemes, phonotactic irregularity, variable stress and vowel change, inflexional complexity, derivational complexity, deceptive

morphological transparency, synformy, specificity, register restrictions, idiomaticity, and one form for several meanings may make it more difficult to learn new words (p. 154).

Receptive versus Productive Vocabulary

There are thousands of words in a language. It is almost impossible to know all words with all their aspects. We know different things about different words. One may know the form of a word but not its meaning, or come up with the meaning but not its form Hulstijn (1997). We use different words in different situations. The words we use when speaking and writing may be different from the words we use in listening and reading. In our mental lexicon, words are at different stages of knowledge, one of which is receptive and the other is productive. Nation (2001) and Read (2000) remark that receptive vocabulary use involves perceiving the form of a word while listening or reading, whereas productive vocabulary use involves expressing a meaning through speaking or writing.

According to Nation (2001), knowing and using a word receptively involves being able to recognize the word when it is heard, being familiar with its written form, recognizing its structure (root and affixes), knowing its meaning, knowing what it means in certain contexts, knowing its synonyms and antonyms, knowing that it has been used correctly in a sentence, and being able to recognize that the same word has collocations. On the other hand, from the point of view of productive knowledge and use, knowing a word involves being able to say it with correct pronunciation including stress, being able to write it with correct spelling, knowing what word parts are needed to express the meaning, knowing what word form can be

used to express the meaning, knowing what other words we can use instead of this word, and knowing where, when, and how we can use the word.

Nation (1990) claimed that receptive learning is easier than productive learning. Using productive skills (speaking and writing) is more difficult than using receptive skills (listening and reading) for many L2 learners. For receptive use, learners may only need to know a few distinctive features of a word; however, for productive purposes, the learners' knowledge of a word has to be more precise.

Productive learning may be more difficult because it requires extra learning of spoken or written aspects of a word (Nation, 2001). In addition, in normal language learning conditions, receptive use generally gets more practice than productive use. For instance, receptive activities such as looking up words in a dictionary, matching words with their meanings, or guessing from context are more common than productive activities such as writing exercises (Webb, 2005). Furthermore, Corson (1997) alleged that learners are not very motivated for some reasons to use certain kinds of knowledge productively.

High Frequency Words versus Low Frequency Words

Mastery of the complete lexicon of English is beyond not only second language learners but also native speakers (Schmitt, 2000). This means that a large vocabulary size cannot realistically be taught or learnt through explicit study. Second language learners should be aware of the most common words in their learning process. According to McCarthy (2001), the most frequent words in any language will be the most useful ones for learners in order to give them a basic set of tools for communication. Nation (2001) asserted that there is a small number of high frequency words which are very important because these words cover a very large

proportion of the running words in spoken and written texts and occur in all kinds of uses of the language. Read (2004) maintained that English learners should pay attention to the 2000 most frequent words since they have been repeatedly shown to account for at least 80 percent of the running words in written and spoken text. Nation's (1990) assumption is that about 87 percent of the words in a text are high frequency words. Thus, with a vocabulary of just 2000 words, a learner can understand most of the words in the text, although this may not be enough for complete understanding of the text.

On the other hand, there is a very large group of words that occur very infrequently and cover only a small proportion of any text (Nation, 2001). Approximately four percent of the running words in a text are proper nouns. Another group of low-frequency words are technical words which do not occur in all written texts. In addition, technical words occur only once or twice in a text, in contrast to high frequency words. In addition to that, there are non-technical words that do not occur very often. Many L2 learners do not use those low frequency words. Instead of those very low frequency words, language learners use synonyms. Moreover, very low frequency words may be marked as being old fashioned, very formal, belonging to a particular dialect, or vulgar (Nation, 2001). Most low-frequency words in English came from Latin and Greek, often through French (Nation, 1990).

High frequency vocabulary consists mainly of short words which cannot be broken into meaningful parts. Many low frequency words, however, consist of more than one morpheme. For instance, the word *impose* is made of two parts, *im-* and *-pose*, which occur in hundreds of other words – *imply*, *infer*, *compose*, *expose*, *position* (Nation, 1990).

Nation (1990) categorized types of vocabulary in terms of frequency and gave advice as to how they should be treated in the classroom. The number of high frequency words is about 2000, and they occur frequently in all kinds of texts, comprising 87% of the running words in a text. About half of the high frequency words came from Latin, Greek, or French. These high frequency words should be paid attention to and learners and teachers should spend a lot of time on these words. Another group is academic vocabulary, which occurs mainly in academic texts, and the number is approximately 800 word families. If learners are in upper secondary school or at university, they should spend a lot of time on these words. About two thirds of academic words are from Latin, Greek, or French. Another group is technical vocabulary. Technical words occur in certain subject areas but those words are not common elsewhere. They differ from subject area to subject area. The number of technical vocabulary words is 1000 to 2000 for each subject. If a learner studies any of the subjects (e.g. engineering, law, or medicine), he or she should learn these words. The last category is low frequency words and there are about 123,000 in this category. These words do not occur very frequently and cover only 2% of any text. Learners should not spend time on learning these words. Teachers should teach strategies for dealing with these words. Nation (2001) maintains that it is not worth it to spend much teaching time on these words.

To sum up, learners and teachers should put emphasis on learning high frequency words implicitly or explicitly since high frequency words occur in all kinds of texts very frequently. On the other hand, it is not worth spending time on learning low frequency words since low frequency words are a very large group of

words and they cover a small proportion of any text. It is better to teach learners strategies like guessing from context to deal with low frequency words.

Teaching and Learning Vocabulary

Intentional versus Incidental Vocabulary Learning

One distinction that has been influential in vocabulary studies is that between incidental and intentional learning (Read, 2004). Incidental learning refers to learning without an intent to learn (Hulstijn & Laufer, 2001). Furthermore, Paribakht and Wesche (1999) maintain that most vocabulary learning occurs naturally when learners attempt to understand new words they hear or read in context, and such learning has been called incidental because it occurs as learners are focused on something other than word learning itself. Incidental vocabulary learning includes learning from context, extensive reading, listening to television or radio.

However, in direct instruction, vocabulary words are presented with their definitions, translations, or in isolated sentences (Nation, 1990). The learner is aware of the learning that takes place through systematic and explicit approaches in intentional learning (Nation, 2001; Schmitt, 2000).

Several studies have found positive evidence supporting the use of explicit vocabulary instruction. Zimmerman (1997) alleges that rather than incidental learning of vocabulary from any kind of reading text, explicit teaching of lexis results in better retention. Paribakht and Wesche (1997) suggest that direct instruction is preferable if the learning should take place in a short time frame. In her study, de la Fuente (2006) explored the effects of lesson types on vocabulary

acquisition, and it is indicated that the task based lesson with an explicit focus on the form of the words is the most effective for vocabulary acquisition

However, Coady and Huckin (1999) claim that incidental learning of vocabulary has certain advantages over direct instruction, including the following: a) it is contextualized, giving the learner a richer sense of word's use and meaning, b) it is pedagogically efficient in that it enables both vocabulary acquisition and reading to occur at the same time, and c) it is more individualized and learner-based because the vocabulary being acquired depends on the learner's own selection of reading materials.

There is no doubt that that incidental vocabulary learning occurs, particularly through extensive reading in input rich environments, but at a slow rate (Read, 2004). Fraser (1999) also acknowledges that incidental vocabulary learning occurs in the course of reading for comprehension. Many other researchers (Brown, 1994; Day & Bamford, 1998; Krashen, 1993; Rott, 1999) also ascertained that extensive reading potentially provides learners with opportunities to process an unfamiliar word in its various natural contexts in order to acquire the complex properties of the lexical items. Krashen (1989) also suggested that a substantial part of the L2 lexicon is gained through reading. Similarly, Laufer (2003) claims that more words are learnt by reading than through direct instruction. Grabe and Stoller (1997) also revealed similar findings. Pigada and Schmitt (2006) draw the conclusion in their study that extensive reading increases students' vocabulary, at least in terms of spelling, meaning and grammatical knowledge of the target words. In addition, Paribakht (2005) claimed that reading is normally the main context for continued vocabulary acquisition beyond the first few thousand words.

However, there are some factors affecting incidental vocabulary learning through reading. For instance, Nation and Waring (2004) claimed that concrete words are easier to learn than more abstract words. Schmitt (2000) claimed that shorter words are easier than longer words, because shorter words occur more frequently. Hu and Nation (2000) suggest that a learner should know at least 98% of the running words in a text in order to make a successful inference. Pulido (2004) found that topic familiarity is influential on reading and incidental vocabulary acquisition. Another factor affecting inferring from context and incidental vocabulary acquisition is learners' language proficiency (Paribakht, 2005). Paribakht and Wesche (1999) stated that text characteristics and word characteristics can affect incidental vocabulary acquisition. Coady and Huckin (1999) maintained that incidental vocabulary acquisition depends on multiple exposures to a word in different contexts.

According to Coady and Huckin (1999), incidental vocabulary learning has some drawbacks. First, guessing is imprecise, but many reading tasks call for precise interpretation. Second, there are many deceptive lexical items which can easily mislead the learner. Third, guessing takes time and slows down the reading processes. Fourth, guessing is only effective when the context is well understood and all of the surrounding words are known. Fifth, guessing requires good reading strategies. Sixth, guessing often does not turn into acquisition. Seventh, guessing is not very effective in the acquisition of multiword lexical items. In short, guessing from context has serious limitations.

On the other hand, vocabulary growth through reading can be increased by providing L2 readers with a variety of enhancement techniques (Rott, 1999).

Recently conducted studies demonstrated that word inference might be speeded up through dictionary access (Fraser, 1999; Hulstijn, 1996; Knight, 1994), glosses (Watanabe, 1997) or post reading activities (Paribakht & Wesche, 1996; Zimmerman, 1997). Paribakht and Wesche (2000) found that Reading Plus activities are superior in vocabulary acquisition over Reading Only activities. The former includes certain vocabulary exercises which learners carry out using the same words. In the Reading Only condition, learners only read two thematically similar texts which contained the same words. According to Schmitt (2000), another way to speed up incidental learning is to increase the amount of exposure to the same words, because lack of exposure is one of the most common problems second language learners face. Coady and Huckin (1999) state that one possible way of dealing with some of the problems associated with incidental learning is to modify the textual input.

Both incidental and direct learning are necessary and should be seen as complementary (Schmitt, 2000). Nation (1990) suggests that a substantial number of high frequency words should be learned by explicit instruction as they are significant for using the language for communication. Nation also maintains that low frequency words should be learned incidentally through reading, because they are not frequently used and abound in number, so it is not worth it to spend much teaching time on these words. These low frequency words exist both in written and spoken contexts; however, EFL learners more frequently encounter them in written context, since EFL learners cannot find enough speaking opportunities with native speakers (Coady & Huckin, 1997; Schmitt, 2000).

Vocabulary Learning Strategies

Learning strategies are steps taken by students to enhance their own learning (Oxford, 1990). Strategies make learning easier, faster, more enjoyable, more self directed, more effective, and more transferable to new situations (Oxford, 1990). Strategy use reflects students' basic learning styles (O'Malley & Chamot, 1990; Oxford, 1990). Oxford (1990) divides strategies into two major classes: direct and indirect. The former includes memory strategies, cognitive strategies, and compensation strategies. The latter includes metacognitive strategies, affective strategies, and social strategies. Direct strategies involve direct learning and use of new language; on the other hand, indirect strategies indirectly contribute to learning.

Students use certain strategies while learning vocabulary. Due to its close ties with text comprehension, vocabulary is considered the most important factor in language proficiency and school success (Vermeer, 2001). Laufer and Hulstijn (2001) claimed that all second language learners and their teachers are aware of the fact that learning a second language involves the learning of large number of words; however, many learners are somewhat apprehensive when faced with enormous vocabulary to be learnt. According to Schmitt (2000), vocabulary learning strategies are approaches which facilitate vocabulary learning. In addition, Catalan (2003) maintained that vocabulary learning strategies are the steps taken by the learners to find out the meaning of unknown words, to retain them in long term memory, to retrieve them, and to use them in written and oral contexts.

Commonly used vocabulary learning strategies are simple memorization, repetition, and taking notes on vocabulary (Schmitt, 2000). These mechanical strategies are often favored over more complex ones (e.g. inferencing, keyword

method). However, more complex vocabulary learning strategies, such as the keyword method, (Hulstijn, 1997) have been shown to enhance retention better than rote memorization. On the other hand, O'Malley and Chamot (1990) claimed that rote repetition can be effective if students are accustomed to using it. Simple strategies, such as memorization, may be more suitable for beginners, whereas intermediate or advanced learners can benefit more from more complex strategies, such as inferring the meaning of an unknown word from context.

There have been a number of attempts to develop a taxonomy of vocabulary learning strategies (Nation, 2001). Gu and Johnson (1996) developed a substantial list including: beliefs about vocabulary learning, metacognitive regulation, guessing strategies, dictionary strategies, note taking strategies, memory strategies, and activation strategies. According to Gu and Johnson (1996), vocabulary should be studied rather than memorized. Gu and Johnson maintained that memorization strategies may be effective only if they are used with other vocabulary learning strategies. Lawson and Hogben (1996) stated that using a wide range of vocabulary learning strategies leads to the acquisition of more words. The findings of their study demonstrated that repetition of words and their meanings is preferred by many students, and simple rehearsal strategies were found to be effective in vocabulary learning.

Paribakht and Wesche (1999) and Nassaji (2003) claim that inferring meaning from context is an important vocabulary learning strategy as learners become aware of many types of word knowledge while using this strategy. Paribakht (2005) also claims that lexical inference, or guessing the meaning of an unknown word from context, is the main strategy learners use in initial comprehension of

unfamiliar words while reading. Walters (2006) also investigates methods of teaching inferring meaning from context and it is revealed that when learners are instructed in the strategy, their ability to infer meaning from context may improve, and that will be helpful for the learner both for vocabulary acquisition and reading comprehension.

Consulting a dictionary to confirm inferences is a valuable metacognitive strategy for lexical acquisition. The combination of inferring and consulting produced a 50% rate of recall, compared to only 31% and 30%, respectively, for either of these activities alone, as was demonstrated in Fraser's (1999) study.

Nation (2001) describes a taxonomy of vocabulary learning strategies. The categorization includes a) planning vocabulary learning, b) sources (finding information about words), and c) process (establishing word knowledge). The first category, planning vocabulary learning, includes four subcategories: choosing words, choosing aspects of the word knowledge to focus on, choosing strategies, and planning repetition. Choosing words means that learners should decide what vocabulary to focus on and where to find this vocabulary, such as high frequency words or academic words. Apart from its meaning, learners are supposed to know other aspects of a word, such as its collocations. Third, choosing strategies involves choosing the most appropriate strategy from a range of known options. For instance, consulting a dictionary could be followed by the use of word cards to establish knowledge of the word. Most vocabulary learning requires repeated attention to the item (Nation, 2001).

According to Nation (2001), finding information about words is another vocabulary learning strategy. In order to cope with new words when they occur,

learners have to be able to get information about the words. Learners may analyze word parts in order to get its meaning because many English words are derived from French, Latin, or Greek and they are made up of word parts: affixes and stems. Being familiar with word parts can provide learners with a useful basis for seeing connections between related words. Using context is another beneficial source for learners. By using background knowledge and linguistic cues, learners may learn new words through reading. The third one is consulting reference sources. These sources might be looking up in a dictionary for the meaning of unfamiliar words or asking teachers, native speakers, or other learners for information. The last one is using parallels with other languages. Cognate words may be helpful for learners to derive the meaning of unknown words.

The third major set of strategies involves ways of remembering vocabulary and making it available for use. The subcategories used here are noticing, retrieving, and generating. Noticing involves seeing the word as an item to be learned. For example, these strategies are putting the word in a vocabulary notebook or list, putting the word onto a word card, or orally repeating the word. Retrieval involves recall of previously met items. Retrieval strengthens the connection between the cue and the retrieved knowledge. There are several kinds of retrieval: receptive/productive, oral/visual, overt/covert, and in context/decontextualised. Retrieving involves recalling the knowledge in the same form in which it was originally stored. Generating is the last strategy. Generation strategies include attaching new aspects of knowledge to what is known through visualizing examples of the word. It also includes creating context, collocations and sentences containing the word (Nation, 2001).

Schmitt (1997) developed an extensive taxonomy organized around Oxford's (1990) social, memory, cognitive, and metacognitive categories. He divides vocabulary learning strategies into two major classes: discovery and consolidation strategies. Discovery strategies are used to get information about a word when a learner encounters it for the first time. Schmitt subdivides discovery strategies into two groups: determination and social strategies. Determination strategies involve learners' using existing language knowledge or applying to reference books in order to attain the meaning of a target word. For example, analyzing words' affixes and roots, using a bilingual dictionary, or putting words onto a wordlist are some of the determination strategies. A second way to discover the meaning of unknown words is using social strategies. When a learner encounters a word for the first time, he can ask the teacher, a classmate, or a native speaker to get the meaning of that unknown word. Teachers can give the L1 translation of the unknown word, give a synonym, or use it in a sentence (Schmitt, 1997).

Consolidation strategies are strategies that learners use to remember the word when it is introduced to them (Schmitt, 1997). These strategies are subdivided into four classes: social, memory, cognitive and metacognitive. Social strategies also take place in consolidation strategies because learners can ask someone for help, both for discovering and remembering the meaning of an unknown word. Memory strategies involve relating the word to be retained with some previously learned knowledge (Schmitt, 1997). For example, new words can be learned by studying them with pictures of their meanings instead of definitions. Likewise, new words can be linked to L2 words which the student already knows. Grouping is another important way to aid recall. For example, a student can group new words according to their

grammatical roles: nouns, verbs, adjectives, or adverbs. Cognitive strategies involve analyzing and transforming the vocabulary words. Cognitive strategies are similar to memory strategies but they are not focused specifically on mental processing, they include repetition and using mechanical means to study vocabulary (Schmitt, 1997). Word lists and flash cards can be used to review the words and they can be taken anywhere and studied when one has a free moment.

Metacognitive strategies are used to regulate one's own vocabulary learning (Hunt & Beglar, 2005). For instance, reading books, magazines, newspapers, and watching movies offer language learners opportunities to learn new words. The strategy of interacting with native speakers whenever possible also increases input and may be considered a metacognitive strategy (Schmitt, 1997)

All these vocabulary learning strategies are not chosen by learners randomly. Vocabulary learning strategy use is affected by a variety of factors. The effectiveness with which strategies can be taught and used depends on a number of variables, including proficiency level, task, text, language skill, context of learning, target language, and learner characteristics (Schmitt, 1997). Gu and Johnson (1996) claim that proficiency level is positively correlated with vocabulary size and vocabulary learning strategies, such as inferring meaning from context. Another factor that affects choice and use of vocabulary learning strategies is gender. Catalan (2003) studied male and female differences in vocabulary learning strategies, and found that both genders use bilingual dictionaries, inferring meaning from context, and asking for peers and the teacher. In addition to these discovery strategies, both males and females take notes in the class, repeat words orally, and use English media as consolidating strategies. However, Catalan (2003) agrees with O'Malley and Chamot

(1990) that female learners use a wider range of learning strategies with higher frequency when compared to male learners.

Not all strategies are considered helpful or used by learners in the same proportion. According to a survey done by Schmitt (1997) amongst Japanese students of English language, using a bilingual dictionary was the most commonly used strategy to discover the meaning of unknown words. On the other hand, very few learners used cognates as a vocabulary learning strategy. Verbal repetition, written repetition, and taking notes in the classroom were some of the most used consolidation strategies. Many of the participants found asking the teacher for the meaning of unknown words, guessing from context, and using monolingual or bilingual dictionaries more helpful than using cognates or using the keyword method as vocabulary learning strategies.

Guessing Strategies

Strategies in Guessing the Meanings of Unknown Words

L2 learners use a variety of guessing strategies in order to derive the meaning of unknown words in context. Nassaji (2003) categorized the guessing strategies L2 learners frequently use in attempting to guess the meanings of unfamiliar words into six types: repeating, verifying, self-inquiry, analyzing, monitoring, and analogy. Repeating is repeating any portion of the text, including the word, the phrase, or the sentence in which the word has occurred. Verifying is examining the appropriateness of the inferred meaning by checking it against the wider context. Self-inquiry is asking oneself questions about the text, words, or the meaning already inferred. Analyzing includes attempting to figure out meaning of the words by analyzing it

into various parts or components. Monitoring means showing a conscious awareness of the problem or the ease or difficulty of the task, and finally analogy is attempting to figure out the meaning of the word based on its sound or from similarity with other words.

Nassaji maintains that of all the strategies students used in his study, repeating was the most frequently used strategy, accounting for about two thirds (63.7%). Other strategies students used much less frequently were analogy (8.5%), verifying (7.9%), monitoring (7.2%), self inquiry (7.2%), and analyzing (5.5%). Paribakht and Wesche (1999) and de Bot, Paribakht and Wesche (1997) also demonstrated that repeating is a strategy frequently used by L2 students in attempting to infer the meaning of unfamiliar words in context.

Factors Influencing Guessing Behaviors

There are a number of factors affecting successful guessing from context. According to Rott (1999) there are four major factors that can have an impact on the outcome of inferencing: (a) learners' knowledge about the linguistic properties of an unknown word, (b) context properties in which the unknown word appears, (c) the approach taken by the language learner to infer meaning, and (d) cognitive processes that influence L2 readers' awareness and attention to unfamiliar words. Nassaji (2003) also demonstrated that there are certain factors, such as type of the text, text characteristics, and word characteristics that frequently affect L2 learners' attempts to guess the meaning of unknown words. Paribakht and Wesche (1999) identified textual, word, learner, and situational factors that promote or discourage word learning from written context.

A major difficulty faced when guessing words from context is the form of the word to be guessed (Nation, 2001). Word characteristic is an important factor when attempting to guess the meaning of an unknown word. For instance, idiomatic expressions or polysemous words are harder to guess from context than the words which carry their core meanings (Nation, 2001). Paribakht (2005) also claims that the number of occurrences of the unknown word, the importance of the unknown word, and the density of the unknown words are salient factors for making a successful guess.

Other factors which inhibit successful guessing are text characteristics, interest and relevance of topics, and a manageable difficulty level. Nation and Waring (2004) have shown that if a learner does not know at least 98% of the running words in a context, the probability of successful guessing of unknown words will be severely reduced. If a text contains too many unknown words, the reader must process the text intensively and slowly, which changes the reading into a study activity rather than a fluency building one (Nation & Waring, 2004). Chang (2006) claims that unfamiliar topics can be overwhelming to second language readers and severely affect their reading. Chang maintains that students who read topic familiar texts were significantly better at recalling information and guessing than students who read unfamiliar texts. Similarly, Pulido (2004) also stated that learners are better at deriving the meaning of unfamiliar words when they read culturally familiar texts rather than culturally unfamiliar texts. Paribakht and Wesche (1999) demonstrated in their study that text characteristics is another factor influencing learners' successful word guessing and their motivation. In addition, the learners may be discouraged and stop reading if the text is too difficult for them.

Another factor that affects guessing the meaning of unknown words from the context is learners' proficiency level (Paribakht, 2005). According to Paribakht, more proficient learners are considerably more successful in guessing word meaning than less proficient learners. Ittzes (1991) also found that there is a clear relationship between the success of lexical inferencing and learners' vocabulary knowledge. Likewise, Haastrup (1991) concluded from her study that there is a threshold level of proficiency for successful guessing. Learners at different levels of language proficiency use similar types of knowledge sources and contextual cues, but different proportions of these knowledge sources and contextual cues in L2 lexical inference (Anderson, 1991; Paribakht, 2005). In Fraser's (1999) study, more proficient readers inferred word meanings more frequently.

Learner L1 is another salient factor affecting successful guessing. According to Nation (2001), an important factor affecting guessing from context is the similarity between the learners' first and the second language. Cognates are beneficial for word guessing but this knowledge source might be more misleading than helpful in the guessing process (de Bot, Paribakht, & Wesche, 1997; Fraser, 1999). For instance, *sempati* in Turkish and *sympathy* in English resemble each other in terms of both phonology and spelling, whereas their meanings are completely different and thus learners may be incorrect in their word guessing. On the other hand, according to Paribakht (2005), words not lexicalized in the L1 are more difficult for the learners to process than lexicalized words. If a learner's L1 does not have an equivalent of a word in L2, it may be difficult for the learner to guess the meaning of that word.

Knowledge Sources in Guessing the Meaning of Unknown Words

Knowledge sources are the clues which help learners in guessing the meanings of unknown words in written contexts (Paribakht & Wesche, 1999). L2 readers use a variety of knowledge sources in order to derive the meaning of unknown words from context.

In a study that looked at what L2 readers do when encountering unknown words, Nassaji (2003) described several knowledge sources L2 learners used in guessing the meaning of unfamiliar words, including grammatical knowledge, morphological knowledge, world knowledge, L1 knowledge, and discourse knowledge. World knowledge is “using knowledge of the content or the topic that goes beyond what is in the text” (Nassaji, 2003, p.656). World knowledge was most frequently used by students as a knowledge source (46.2%), followed by morphological knowledge (26.9%). Students also used grammatical knowledge as a knowledge source (11.5%), and they used discourse (8.7%). The least frequently used knowledge source was L1 knowledge (6.7%).

In a similar study conducted by Paribakht and Wesche (1999), the knowledge sources employed by L2 readers when attempting to infer the meanings of unknown words included sentence level grammatical knowledge, word morphology, punctuation, world knowledge, discourse and text, homonymy, word associations, and cognates. Sentence level grammatical knowledge was used to determine relationships among speech parts, and helped to identify word class. Learners’ knowledge of L2 word derivations and grammatical inflections were the second most important knowledge source used in inferring the meanings of unknown words. Punctuation was sometimes used to identify proper nouns and items in series, by way

of commas. Discourse and text referred to information L2 readers use from other parts of the text beyond sentence boundaries. World knowledge referred to learners' use of the theme and the topic of the text as a knowledge source in inferring word meaning. Learners also used their knowledge of sound relationships (homonym) to guess the meaning of unknown words. However, it is often a source of confusion and misunderstanding. Word associations were the least frequently used knowledge source. Cognates were used to infer the meaning of an unknown word but this knowledge source seems to be more misleading than helpful in the guessing process (Paribakht & Wesche, 1999).

World knowledge was the most frequently used knowledge source in Nassaji's (2003) study, whereas in Paribakht and Wesche's (1999) study, sentence level-grammatical knowledge was the most frequently used knowledge source. The reason for the difference between the frequencies of knowledge sources used in these studies may be that the topics of the reading texts were different in these studies. Moreover, the text used in Paribakht and Wesche's study was more difficult than the text used in Nassaji's study. The participants may have found the text too scientific in Paribakht and Wesche's study. These students might not have had so much world knowledge about the topic of *acid rain* in Paribakht and Wesche's study. On the other hand, Nassaji's text seemed to be an easier text for which students could use their knowledge of the world more. In addition, Paribakht and Wesche's definition of world knowledge is narrower than Nassaji's definition, thus resulting in apparently less use of world knowledge as a knowledge source.

According to research, morphological knowledge plays an important role in guessing the meaning of unfamiliar words in context. Morphological knowledge is

frequently used by L2 readers to infer the meaning of unfamiliar words. Paribakht and Wesche (1999) concluded that grammatical knowledge is the most frequently used knowledge source in inferring the meanings of unknown words, and the other important knowledge source, the second most used knowledge source, is morphological knowledge. Similarly, Nassaji (2003) also revealed that participants used morphological knowledge as a knowledge source the second most frequently when guessing word meaning.

Moreover, Parel (2004) stated that the participants' success in determining the meaning of unknown words in context using the combined strategy, contextual guessing supported by morphological analysis, underlines the importance of knowledge of derivational affixes for successful processing of unknown words. Parel (2004) also asserted that appropriate use and selection of lexical inferencing strategies for guessing the meanings of unknown words can compensate for low receptive vocabulary. In addition, Mori (2003) concluded that morphological clues combined with contextual clues facilitated a better understanding of the unknown words encountered in written context. Thus, being aware of English stems and affixes and grammatical inflections may be helpful for L2 learners in their attempts to guess the meaning of unfamiliar words.

However, Koda (2000) states that when L1 and L2 are typologically different, learners' awareness of L2 morphology may be constrained by their L1. Koda (2000) also maintains that L1 processing experience influences L2 morphological awareness. For example, Koda (2000) revealed in his study that Korean ESL students were more efficient in performing intraword structural analysis than Chinese ESL

learners; he attributed this to the fact that English and Korean are structurally more similar than English and Chinese.

Languages fall into one of three classifications with respect to morphology. First, isolating languages typically have words of one morpheme that cannot be reduced to smaller meaningful units, such as Chinese. Second, there are inflecting languages, in which words may be single morphemes or multi-morphemic, such as English. Finally, there are agglutinating languages, such as Turkish, which allow many morphemes to attach to a base form (Woolley & Geva, 1999). While both Turkish and English allow morphemes to be attached to a base form, in English, affixes may appear as either prefixes or suffixes, or both. However, Turkish does not allow affixes to attach as prefixes; only suffixes are permitted. There has been no study that investigates whether this difference between the two languages influences the way that Turkish students use English morphology as a knowledge source.

Conclusion

This chapter focused on the review of the literature about vocabulary learning strategies, guessing strategies, and knowledge sources. The previous studies on using English morphology as a knowledge source when inferring word meaning were presented briefly in order to supply the general framework for the present study. However, it is revealed in this literature review that there has been no empirical study conducted on Turkish learners' use of English morphology as a knowledge source in guessing the meanings of unknown words encountered in written contexts. The study to be described in the next chapter will attempt to fill the gap in the literature.

CHAPTER III: METHODOLOGY

Introduction

This study investigates the awareness and the use of English prefixes and suffixes by Turkish EFL learners in guessing the meaning of unfamiliar words encountered in written contexts. This study also intends to find out whether Turkish EFL learners recognize and use English prefixes more efficiently than English suffixes when attempting to guess the meaning of unfamiliar words encountered in written context, since the Turkish language does not have any prefixes.

The study addresses the following research questions:

1. To what extent do Turkish university preparatory EFL learners refer to English prefixes and suffixes in order to guess the meaning of an unknown word in a written context?
2. Do Turkish university preparatory EFL learners recognize and use English prefixes more or less effectively than English suffixes when guessing the meaning of an unknown word in written contexts?

In this chapter, information about the participants, instruments, procedures of the study, and methods of data analysis will be provided.

Setting

This study was conducted at Gaziosmanpaşa University English Language Preparatory School. Attending the preparatory program is not compulsory at GOP University. A placement test is conducted in order to select and place the students in appropriate class at the beginning of the term.

There are 110 currently enrolled students and seven classes in the preparatory program at GOP University. Two of the classes were pre-intermediate level, four of the classes were elementary level, and one class was beginner level as measured by the placement test. The students are exposed to 27 hours of English every week. They study their main course books for 15 hours. They are taught grammar, vocabulary and the four skills in these lessons. In addition to that, students have 6 hours of grammar and 4 hours of reading classes. In grammar classes, students are taught grammar rules in more detail and do a great deal of grammar practice. The purpose of the reading classes is to improve students' reading skills and develop their vocabulary knowledge. In addition, the students reported that they were using strategies to learn new words in reading classes. Moreover, in order to improve their receptive skills, students have 2 hours of video lessons. It is compulsory for students to attend 70 percent of these classes. Students take several pop quizzes and two midterm exams at the end of each semester. At the end of the year, students must take a final exam. According to their scores, students get a certificate which shows their proficiency level.

Participants

Although there were two pre-intermediate classes, one of the classes was reported by their teachers to be more successful and more appropriate for the study, and thus the researcher decided that the students in class H3 were the most appropriate students both for the main study and for the pilot study. In addition, the students reported that they were using guessing strategies to learn new words in reading classes. The researcher decided to choose participants from pre-intermediate

students, because insufficient vocabulary can prevent L2 readers from constructing enough contexts to guess the meanings of unknown words (Laufer, 1997).

The participants were 14 pre-intermediate level students from one class. Since four of the students participated in the pilot study, they were not included in the main study, so the main study was conducted with ten students. Five of the participants were females and five of them were males. The participants' ages ranged between 17 and 21.

Many of the participants had taken English classes at high school before coming to the university. All the participants had a Turkish L1 background and none of the participants knew any other second or foreign languages.

Instruments

This was a fully qualitative study. A pre-test and a reading passage were the instruments used to collect data in this study. In addition, a checklist was used just after each interview with each student to check whether they were aware of the affixes which appeared in the target words.

The Pretest

The participants were tested in terms of their morphology knowledge, in order to find out if they knew enough of the English suffixes and prefixes in order to participate in the study. The pre-test included other items in addition to prefixes and suffixes so that the participants could not understand what the study was about. The pre-test was conducted by their reading teacher. It was planned that according to the test results, the participants might be given a lecture about English morphemes by their teacher. The pretest was made up of four sections. In the first section, there

were six multiple choice items for which each item has three options. Section two was composed of six sentences which included confusing word pairs and the students were expected to underline the best choice in each sentence. In the third section, there were eight sentences which the students were asked to decide whether the statements were true or false. One word in each sentence included either a prefix or a suffix. In addition, the students were expected to clarify their responses if they chose false. Students were asked to match ten English words with the correct suffixes in the fourth section. The complete pre-test can be seen in Appendix A.

The Reading Passage

Because the research concerned inferencing, it was necessary to find a text that contained a great many words that the participants would know. As mentioned earlier, research suggests that readers should know a high percentage (at least 95%) of the running words in the text in order to be able to infer successfully (Nation, 1990). The text also had to match the comprehension ability of the pre-intermediate readers. The passage chosen contained 270 words, 13 of which were target words that the researcher used to focus on the use of affixes in guessing strategies.

The target words included prefixes and/or suffixes and they were all content words. The target words included seven adjectives, two nouns, two adverbs, and two verbs. Instead of real words, plausible non-words, to which affixes were attached, were used as target words in the text in order to prevent students' possible familiarity with the words

Table 1 illustrates the prefixes and suffixes which appeared in the target words.

Prefixes	Suffixes
1- il-	1- -ly
2- in-	2- -able
3- over-	3- -al
4- un-	4- -ous
5- ex-	5- -ist
6- mis-	6- -less
7- dis-	
8- pre-	
9- multi-	

Table 1 - Prefixes and suffixes in the target words

However, it should be noted that *-ly* appeared twice and *-al* appeared three times in different words. Nine prefixes and nine suffixes were provided in order to have many opportunities to collect data from the participants. Of the thirteen target words, three words included both prefixes and suffixes. The target words were italicized in order for participants to recognize them easily

The reading passage was adapted from *Thoughts and Notions* (2000), a textbook which was written for high beginning readers of English. The reading passage was intended to be lower than the students' actual proficiency level in order for the participants to understand it better and make successful guesses of the meaning of unknown words in the text. In addition, the reading passage was modified in order to increase the readability of the text, as some of the words among the 257 remaining words in the text were found to be low frequency words. After making necessary modifications, the reading passage became simpler and more readable for the participants. The readability statistics are shown in Table 2.

Passive Sentences	%0
Flesh Reading Ease	68.2
Flesh Kincaid Grade Level	6.3

Table 2 - The readability statistics

Of the 257 words in the reading passage, 228 of them are in the first 1000 most frequent words. Fourteen of the words are in the second 1000 most frequent words and 4 of them are on the Academic Word List. In addition, 25 words are categorized as off-list words (i.e. not within the first 2000 most frequent words or on the Academic Word List). The off-list words include the 13 plausible non-words, which are also the target words, proper nouns, and the word *poltergeist*, which appeared four times in the reading passage, and which represented the topic of the passage. The reading passage can be seen in Appendix B.

The researcher had four EFL teachers check the appropriateness of the reading passage in terms of its reading level. To further check, the researcher piloted the same text with four students assumed to be similar to the participants in the main study with respect to language proficiency and level of reading comprehension. The students were asked to attempt to guess the meanings of the italicized words. Another purpose of the pilot study was also to check whether the students understood the text well. The researcher asked the students participating in the pilot study to read the reading passage out loud and translate it into Turkish in order to check whether they understood the text.

The Checklist

The checklist included all of the affixes that appeared in the target words and the participants' names. Each known affix was marked with a tick by the researcher after he asked the participants whether they knew the prefixes and suffixes.

Procedure

The purpose of the study was determined in late September. The design of the study and the participants were determined in December. After that, permission to carry out the study was received both from the director of the program and from the participants' teacher.

In February, the reading passage, the pre-test, and the checklist were designed. The pre-test was designed by the researcher. A week before the study, the participants' main course teacher administered the pretest. The researcher checked all of the pre-tests and the results revealed that many of the participants did well on the pre-test and thus, the participants' teacher did not need to give an extra lecture about the prefixes and the suffixes.

The researcher trained the participants in the think aloud protocol procedure on the first of March. The participants were asked to describe their thoughts about the unfamiliar words encountered in a written context. In this training session, simple single sentences which contained unfamiliar words were used. The participants were encouraged to verbalize their thoughts in Turkish to avoid any effect of spoken language proficiency.

On the third of March, one day before the main study, the reading passage which would be used in the main study was piloted to check the appropriateness of the reading passage in terms of its reading level and content. Four students

participated in the pilot study. Their levels were similar to those of the participants in the main study. No problems were encountered during the pilot study.

The data were collected in individual sessions in which the researcher met with each subject in a quiet room for about 15-20 minutes. On the fourth of March, the researcher met five of the participants and conducted the think aloud procedures. Three of the participants participated in the morning session and the remaining two participants joined the study in the afternoon. The next day, on the fifth of March, the other five participants took part in the think aloud procedures. To guarantee the equality of procedures, the same researcher conducted all the main data collection sessions. Introspective reports were used in this study to collect data. Introspective reports involve direct and online reporting of what learners are doing at the time of the task (Paribakht & Wesche, 1999). The researcher asked students to read the text out loud. When the learners encountered each italicized target word in the text, the researcher asked them to try to infer its meaning from the context, verbalizing and reporting whatever came to their minds. The researcher advised them that they could refer back at any time to an italicized word to try to infer its meaning again. The researcher always prompted students to keep reporting their thoughts during the introspective study. He did not let any of the participants be silent during the think aloud procedure. The researcher did not supply the meanings of unfamiliar words when subjects appealed for his assistance. During the think aloud protocol, the participants were all audio tape recorded and the researcher took some notes about the participants' behaviors. After the think aloud procedures, the researcher asked each participant whether they knew the affixes which appeared in the target words. In addition, the researcher used some of the affixes in words to remind the

participants, because some of the participants could not know the meaning or the function of the isolated affixes.

The analysis of data gathered through think aloud procedures took place using the Turkish transcripts. Then, the researcher translated them for the purposes of reporting in the thesis.

Data Analysis

This study included qualitative data. Qualitative data was gathered from transcripts of the tape-recordings and the researcher's notes taken during the think aloud protocols. Then, the researcher transcribed the tape-recordings and the data analysis was carried out on the Turkish transcripts.

Data analysis involved readings and re-readings of the transcripts by the researcher in order to code the types of knowledge sources used by the participants during the think aloud procedure. For coding categories, the researcher consulted the literature on vocabulary learning and lexical inference strategies (e.g., de Bot et al., 1997; Nassaji, 2003). Moreover, the coding scheme the researcher used derived mainly from the data and reflected the thinking of the learners participating in the study. The researcher identified a total of four knowledge sources including grammatical knowledge, discourse/text knowledge, morphological knowledge, and world knowledge. In addition to that, a second rater, who is an experienced EFL teacher and also a native speaker of Turkish, also identified and classified the knowledge sources. Grammatical knowledge was defined as using knowledge of grammatical functions or syntactic categories. Discourse/text knowledge was defined as using knowledge about the relationships between sentences or within sentences. Morphological knowledge involved using knowledge of word formation and word

structure. World knowledge has two definitions in the literature: Nassaji (2003) defines it as the general knowledge about the topic and content that goes beyond what is in the text, but Paribakht and Wesche (1999) define world knowledge as learner familiarity with the theme and topic of the text. The researcher decided to use Nassaji's (2003) definition of world knowledge because his definition is much broader and more appropriate for this study.

To determine the degree to which participants were successful at inferencing, the researcher and the second rater rated participants' responses to each of the unknown words. Successful inferencing was defined as responses that were semantically and contextually appropriate, whereas unsuccessful guesses were not accurate responses semantically or contextually (Nassaji, 2003).

For both knowledge sources and successful and unsuccessful guesses, the researcher and the second rater did the coding independently. On many occasions, the researcher and the second rater agreed on the responses. Then, the researcher and the second rater discussed and came to an agreement on those guesses and knowledge sources upon which they disagreed.

After determining successful and unsuccessful responses, the researcher counted both successful and unsuccessful guesses, classified the knowledge sources, calculated the percentages, and classified each participant's responses to each italicized word he or she attempted to guess the meaning of from the context.

Conclusion

This chapter provided detailed information about the participants, the instruments used in the study, the data collection procedure, and the methods of data analysis. The next chapter will present the results of the data analysis.

CHAPTER IV: DATA ANALYSIS

Introduction

This study investigated Turkish learners' awareness and use of English prefixes and suffixes as a knowledge source when attempting to guess the meaning of unknown words encountered in written contexts. In addition, this study investigated whether intermediate Turkish EFL learners recognize and use English prefixes less efficiently than English suffixes when inferring the meaning of unfamiliar words encountered in a written context, since the Turkish language does not have any prefixes.

The answers to the following questions were sought in the study:

1. To what extent do Turkish university preparatory school EFL learners refer to English prefixes and suffixes in order to guess the meaning of an unknown word in written contexts?
2. Do Turkish university preparatory school EFL learners recognize and use English prefixes more or less effectively than English suffixes when guessing the meaning of an unknown word in written contexts?

This study was conducted with the participation of 10 pre-intermediate level EFL students enrolled in a preparatory class at the School of Foreign Languages, Gaziosmanpaşa University. A think aloud technique was conducted to gather data from the participant students. The researcher met each participant in a quiet room for approximately 15 minutes to conduct the think aloud procedure. The participant students were asked to read a reading passage and try to infer the meanings of the 13 target words in the text. In addition, they were told to verbalize their thoughts while making inferences. The students were tape-recorded as the researcher conducted the

think aloud procedure. Later, the tape-recordings were transcribed and examined in order to reveal the data. This chapter will present an analysis of that data.

Data Analysis Procedure

All think aloud protocols were transcribed and subsequent analysis was based on these written transcripts. Data analysis involved reading and rereading of the transcripts by the researcher to identify, describe and classify the knowledge sources that each participant used during the think aloud procedures in order to derive the meanings of unknown words. In addition, a second rater, an experienced EFL teacher and also a native speaker of Turkish, checked the identification, description and classification of the knowledge sources.

The researcher extracted and formulated the following information: (a) identification of the words learners guessed successfully or failed to guess successfully; (b) identification of the knowledge sources the participants used in order to guess the meanings of the target words; (c) identification of the ratio of English morphology as a knowledge source to other knowledge sources; (d) identification of the number of the participants' attempts to refer to English affixes as a knowledge source when guessing the meaning of unknown words in the context; (e) identification of each participant's use of English morphemes as a knowledge source to infer the meaning of unknown words in the reading passage; (f) identification of the use of prefixes, and finally (g) identification of the use of suffixes as a knowledge source to guess the meaning of unfamiliar words in written contexts.

The reading passage included 13 target words and each participant was expected to infer the meanings of each of these words, making a total of 130 attempts

to infer meaning from context; however, after examination of the transcripts, target words were ignored on 12 occasions. Thus, the number of attempts was reduced from 130 to 118, for which responses could be interpreted as inference of an unknown word.

Analysis of the Think-Aloud protocols

Think aloud protocols are valid methods for discovering students' comprehension process (Cohen, 1996). In this study, the aim of the think aloud protocol was to make students' cognitive processes visible to the researcher.

Overall Results

Table 3 shows that of the total 130 opportunities to guess from context, 49 (37.6%) were successful. Successful inferencing is defined as responses that were semantically and contextually appropriate (Nassaji, 2003). In addition, the researcher identified 12 ignored words whose meanings the participants did not attempt to infer in anyway. If both unsuccessful and ignored words are considered together, students were unable to infer the meanings of 81 (62.4%) words.

	n	%
Successful guesses	49	37.6%
Unsuccessful guesses	69	53.1%
Ignored words	12	9.3%
Total	130	100%

Table 3 - Students' successful and unsuccessful guesses.

Table 4 summarizes the students' responses to the unknown words in the reading passage. The reading passage included 13 plausible non-words (PNWs)

which were used in order to prevent students' possible familiarity with the words. Some of the participants gave no response to some of the target words. Accordingly, the data analysis is based on 118 responses provided from the participants. With regard to an item-by-item analysis of the individual words, the results demonstrate a wide variety of differences in students' responses to each of the individual words. For example, the majority of the students successfully inferred the meaning of the target words *illauderly* and *overendous*. On the other hand, none of the participants guessed correctly the meaning of *misbutted* even though all 10 participants attempted to infer the meaning of this word from the context. Similarly, none of the participants made correct guesses of *truggeonal*.

Unknown words	Total number of responses	Successful		Unsuccessful		Ignored
	<i>n</i>	<i>n</i>	%	<i>n</i>	%	<i>n</i>
1. illauderly	9	8	88.8	1	11.2	1
2. instaceible	9	3	33.3	6	66.7	1
3. preglandle	8	3	37.5	5	62.5	2
4. aistropal	10	2	20	8	80	0
5. misbutted	10	0	0	10	100	0
6. multiqorant	9	2	33.3	7	66.7	1
7. overendous	9	8	88.8	1	11.2	1
8. truggeonal	9	0	0	9	100	1
9. rudgelessly	10	4	40	6	60	0
10. disgalpin	7	2	42.8	5	57.2	3
11. scudamorist	10	5	50	5	50	0
12. exacklonal	8	6	75	2	25	2
13. unwray	10	6	60	4	40	0
Total	118	49	37.6	69	53.1	12

Table 4 - Successful and unsuccessful inferences for unknown words

Knowledge sources are what the learner refers to, such as world, morphological or text knowledge, when attempting to infer the meanings of unknown words (Nassaji, 2003). The analysis of the think aloud protocols showed that different categories of knowledge sources were used both successfully and unsuccessfully by the participants. Knowledge sources used included world knowledge, morphological knowledge, discourse/text knowledge, and grammatical knowledge. Sometimes the students referred to more than one knowledge source while guessing the meaning of a word. Table 5 demonstrates the students' use of all knowledge sources when guessing the meanings of unknown words. Among the knowledge sources used by the participants, world knowledge had the highest percentage (66.8%) and grammatical knowledge had the lowest (6.2%).

Knowledge Source	<i>n</i>	%
World Knowledge	107	66.8
Morphological Knowledge	23	14.5
Discourse/Text Knowledge	20	12.5
Grammatical Knowledge	10	6,2
Total	160	100

Table 5 - Students' use of knowledge sources

Table 5 also shows that the participants used knowledge sources 160 times in their attempts to infer the meanings of unknown words. However, only 66 of these were associated with successful guesses. Table 4 shows the students' successful use of knowledge sources. The students referred to world knowledge the most and grammatical knowledge the least. Moreover, a comparison of Tables 4 and 5 also

illustrates that the pattern of successful use of knowledge sources is the same as the overall pattern of knowledge sources participants used in their attempts to guess the meanings of unknown words: world knowledge is used the most, followed by morphological knowledge and discourse/text knowledge, with grammatical knowledge being used the least.

Knowledge Source	<i>n</i>	%
World knowledge	37	56.1
Morphological knowledge	13	19.6
Discourse/text knowledge	12	18.2
Grammatical knowledge	4	06.1
Total	66	100

Table 6 - Students' successful use of knowledge sources

In the following section are examples of the participant students' use of knowledge sources. The students' responses are presented in brackets and the sentences they read out from the text are written in italics.

Knowledge source: World knowledge.

“...*the bills were overendous and the lawyer was worried.* [The bills were high...the lawyer was worried...if my bills were high, I would also be worried]”

Knowledge source: Discourse knowledge.

“...*is there a preglandle in the house?* [here...preglandle may be a young person...it means there are young people at home...because in the following sentence people believe that poltergeist only appears near the young people.]”

Knowledge source: Morphological knowledge.

“...*there were multiquorant phone calls*...[teacher...he says that there may be many phone calls, because multi means many.]”

Knowledge source: World knowledge.

“...*scudamorists who study the exacklonal*...[this may be researchers or scientists, because there is study verb here...if it is study, it might be researchers.]”

Knowledge source: Grammatical knowledge.

“...*when the drawers opened and heavy furniture moved rudgelessly*.
[rudgelessly is adverb because it modifies the verb move.]”

For some of the words, students used more than one knowledge source to infer the meanings of unknown words in the context. In the following example, two knowledge sources, discourse knowledge and world knowledge, may have been activated in the inference process.

Knowledge source: World knowledge and discourse/text knowledge

“*Lamps exploded for no reason. The aistropal equipment misbuttled*. [the electrical equipment may become out of order...or they may be burned because the lamps exploded]”

Use of Affixes

Table 7 shows the percentage of students’ total, successful, and unsuccessful use of English morphology in comparison to other knowledge sources. The students referred to English morphology 23 times when extracting the meaning of unknown words. On the other hand, the students attempted to use other knowledge sources 137

times in total. The findings reveal that Turkish EFL learners are relatively more successful at using English morphology as a knowledge source when guessing the meanings of unknown words in a written context; however, it appears that they do not do it very often.

Knowledge Source	total attempts		successful		unsuccessful	
	n	%	n	%	n	%
Morphological Knowledge	23	14.4	13	56.5	10	43.4
Other Knowledge	137	85.6	53	38.6	84	61.4
Total	160	100	66		94	

Table 7 - The ratio of use of English morphology to other knowledge sources

Table 8 illustrates the use of each suffix or prefix when the participant students attempt to guess the meanings of unknown words. Of all the English morphemes appearing within the target words, the students never refer to seven of the affixes: *-able*, *in-*, *il-*, *pre-*, *-ous*, *ex-*, and *-al*. The students may not have been aware of these morphemes within the target words. On the other hand, *-ly* was the most frequently used suffix by the students in their attempts to infer the meanings of the unknown words. The students referred to *-ly* five times when deriving the meanings of the target words. Furthermore, the participants used *over-* and *-less* four times in their attempts to infer the meanings of the words.

Affixes	<i>n</i>
1. -able	-
2. il-	-
3. in-	-
4. pre-	-
5. -ous	-
6. ex-	-
7. -al (appeared three times)	-
8. -ly (appeared two times)	5
9. -less	4
10. over-	4
11. multi-	3
12. un-	3
13. dis-	2
14. -ist	1
15. mis-	1
Total	23

Table 8 - The number of students' attempts to use English morphology as a knowledge source

In the following section, some examples of the participants' attempts to use affixes in guessing the meanings of the unknown words are given.

Knowledge source: Morphology knowledge (mis-)

“...*the aistropal equipment misbuttled*. [...the furniture is moving...they move unexpectedly...the lamps exploded for no reason...here...this furniture...I cannot explain...mis might be the negative prefix...yes...mis with one s...I think it is negative.]”

Knowledge source: Morphology knowledge (multi-)

“...*there were multiqourant phone calls from the lawyer’s office...* [there are many phone calls from lawyer’s office...multi means many...several phone calls...]”

Knowledge source: Morphological knowledge (over-)

“...*the bills were overendous...* [...over means much...the bills may be high.]”

Knowledge source: Morphological knowledge (-less)

“...*furniture moved rudgelessly...*[here there is ly and less which has a negative meaning.]”

Knowledge source: Morphological knowledge (-ist)

“...*scudamorists who study the exacklonal...*[...scudamorists are people but what kinds of people are they?... and there is ist which refers to people...]”

Knowledge source: Morphological knowledge (un-)

“...*Anne-Marie just seemed to have some sort of unwray power...*[...Anne-Marie has some secret powers...un has a negative meaning here...what I mean by saying negative is that she has power related to the poltergeist.]”

Knowledge source: Morphological knowledge (dis-)

“...*when Anne-Marie was disgalpin, things were normal.* [...here, dis is a negative prefix...disgalpin may mean that when she was fired...]”

The data gathered from the think aloud protocols revealed that not all of the participants used English morphology as a knowledge source when inferring the meaning of the target words in the context. Table 9 shows that 3 of the participants never referred to prefixes or suffixes in their attempts to guess the meanings of the unknown words. Participant 3 was the most successful in terms of morphology use as a knowledge source. He referred to affixes six times in total and five of these six

were associated with correct guesses. Some of Participant 3's responses are exemplified in the following sentences.

Knowledge source: Morphological knowledge.

“...*and heavy furniture moved rudgelessly*...[by themselves I guess...ly is an adverb...less means without...yes it is a negative thing...by themselves.]”

“...*Anne-Marie just seemed to have some sort of unwray power*...[she had mysterious powers...un is a negative prefix...]”

However, from the point of view of percentages, Participant 6 seems to be the most successful, referring to the suffixes or the prefixes three times, with all of his attempts associated with successful guesses. On the other hand, Participants 9 and 10 were the least successful, in that none of their attempts were successful.

The findings displayed in Table 9 reveal that more than half of the participants' references to morphology were associated with successful guesses. Of the 23 attempts, thirteen of these were associated with successful guesses.

	Successful		Unsuccessful	
	<i>n</i>	%	<i>n</i>	%
Participant 1	3	75	1	25
Participant 2	-	-	-	-
Participant 3	4	66.8	2	33.2
Participant 4	-	-	-	-
Participant 5	1	50	1	50
Participant 6	3	100	-	-
Participant 7	-	-	-	-
Participant 8	2	40	3	60
Participant 9	-	-	2	100
Participant 10	-	-	1	100
Total	13	56.5	10	43.5

Table 9 - Students' use of English morphology as a knowledge source

After the think aloud procedures, the researcher asked each participant about their knowledge of the English affixes included in the target words. Many of the participants could say what the affixes meant, such as, *il-*, *in-*, *mis-*, *-al*, and *-ist*, when the researcher used them in a word. None of the participants knew the meaning of the prefix *ex-*. In addition, *multi-* was one of the least familiar prefixes for the participants. The suffixes *-ly*, *-al*, *-ous*, *-less* and *-ist* were reported to be familiar by all participants.

Table 10

	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10
il-	✓	✓	✓	✓	✓			✓	✓	✓
in-	✓	✓	✓	✓		✓	✓	✓	✓	✓
over-	✓	✓			✓	✓	✓	✓	✓	✓
un-	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
ex-										
mis-	✓	✓	✓	✓		✓				
dis-	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
pre-	✓	✓	✓	✓		✓	✓	✓	✓	✓
multi-	✓				✓	✓				
-ly	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
-able	✓	✓	✓	✓		✓		✓		✓
-al	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
-ous	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
-ist	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
-less	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Table 10 - The checklist

When Tables 8 and 10 are considered together, it can be seen that, although the participants knew the meanings of many of the affixes, they never referred to seven of them. For instance, the suffixes *-al* and *-ous* were reported to be known by

all the participants; however, none referred to these suffixes in their attempts to infer the meanings of the target words. In addition, nine participants knew the meanings of *in-* and *pre-* but none of them referred to these prefixes. In addition, eight participants were familiar with the prefix *il-* and seven participants reported that they knew the suffix *-able*. However, no attempts were made to use these affixes by any of the participants. None of the participants knew the meaning of the prefix *ex-* and thus it was not referred to by any of the participants in their attempts to infer the meanings of the target word *exacklonal*.

Participants' Use of English Prefixes and Suffixes

In the following section, Table 11 shows Turkish EFL learners' successful and unsuccessful use of both prefixes and suffixes. According to the research findings, Turkish EFL learners used both prefixes and suffixes nearly equally (57% vs. 43% respectively). However, nine out of thirteen guesses using prefixes were correct. On the other hand, the participants were not very successful when using the suffixes in their attempts to extract the meanings of the unknown words. They referred to suffixes ten times in total and the number of correct guesses was four. Thus, even though the participants used prefixes and suffixes nearly equally, the use of prefixes appears to be associated more frequently with successful guesses, for the group as a whole.

	Successful		Unsuccessful		Total	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Prefixes	9	69	4	31	13	100
Suffixes	4	40	6	60	10	100
Total	13	57	10	43	23	100

Table 11 - Students' use of prefixes and suffixes as a knowledge source

In the following section, the seven participants who referred to morphology when attempting to guess the meanings of the target words will be presented individually. Tables will be presented which include the target words containing affixes known to the participant, according to Table 10. Moreover, the tables also demonstrate each participant's successful or unsuccessful references to morphology. In addition, the number of suffixes and prefixes which the participants did not refer to are also displayed in the tables.

Table 12 illustrates that Participant 1 appears to have referred to prefixes more often than suffixes, and her references to prefixes were more likely to be associated with a successful guess. In addition, Participant 1 is the most successful student in terms of the total number of correct guesses.

Target words with known affixes		Affixes referred to				Affixes not referred to	
		prefix		suffix		prefix	suffix
		s	u	s	u		
illauderly *	truggeonal	3	-	-	1	6	8
instaceible *	rudgelessly	multi		less			
preglandle	disgalpin *	over					
aistropal	scudamorist *	un					
misbuttled	exacklonal *						
multiquorant *	unwray *						
overendous *							

Note: The words marked with an asterisk are guessed correctly by the participants, using world knowledge, morphological knowledge, discourse/text knowledge or grammatical knowledge.

Table 12 - Participant 1 responses

Table 13 demonstrates Participant 3's use of affixes. Participant 3 used both prefixes and suffixes equally, but suffixes were more likely to be associated with a successful guess. In addition, Participant 3 referred to affixes the most, among the participants, in his attempts to guess the meanings of unknown words. Moreover, four out of five of Participant 3's successful guesses involved morphology.

Target words with known affixes		Affixes referred to				Affixes not referred to	
		prefix		suffix		prefix	suffix
		s	u	s	u		
illauderly *	rudgelessly *	1	2	3		6	6
instaceible	disgalpin	un	mis	less	-		
preglandle	scudamorist *		dis	ly			
aistropal	exacklonal *			ist			
misbuttled	unwray *						
truggeonal	exacklonal *						

Note: The words marked with an asterisk are guessed correctly by the participants, using world knowledge, morphological knowledge, discourse/text knowledge or grammatical knowledge.

Table 13 - Participant 3 responses

The following table shows that Participant 5 only referred to prefixes two times, and only one of his references to prefixes appears to be associated with a successful guess. Moreover, Participant 5 was one of the least successful students in guessing the target words correctly.

Target words with known affixes		Affixes referred to				Affixes not referred to	
		prefix		suffix		prefix	suffix
		s	u	s	u		
illauderly *	unwray	1	1	-	-	7	9
aistropal	multiquorrant	over	dis				
truggeonal	overendous *						
rudgelessly							
disgalpin							
scudamorist *							

Note: The words marked with an asterisk are guessed correctly by the participants, using world knowledge, morphological knowledge, discourse/text knowledge or grammatical knowledge.

Table 14 - Participant 5 responses

The use of affixes as a knowledge source by Participant 6 is presented in Table 15. He used more prefixes than suffixes, and all of his attempts were associated with successful guesses. Like Participant 3, Participant 6 used English morphology successfully. Three out of four of his successful guesses involved morphology.

Target words with known affixes		Affixes referred to				Affixes not referred to	
		prefix		suffix		prefix	suffix
		s	u	s	u		
illauderly	rudgelessly*	2	-	1	-	7	8
instaceible	trugeonal	multi		ly			
preglandle	disgalpin	over					
overendous*	scudamorist						
misbuttled	unwray						
aistropal							
multiquorant*							

Note: The words marked with an asterisk are guessed correctly by the participants, using world knowledge, morphological knowledge, discourse/text knowledge or grammatical knowledge.

Table 15 - Participant 6 responses

Table 16 illustrates Participant 8's use of affixes. It appears that she used more prefixes than suffixes and she was more successful with prefixes in her attempts to guess the meanings of the target words.

Target words with known affixes		Affixes referred to				Affixes not referred to	
		prefix		suffix		prefix	suffix
		s	u	s	u		
illauderly *	trugeonal	2	1	-	2	7	8
instaceible	disgalpin	over	multi		less		
preglandle	scudamorist*	un			ly		
overendous*	unwray*						
aistropal	exacklonal*						
rudgelessly							

Note: The words marked with an asterisk are guessed correctly by the participants, using world knowledge, morphological knowledge, discourse/text knowledge or grammatical knowledge.

Table 16 - Participant 8 responses

Table 17 shows that Participant 9 referred to only suffixes two times and neither was helpful to her in making successful guesses. Moreover, she was one of the least successful participants in referring to affixes when guessing the meanings of the unknown words in written context.

Target words with known affixes		Affixes referred to				Affixes not referred to	
		prefix		suffix		prefix	suffix
		s	u	s	u		
illauderly	truggeonal	-	-	-	2	9	7
instaceible *	disgalpin				less		
preglandle *	scudamorist				ly		
overendous *	unwray *						
aistropal	exacklonal *						
rudgelessly							

Note: The words marked with an asterisk are guessed correctly by the participants, using world knowledge, morphological knowledge, discourse/text knowledge or grammatical knowledge.

Table 17 - Participant 9 responses

Table 18 demonstrates that Participant 10 referred to affixes as a knowledge source once and her attempt was not associated with a successful guess. On the other hand, she was quite successful in using other knowledge sources when guessing the meanings of unknown words.

Target words with known affixes		Affixes referred to				Affixes not referred to	
		prefix		suffix		prefix	suffix
		s	u	s	u		
illauderly *	truggeonal	-	-	-	1	9	8
instaceible *	disgalpin *				ly		
preglandle	scudamorist						
overendous *	unwray *						
aistropal	exacklonal *						
rudgelessly							

Note: The words marked with an asterisk are guessed correctly by the participants, using world knowledge, morphological knowledge, discourse/text knowledge or grammatical knowledge.

Table 18 - Participant 10 responses

The tables above have shown that of the seven participants who referred to English morphology when attempting to guess the meanings of target words, four participants referred to prefixes more than suffixes. One of the participants who referred to prefixes never used any suffixes. On the other hand, two of the participants used only suffixes, and one participant referred to prefixes and suffixes

equally. Moreover, two participants were more successful with prefixes and one participant was more successful with suffixes. Participant 8 was the only one who had equal success. Two participants had no success with their use of affixes as a knowledge source in their attempts to guess the meanings of the target words.

As is seen in the tables, even though many of the affixes were known by the participants, they did not often refer to the suffixes or prefixes when they tried to guess the meanings of unknown words. Moreover, both individually and as a group, the participants seemed to refer to prefixes more than suffixes. In addition, the participants appeared to be more successful when they referred to prefixes as a knowledge source in their attempts to make inferences to unknown words in a written context.

Conclusion

This chapter reported the analysis of the qualitative data gathered through the think aloud protocols. According to the data analysis, Turkish EFL learners use a variety of knowledge sources, one of which is English morphology, when guessing the meanings of unknown words from the context. The students are found to be relatively successful when they employ affixes in their attempts to deduce the meanings of unknown words; however, they did not often refer to affixes when attempting to guess the meanings of unknown words. In addition, Turkish learners' awareness of prefixes and suffixes seems to be more or less the same but they appeared to be more successful when they used the prefixes as a knowledge source when guessing the meanings of words compared to the use of suffixes. The following chapter will answer the research questions, discuss the findings, and present implications in the light of the results and limitations of the study.

CHAPTER V: CONCLUSIONS

Introduction

This study investigated the awareness and the use of English prefixes and suffixes by Turkish university preparatory school EFL learners in inferring the meanings of unknown words encountered in written contexts. This study also intended to find out whether Turkish EFL learners recognize and use English prefixes more or less than English suffixes when making inferences to unfamiliar words encountered in written context, since the Turkish language does not have any prefixes. This study was conducted in the Preparatory School of English at Tokat Gaziosmanpaşa University with the participation of ten intermediate EFL students.

Before the actual study, the participants were given a test which mostly contained English affixes in order to reveal whether the participants knew enough affixes in order to use them in their attempts to make inferences to unfamiliar words. This was a fully qualitative study in which the participants were asked to read a reading passage and try to guess the meanings of 13 target words a think aloud protocol was conducted to reveal the data. The researcher met each participant in a quiet room and each participant was tape-recorded as the researcher conducted the think aloud procedures. Later, the tape-recordings were transcribed by the researcher.

Data analysis involved reading and rereading of the tape transcripts by the researcher. Moreover, a second rater, an experienced EFL teacher and also a native speaker of Turkish, checked the identification, description and classification of the knowledge sources. This chapter includes the general results and discussions, limitations, pedagogical implications of the study and suggestions for further study.

General Results and Discussion

This section will answer the research questions of this study and discuss the findings in the light of the relevant literature.

Overall Results

Knowledge Sources

When second language (L2) readers encounter an unfamiliar word while reading, they often infer its meaning using available information and knowledge without referring to a dictionary (Schmitt, 1997). In their studies, Nassaji (2003) and Paribakht and Wesche (1999) revealed that L2 learners employ certain knowledge sources in their attempts to infer the meanings of unknown words, such as world knowledge, morphological knowledge, or grammatical knowledge. Moreover, Mori (2003) and Parel (2004) revealed in their studies that word morphology combined with contextual clues increase L2 learners' success in determining the meaning of unknown words in contexts. In addition, lexical inferencing research seems to agree that although L2 readers are able to infer the meanings of unknown words from the context, they make frequent erroneous guesses or no guesses at all upon encountering unknown words while reading (Ittzes, 1991; Nassaji, 2003; Paribakht & Wesche, 1999).

The results of this research revealed that Turkish university preparatory school EFL learners used a variety of knowledge sources in the process of inferencing vocabulary meaning during L2 reading, such as world knowledge, morphological knowledge, discourse/text knowledge, and grammatical knowledge. In addition, Turkish university preparatory EFL learners also made frequent

erroneous guesses, and on some occasions made no guesses at all. In this respect, this study has confirmed what has been seen in previous studies (e.g. Fraser, 1999; Mori, 2003; Nassaji, 2003; Parel, 2004; Paribakht & Wesche, 1999.)

In Paribakht and Wesche's (1999) study, the participants used sentence-level grammar the most frequently as a knowledge source in guessing the meanings of unknown words. On the other hand, in Nassaji's (2003) study, world knowledge was used the most frequently by the participants. Similarly, in this study, the students used world knowledge the most frequently. The reason Turkish EFL learners used world knowledge the most may be that the same definition of world knowledge was used in the present study as was used in Nassaji's. In addition to that, there are similarities between the text used in this study and the text used in Nassaji's study, in that both texts were relatively simple, and allowed students to refer to their world knowledge when inferring the meanings of unknown words. However, the participants did not seem to be very successful when employing world knowledge to infer the meanings of unknown words encountered in a context

On the other hand, students did not use grammatical knowledge very often, which may indicate that information about the grammatical function of the words may not help students in their attempts to infer the meanings of unfamiliar words in context (Nassaji, 2003). The learners often inferred the syntactic categories such as verbs, adjectives of the unknown word by using grammatical knowledge; however, this did not lead to an accurate semantic representation of the word in the context. However, in Paribakht and Wesche's (1999) study, the participants used sentence-level grammatical knowledge source the most frequently. In addition, Nassaji (2003) revealed that his participants used grammatical knowledge the third most frequently

among the knowledge sources. However, grammatical knowledge source was not associated with successful inferences. In both studies, the participants represented different L1 backgrounds. For instance, in Paribakht and Wesche's (1999) study, the participants were from French, Chinese, Farsi, Spanish, Vietnamese, and Arabic L1 backgrounds. A similar group of participants participated in Nassaji's (2003) study (e.g. Arabic, Chinese, Persian, Portuguese, and Spanish).

However, a homogeneous L1 background of participants, Turkish, participated in this study. The reason that the Turkish university preparatory school EFL learners used the grammatical knowledge source the least may be that there are not many similarities in grammar systems between English and Turkish, unlike the similarities between Spanish or French and English. Lado (1957) ascertained that grammatical structure of the native language, such as sentence forms, the number, gender, or case patterns tends to be transferred to the foreign language. Another reason why Turkish university preparatory school EFL learners used grammar as a knowledge source the least may be that the grammar-focused instruction that Turkish students tend to experience does not help them see that grammar can be a key to meaning.

Learners also rarely used information about the relationships between or within sentences and the devices that make connections between the different parts of the text. This was not an unexpected result because the reading passage may not have provided enough clues for the participants to use text knowledge to infer the meanings of unknown words from the context. For example, the reading passage did not contain many cohesive devices to help learners to make accurate guesses.

However, even though the participants did not employ discourse/text knowledge very often, more of their attempts appeared to be associated with successful guesses.

Word morphology is one of the major sources that L2 readers use to guess the meanings of unknown words (de Bot, Paribakht, & Wesche, 1997; Nassaji, 2003; Paribakht & Wesche, 1999). According to the results of the think aloud procedures in the present study, the participants appeared to be relatively successful using affixes when making inferences to the unfamiliar words encountered in written context, but they did not do it very often.

To what extent do Turkish university preparatory school EFL learners refer to English prefixes and suffixes in order to guess the meanings of an unknown word in written contexts?

This research question is answered by looking at the participants' behaviors using English affixes when attempting to guess the meanings of the target words encountered in the reading passage.

According to the literature, morphological awareness could be helpful for L2 readers uncovering the meanings of unknown words in written context (Mori, 2003; Parel, 2004). Among the knowledge sources, English morphology was the second most frequently used source of knowledge in inferring unfamiliar words while reading. In addition, the research revealed that the participants as a whole appeared to be successful referring to affixes in many of their attempts to deduce the meanings of unknown words. However, the number of total references to English prefixes and suffixes by the participants when attempting to make inferences for the target words was not very high. Thus, even though Turkish university preparatory school EFL learners appeared to experience some success in referring to affixes in their attempts

to unlock the meanings of unknown words, they did not often refer to prefixes or suffixes when reading. In addition, although all the participants are in the same proficiency level, not all participants referred to affixes. Paribakht (2005) stated that there is a clear relationship between vocabulary knowledge and successful inferencing. So, individual differences in terms of vocabulary knowledge might have taken a role in their use of prefixes and suffixes, or some participants might have not been aware of the affixes. Nagy and Anderson (1984) also stated that morphemic awareness might be regarded as an analytic skill, which some of the participants may lack.

In addition, the percentage of use of each affix varies considerably. Some affixes such as *-ly*, *-less*, or *un-* were more frequently referred to by the participants than some other affixes such as *-ist* and *-mis*. The reason that some suffixes were more frequently used by the participants may be that the teachers might have emphasized these affixes more in the class. According to Carlisle (2003), the frequency of affixes may affect learners' awareness of certain prefixes or suffixes. Moreover, Turkish university preparatory school EFL learners use and reuse certain affixes, such as *-ly*, in different words more frequently than some other affixes, such as *-ous*. On the other hand, although many of the affixes were reported to be known by the participants, half of the affixes were not referred to by any of the participants. The reason that some suffixes were never referred to may be that the participants may not have noticed the affixes in the target words. In addition, none of the students knew the meaning of the prefix *ex-* when the researcher asked them what it meant after the think aloud procedure. Accordingly, none of the participants referred to *ex-* in their attempts to infer the meaning of the target word *exacklonal*.

Furthermore, according to Carlisle (2003), phonologically and semantically transparent words are read more readily than words that lack transparency. For instance, three of the participants knew the meaning of the prefix *multi-* when the researcher asked them after the think aloud procedures what it meant and thus two of them guessed correctly the meaning of the target word *multiquorant* referring to the prefix *multi-*. The participants readily recognized that *multi-* was a prefix and it helped them to guess the meaning of the target word *multiquorant*. In addition, one of the participants, even though she did not know the meaning of the prefix *multi-*, was aware that it was a prefix. On the other hand, some words may not have appeared transparent phonologically, semantically, and morphologically such as *preglandle* or *truggeonal*. The participants may have thought that the prefix *pre-* and the suffix *-al* might have been a part of the stems. Carlisle (2003) also ascertained that some words may be morphologically complex, such as *truggeonal*, while others are not, such as *rudgelessly*. Thus, the participants might have quickly recognized *-less* in the target word *rudgelessly*. In addition, the spelling of the suffix *-able* was changed in the target word *instaceible*, and the participants may not have made the connection to the suffix *-able*. Accordingly, none of the participants referred to the affixes *pre-*, *-able*, and *-al*.

Another reason that Turkish university preparatory school EFL learners did not often refer to English morphology as a knowledge source might be that they do not read a lot in the target language. According to Ku and Anderson (2006), there is a relationship between reading and morphological awareness. For example, the person who does not read very much probably will not be able to see the contribution of the prefix *over-* to the meaning of *overcharge* even though he may know the meaning of

the prefix *over-*. In contrast, a person who reads a lot may look at *overcharge* with different eyes. Of the ten participants, eight of them knew the meaning of the prefix *over-*; however, only four participants referred to this prefix when guessing the meaning of the target word *overendous*. The participants who did not refer to *over-* in the study may have thought *overendous* represented a single morpheme.

Another reason that the use of prefixes and suffixes is not very high in inferring the meanings of target words in written context may be that the target words are not real words. The participants might have recognized and used the affixes more frequently if real words had been used instead of made-up words, because the participants might have recognized the bound stems and they could decide what part of the target word is an affix.

Morphological awareness and use seem to be beneficial for Turkish EFL learners to unlock the meanings of unknown words encountered in written context. This study contributed some support that Turkish university preparatory school EFL learners appear to be relatively successful when they refer to English affixes in order to infer the meanings of unfamiliar words; however, they do not do it often enough.

Do Turkish university preparatory school EFL learners recognize and use English prefixes more or less effectively than English suffixes when guessing the meaning of an unknown word in written context?

This research question is answered by analyzing the references of the participant students to English prefixes and suffixes separately. Of the ten participants, seven referred to affixes in their attempts to infer the meanings of unknown words encountered in a written context. In addition, two of the participants never referred to prefixes and one participant did not refer to suffixes. The research

revealed that the participants used prefixes and suffixes nearly equally (57% vs. 43% respectively). However, the participants' use of prefixes appeared to be associated with more successful guesses. Nine out of thirteen references to prefixes by the participants seemed to be successful, whereas four out of ten attempts for suffixes appeared to be successful. For instance, Participant 1 used three prefixes and one suffix in her attempts to guess the meanings of the target words and all of her references to prefixes were associated with successful guesses. However, her only attempt to use a suffix, *-less*, was not associated with a successful guess. Similarly, Participant 6 referred to prefixes two times and both occasions appeared to be associated with successful guesses. In addition, Participant 3 used prefixes three times and on two occasions, prefixes helped him to guess the meanings of the target words.

On the other hand, Participant 3 was the most successful student, whose three references to suffixes were associated with successful guesses. Participants 3 and 6 were the only participants who appeared to be successful using suffixes. The other four participants who referred to suffixes were completely wrong in their attempts. Participants 9 and 10 only referred to suffixes twice and once respectively. However, their references to suffixes were not associated with successful guesses.

Among the nine prefixes appearing in the reading passage, the participants never referred to four of them. On the other hand, among the nine suffixes, the participants referred to only three of them. However, even though Turkish EFL learners used suffixes less successfully as a whole, the suffix *-ly* was the most frequently used affix among the fifteen affixes appearing in the reading passage. The reason that the participants recognized the suffix *-ly* more frequently than others

might be that they may have encountered and used that suffix more often in written and spoken contexts. In addition, the suffix *-ly* appeared two times in two different target words: *illauderly* and *rudgelessly*. However, interestingly, the participants never referred to the suffix *-ly* in the target word *illauderly*. The suffix *-less* at the end of the target word *rudgelessly* may have helped the participants to recognize the suffix *-ly* at the end of *rudgelessly*. In addition *-less* is the second most frequently used suffix by the participants. The reason that the participants recognized *-less* more frequently may be that it is a more transparent affix. For example *helpless* seems to be more transparent for Turkish EFL students than *economical*. The participants may more readily recognize the suffix *-less* than the suffixes *-ic* and *-al*. In addition to that, *-less* is one of the suffixes that carries meaning. Thus, the participants were relatively more successful while using *-less* as a knowledge source when guessing word meaning.

Accordingly, Turkish EFL learners seem relatively more successful using prefixes as a knowledge source than suffixes, even though the Turkish language does not contain any prefixes. Tyler and Nagy (1989) asserted that participants are more successful at performing operations on morphological elements in L2 which are similar to those in L1. Thus, the Turkish EFL learners might be expected to use suffixes more successfully in their attempts to derive the meanings of unknown words because, like English, the Turkish language contains many suffixes. However, the participants in this study did not use more suffixes than prefixes. Similarly, Johnson, Pittelman, Schwenker, and Shriberg (1979) found that fourth and fifth grade L1 students' performance on prefixes was greater than their performance on suffixes. The reason both L1 and L2 learners of English use prefixes more than

suffixes may be that prefixes are more effective than suffixes when decoding the meanings of unknown words in context.

Even though the participants referred to suffixes ten times, more than half of their attempts were associated with unsuccessful guesses. Thus, this study suggests that suffixes are not as helpful as prefixes when it comes to solve the meanings of unknown words. However, suffixes help learners decide what word class the words belong to. For instance, many of the participants said that *rudgelessly* is an adverb because of the suffix *-ly*. However, this suffix alone did not help participants to solve the meaning of the word *rudgelessly*. On the other hand, the suffix *-less* had a major role unlocking the meaning of the target word *rudgelessly* because *-less* carries a meaning, in contrast to *-ly*. Similarly, one of the participants referred to the suffix *-ist* to correctly guess the meaning of the target word *scudamorist* and she decided that the target word is an agent. Combining her world knowledge together with morphological knowledge, she correctly guessed the target word.

Accordingly, the main reason that the number of prefixes used is slightly higher than the number of suffixes used might be that meaning bearing affixes may help learners more in guessing the meanings of unknown words in context. Nation (2001) asserts that some of the affixes, especially prefixes, change the meaning of the word in a substantial way. For instance, among the suffixes appearing in the reading passage, only *-less* and *-ist* have meanings. On the other hand, all the prefixes carry a meaning and they seem to have helped the participants in inferring the meanings of the words.

Moreover, Turkish EFL teachers emphasize more often the differences between students' first language and the target language in order to increase

students' awareness of differences rather than similarities. For instance, teachers tend to spend more time on teaching present perfect tense in the classroom settings since the Turkish language does not have the direct equivalent of present perfect tense. Thus, Turkish EFL teachers might have emphasized prefixes more than suffixes.

Limitations

There are some limitations in this study. First, since the number of participants (ten) was small, this number was not sufficient to come to a robust conclusion about the Turkish EFL learners use and awareness of English affixes in their attempts to infer the meanings of unfamiliar words in contexts. According to Gay (1996), for an accurate estimate of the results, the minimally acceptable number of participants for such studies would be 30. In addition to that, the study was carried out with only one proficiency group of students, pre- intermediate. Thus, the results would be more generalizable if the research had been conducted with more participants and different levels of students.

Implications

The results of this study suggest that being aware of English affixes may help EFL learners in solving the meanings of unknown words in written contexts. Nagy and Anderson (1984) ascertained that when context is not sufficient for readers to determine the meanings of an unknown word, its morphology may provide enough information to guess it appropriately. The students may make inferences for the meanings of unknown words if they know the meanings of frequently used affixes because many words in English contain either prefixes or suffixes, or both. The learners' ability to decompose a word into its morphemes can facilitate the

recognition of a new word (Laufer, 1997). For instance, familiarity with the prefix *multi-* and the word *cultural* will enable him to recognize the meaning of *multicultural*. In addition to that, morphological awareness may make a valuable contribution to reading ability (Carlisle, 2000). Moreover, several researchers have explored the benefits of morphological analysis as a strategy to foster vocabulary development. For example, Nation (2001) states that using prefixes, bases, and suffixes is a major vocabulary learning strategy.

However, the students should be careful when analyzing new words encountered in contexts. According to Laufer (1997), some words are deceptively transparent, looking as if they are composed of meaningful morphemes. Thus, the students may make a false interpretation about these words. For instance, in *outline*, *out* does not mean *out of*. Similarly, in *discourse*, *dis* does not mean *without*.). While comprehending prefixes and suffixes, EFL learners have some difficulties. Atalay (2006) stated that EFL learners have difficulties in deciding which prefix or suffix to use with words. For instance, new learners of English may say *inforgettable* instead of *unforgettable*. In addition, learners may have some problems about suffixes but not prefixes, because suffixes may change the part of speech. For instance, the word *establish* is a verb. When the noun forming suffix *-ment* is added to this word the verb changes into a noun as *establishment*. The change in the part of speech of the word may cause problems. The reason is that they may have difficulty in classifying noun forming, verb forming, and adjective forming suffixes (Atalay, 2006).

Thus, this study suggests that for EFL learners, teachers should put emphasis on explicit instruction of the meanings and functions of the most frequently used affixes. This instruction also should encompass strategies for decomposing words.

According to Nation (2001), students should also be provided with lots of guided practice to fully learn the meanings and uses of affixes. In addition, much can be done by teachers to foster implicit morphological awareness. The teachers can draw students' attention to all features of morphologically complex words, including their structure, and the relation between sound, spelling, grammar, and meaning (Carlisle, 2003).

Suggestions for Further Study

Taking the limitations of the study into consideration, a similar study should be conducted with students from different levels, because language proficiency is influential in analyzing unfamiliar words. Paribakht (2005) states that more proficient learners are considerably more successful in guessing word meanings than low-proficiency learners. In addition, in order to reveal the successful use of affixes as a knowledge source in guessing the meanings of unknown words, a similar study may be conducted with students who have been provided with instruction in guessing strategies and English morphology. Furthermore, a further study may be conducted with more students, because research suggests that in order to reveal more accurate results, the minimally acceptable number of participants for such studies should be 30 (Gay, 1996).

In addition, different texts at different difficulty levels and different genres might be used for such studies, because students' familiarity with the theme and topic helps them understand the text more readily and thus it affects their attempts to infer the meanings of unfamiliar words. Pulido (2007) ascertained that the more the students comprehend a text the greater the chances of making form-meaning connections for new words encountered through reading. Another suggestion for

further study may be that real words might be used instead of non-words in the reading passage, because real words would contain bound stems, which may help students to notice affixes more readily.

Conclusion

This study investigated the use and awareness of English prefixes and suffixes by Turkish EFL learners while reading. The results showed that Turkish EFL learners use a variety of knowledge sources, one of which is word morphology, when attempting to infer the meanings of unknown words in written context. Even though word morphology is one of the major knowledge sources the participants referred to when guessing the word meanings, they did not do it very often. In addition to that, the participants appeared to use both suffixes and prefixes nearly equally; however, their prefix use seemed to be associated with more successful guesses than suffix use in spite of the participants' unfamiliarity with prefixes in their L1. It is concluded that this more successful use of prefixes may be because prefixes contribute significantly to the meaning of the word, in contrast to many suffixes.

REFERENCES

- Anderson, N. J. (1991). Individual differences in strategy use in second language reading and testing. *The Modern Language Journal*, 75(4), 460-472.
- Atalay, I. F. (2006). Ways of creating prefixes and suffixes and foreign language teaching. *Journal of Language and Linguistics Studies*, 2(1), 56-71.
- Bingham Wesche, M., & Paribakht, T. S. (2000). Reading-based exercises in second language vocabulary learning: An introspective study. *Modern Language Journal*, 84(2), 196.
- Brown, H. D. (1994). *Teaching by principles. An interactive approach to language pedagogy*. Englewood Cliffs: NJ.: Prentice Hall.
- Carlisle, J. F. (2000). Awareness of the structure and meaning of morphologically complex words: Impact on reading. *Reading and Writing: An Interdisciplinary Journal*, 12(3-4), 169-190.
- Carlisle, J. F. (2003). Morphology matters in learning to read: A commentary. *Reading Psychology*, 24(3/4), 291.
- Carton, A. S. (1971). Inferencing: A process in using and learning language. In P. Pimsleur & T. Quinn (Eds.), *The Psychology of Second Language learning*. Cambridge: Cambridge University Press.
- Catalán, R. M. J. (2003). Sex differences in L2 vocabulary learning strategies. *International Journal of Applied Linguistics*, 13(1), 54-77.
- Chang, C. (2006). Effects of topic familiarity and linguistic difficulty on reading strategies and mental representations of nonnative readers of Chinese. *Journal of Language and Learning*, 4(2), 172-198.
- Coady, J., & Huckin, T. (1997). *Second language vocabulary acquisition. The Cambridge applied linguistics series*. Cambridge: Cambridge University Press.
- Cohen, A. D. (1996). Developing the ability to perform speech acts. *Studies in Second Language Acquisition*, 18(2), 253-267.
- Corson, D. (1997). The learning and use of academic English words. *Language Learning*, 47(4), 671-718.
- Day, R. R., & Bamford, J. (1998). *Extensive reading in the second language classroom*. New York: Cambridge University Press.

- de Bot, K., Paribakht, T. S., & Wesche, M. B. (1997). Toward a lexical processing model for the study of second language vocabulary acquisition. *Studies in Second Language Acquisition*, 19(3), 309-329.
- de la Fuente, M. M. (2006). Classroom L2 vocabulary acquisition: Investigating the role of pedagogical tasks and form-focused instruction. *Language Teaching Research*, 10(3), 263-295.
- Ellis, N. C. (1997). Vocabulary acquisition: Word structure, collocation, word-class, and meaning. In N. Schmitt & M. McCarthy (Eds.), *Vocabulary: Description, acquisition, and pedagogy* (pp. 122-139). New York: Cambridge University Press.
- Fraser, C. A. (1999). Lexical processing strategy use and vocabulary learning through reading. *Studies in Second Language Acquisition*, 21(2), 225-241.
- Grabe, W., & Stoller, F. L. (1997). Reading and vocabulary development in a second language: A case study. In J. Coady & T. Huckin (Eds.), *Second language vocabulary acquisition* (pp. 98-22). Cambridge: Cambridge UP.
- Gu, Y., & Johnson, R. K. (1996). Vocabulary learning strategies and language learning outcomes. *Language Learning*, 46(4), 643-699.
- Haastrup, K. (1991). *Lexical inferencing procedures or talking about words : Receptive procedures in foreign language learning with special reference to English*. Tübingen: Gunter Narr.
- Haynes, M. (1993). Patterns and perils of guessing in second language reading. In M. Huckin, M. Haynes & J. Coady (Eds.), *Second language reading and vocabulary learning*. (pp. 46-64). Norwood, NJ.: Ablex.
- Henriksen, B. (1999). Three dimensions of vocabulary development. *Studies in Second Language Acquisition*, 21(2), 303-317.
- Hsueh-Chao, M. H., & Nation, P. (2000). Unknown vocabulary density and reading comprehension. *Reading in a Foreign Language*, 13(1), 403.
- Huckin, T., & Coady, J. (1999). Incidental vocabulary acquisition in a second language. *Studies in Second Language Acquisition*, 21, 181-193.
- Hulstijn, J. (1996). Incidental vocabulary learning by advanced foreign language students: The influence of marginal glosses, dictionary use, and recurrence of unknown words. *Modern Language Journal*, 80(3), 327-339.
- Hulstijn, J. (1997). Mnemonic methods in foreign language vocabulary learning: Theoretical considerations and pedagogical implications. In J. Coady & T. Huckin (Eds.), *Second language vocabulary acquisition*. (pp. 203-224). Cambridge: Cambridge University Press.

- Hulstijn, J., & Laufer, B. (2001). Incidental vocabulary acquisition in a second language: The construct of task-induced involvement. *Applied Linguistics*, 22(1), 1-26.
- Hunt, A., & Beglar, D. (2005). A framework for developing EFL reading vocabulary. *Reading in a Foreign Language*, 17(1), 23-59.
- Ittzes, K. (1991). Lexical guessing in isolation and context. *Journal of Reading*, 34(5), 360-366.
- Johnson, D. D., Pittelman, S. D., Schwenker, J., & Shriberg, K. (1979). *The Assessment of Structural Analysis Skills*. Wisconsin University.
- Knight, S. (1994). Dictionary: The tool of last resort in foreign language reading. A new perspective. *Modern Language Journal*, 78(3), 285.
- Krashen, S. (1989). We acquire vocabulary and spelling by reading: Additional evidence for the input hypothesis. *Modern Language Journal*, 73(4), 440-464.
- Krashen, S. (1993). *The power of reading: Insights from the research*. Englewood, Colo.: Libraries Unlimited.
- Lado, R. (1957). *Linguistics across cultures*. Ann Arbor: University of Michigan Press.
- 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 J. Coady & T. Huckin (Eds.), *Second Language Vocabulary Acquisition* (pp. 20-34). Cambridge: Cambridge University Press.
- Laufer, B. (1997). What's in a word that makes it hard or easy: Some intralexical factors that affect the learning of words. In Schmitt, N. & McCarthy, M. (Eds.), *Vocabulary: Description, acquisition and pedagogy*. (pp. 140-155). Cambridge: Cambridge University Press.
- Laufer, B. (2003). Vocabulary acquisition in a second language: Do learners really acquire most vocabulary by reading? Some empirical evidence. *Canadian Modern Language Review*, 59(4), 567.
- Lawson, M. J., & Hogben, D. (1996). The vocabulary learning strategies of foreign-language students. *Language Learning*, 46(1), 101.
- McCarthy, M. (2001). What is an advanced level vocabulary? *SELL: Studies in English Language and Linguistics*, 3, 149-163.

- Mori, Y. (2003). The roles of context and word morphology in learning new Kanji words. *Modern Language Journal*.
- Nassaji, H. (2003). L2 vocabulary learning from context: Strategies, knowledge sources, and their relationship with success in L2 lexical inferencing. *TESOL Quarterly*, 37(4), 645-670.
- Nation, I. S. P. (1990). *Teaching and learning vocabulary*. Boston: Heinle and Heinle Publishers.
- Nation, I. S. P. (2001). *Learning vocabulary in another language*. Cambridge: Cambridge University Press.
- Nation, I. S. P., & Waring, R. (2004). Second language reading and incidental vocabulary learning. *Angles on the English-Speaking World*, 4, 181-193.
- O'Malley, J. M., & Chamot, A. U. (1990). *Learning strategies in second language acquisition*. Cambridge: Cambridge University Press.
- Oxford, R. L. (1990). *Language learning strategies : What every teacher should know*. Boston: Heinle and Heinle.
- Parel, R. (2004). The impact of lexical inferencing strategies on second language reading proficiency. *Reading and Writing*, 17(6), 847-873.
- Paribakht, T. S. (2005). The influence of first language lexicalization on second language lexical inferencing: A study of Farsi speaking learners of English as a foreign language. *Language Learning*, 55(4), 701-748.
- Paribakht, T. S., & Wesche, M. (1996). Enhancing vocabulary acquisition through reading: A hierarchy of text-related exercise types. *Canadian Modern Language Review*, 52(2), 155-178.
- Paribakht, T. S., & Wesche, M. (1997). Vocabulary enhancement activities and reading for meaning in second language vocabulary acquisition. In J. Coady & T. Huckin (Eds.), *Second language vocabulary acquisition* (pp. 174-202). Cambridge: Cambridge UP.
- 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.
- Pigada, M., & Schmitt, N. (2006). Vocabulary acquisition from extensive reading: A case study. *Reading in a Foreign Language*, 18(1), 1-28.
- Pulido, D. (2004). The effect of cultural familiarity on incidental vocabulary acquisition through reading. *Reading Matrix: An International Online Journal*, 4(2), 20-53.

- Pulido, D. (2007). The relationship between text comprehension and second language incidental vocabulary acquisition: A matter of topic familiarity. *Language Learning*, 57(1), 155.
- Read, J. (2000). *Assessing vocabulary*. Cambridge: Cambridge UP.
- Read, J. (2004). Research in teaching vocabulary. *Annual Review of Applied Linguistics*, 24, 146-161.
- Rott, S. (1999). The effect of exposure frequency on intermediate language learners' incidental vocabulary acquisition and retention through reading. *Studies in Second Language Acquisition*, 21(4), 589-619.
- Schmitt (1997). Vocabulary learning strategies. In N. Schmitt & M. McCarthy (Eds.), *Vocabulary: Description, acquisition, and pedagogy* (pp. 199-227). Cambridge: Cambridge University Press.
- Schmitt, N. (2000). *Vocabulary in language teaching*. Cambridge: Cambridge UP.
- Schmitt, N., & Meara, P. (1997). Researching vocabulary through a word knowledge framework: Word associations and verbal suffixes. *Studies in Second Language Acquisition*, 19(1), 17-36.
- Sternberg, R. J. (1987). Most vocabulary is learned from context. In M. G. McKeown & M. E. Curtis (Eds.), *The nature of vocabulary acquisition* (pp. 89-105). Hillsdale, NJ: Erlbaum.
- Stoller, F., & Grabe, W. (1995). 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). New Jersey: Ablex Publishing Corporation.
- Vermeer, A. (2001). Breadth and depth of vocabulary in relation to L1/L2 acquisition and frequency of input. *Applied Psycholinguistics*, 22(2), 217-234.
- Wade-Woolley, L., & Geva, E. (1999). Processing inflected morphology in second language word recognition: Russian-speakers and English-speakers read Hebrew. *Reading and Writing: An Interdisciplinary Journal*, 11(4), 321-343.
- Walters, J. M. (2006). Beyond exhortation: Training students of English as a second language to infer meaning from context. An unpublished doctoral dissertation, University of Nottingham.
- 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.

Webb, S. (2005). Receptive and productive vocabulary learning: The effects of reading and writing on word knowledge. *Studies in Second Language Acquisition*, 27(1), 33-52.

Zimmerman, C. B. (1997). Do reading and interactive vocabulary instruction make a difference? An empirical study. *TESOL Quarterly*, 31(1), 121-140.

APPENDIX A: THE PRETEST

Vocabulary Test

A- Circle the best definition of the following words or phrases

- 1- A multicolored sweatshirt
 - a) has many colors on it.
 - b) has dark colors on it.
 - c) is a black and white sweatshirt.
- 2- A monolingual person is a person who.....
 - a) can speak many languages
 - b) cannot speak any language.
 - c) can speak only one language.
- 3- An unemployed person is a person who.....
 - a) has not got a job.
 - b) has got more than one job.
 - c) employs people.
- 4- A pro-American person.....
 - a) does not approve of American policy.
 - b) supports American policy.
 - c) does not know much about Americans.
- 5- "The teacher wanted us to rewrite our essays" means.
 - a) We will write different essays.
 - b) We will not write any essays.
 - c) We will write the essays again.
- 6- A homeless person is a person who.....
 - a) misses his home a lot.
 - b) has not got a house.
 - c) spends a lot of time at home.

B- Underline the correct word in the following sentences.

- 7- I was given a great deal of *responsibility/responsible* for my new job.
- 8- Don't be so *childish/child*.
- 9- The municipality have *privatized/private* the bus services.
- 10- By reading, we can *large/enlarge* our vocabulary.

11- *Silence/silent* is one of her good virtues.

12- The internet is an amazing *inventing/invention*.

C- Decide whether the following sentences are true or false. If you choose false, can you explain why it is false?

13- Dinosaurs are prehistoric animals.

14- It is illegal to sell drugs in many countries.

15- A dishonest person can never lie. We can trust him.

16- A supermarket is a very small store.

17- Smoking cigarettes is not harmful for our health.

18- Blue jeans are not washable clothing.

19- A co-pilot is a person who shares the control of a plane with the main pilot.

20- When you beat a dog with a stick, you mistreat it.

D- Make new words by matching the words with the suffixes below. Write the meanings of the new words.

- | | |
|--------------|----------|
| 1-govern- | a) ion. |
| 2-ill- | b) ist. |
| 3-danger- | c) ship. |
| 4-assist- | d) ment. |
| 5-discuss | e) ness. |
| 6- relation- | f) ive. |
| 7-short- | g) ic. |
| 8- artist- | h) ous. |
| 9- effect- | i) ant |
| 10-journal- | j) en |

APPENDIX B: THE READING PASSAGE

The Poltergeist of Rosenheim

Imagine you are in a room by yourself. *Illauderly* a cup flies past you and breaks into small pieces against the wall. When this happens, some people say you must be in the company of a 'poltergeist.' It's a name used to explain strange events. A person breaks dishes and makes loud noises. An *instaceible* person seems to be pushing and throwing objects around. Is there a *preglandle* in the house? Some people believe a poltergeist operates only when young people are near.

In 1967, a lawyer in the German town of Rosenheim had some trouble at his office. Strange things were happening. Lamps exploded for no reason. The *aistropal* equipment *misbuttled*. Telephones rang all the time, but when the lawyer answered, no one was there. There were *multiquorant* phone calls from the lawyer's office, but no one in the office was making them. The bills were *overendous*, and the lawyer was worried.

He asked *truggeonal* experts for help. They were surprised when the drawers opened and heavy furniture moved *rudgelessly*. Then they discovered that the poltergeist first appeared when a nineteen year old girl, Anne Marie, started to work at the office. They also noticed that when Anne-Marie was *disgalpin*, things were normal.

The young girl didn't know that she was the cause of the strange events. She had no desire to upset her employer. But when she left her job, the poltergeist left too.

Scudamorists who study the *exacklonal* said no one was playing tricks. Anne-Marie just seemed to have some sort of *unwary* power. No one was ever able to explain what happened.