YEDITEPE UNIVERSITY

GRADUATE SCHOOL OF EDUCATIONAL SCIENCES

MASTER'S PROGRAM IN ENGLISH LANGUAGE EDUCATION

THE EXPLICIT TEACHING OF L2 ENGLISH COLLOCATIONS THROUGH GRAPHIC ORGANIZERS

MEHMET TAMER AKSUNGUR

ISTANBUL, 2021

THE EXPLICIT TEACHING OF L2 ENGLISH COLLOCATIONS THROUGH GRAPHIC ORGANIZERS

MEHMET TAMER AKSUNGUR

M.A. PROGRAM IN ENGLISH LANGUAGE TEACHING

YEDITEPE UNIVERSITY

JANUARY, 2021

YEDİTEPE UNIVERSITY
GRADUATE SCHOOL OF EDUCATIONAL SCIENCES DIRECTORATE

THESIS SUBMISSION and APPROVAL FORM

TITLE: THE EXPLICIT TEACHING OF L2 ENGLISH COLLOCATIONS THROUGH GRAPHIC ORGANIZERS

APPROVAL:

Dr. Öğr. Üy. Zeynep KOÇOĞLU (Advisor) _____ (Signature)

Dr. Öğr. Üy. Evrim Eveyik AYDIN (Member) _____ (Signature)

Dr. Öğr. Üy. Kaine GÜLÖZER (Member) _____ (Signature)

SUBMITTED BY : Tamer AKSUNGUR
DATE OF THESIS DEFENSE : 21.01.2021
DATE OF THESIS APPROVAL : 21.01.2021

ACKNOWLEDGEMENTS

I'd love to extend my thanks to my thesis advisor, Dr. Zeynep Koçoğlu, for her valuable comments, advice and deep insights into my thesis. I also thank all the students participating in this research for their intimate support, fruitful collaboration and solidarity.

I also thank my colleagues whom I have worked with and the school administration that have supported me tremendously and permitted me to conduct the tests on the students for data collection. They helped me a lot during my study and largely devoted their time to help me effectively conduct the research.

I'd also like to thank our Dean, Prof. Dr. Akyel, due to her understanding and sincere guidance she has displayed ever since the time I was accepted into this program. She has enlightened me throughout this journey in an academic perspective and has been an immense source of motivation and inspiration for me.

Personally, I would love to address my special thanks to my wife, Gönül, and my mother, who has been fighting undauntedly against an obstinate breast cancer that has recurred twice within that period. They all encouraged and supported me patiently in this process. Without their incessant encouragement and good faith in me, I would not have achieved writing my master's thesis.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

ÖZET

Bu tezin amacı yabancı dil olarak İngilizce kelime öğretiminde İngilizce eşdizimlerin grafik düzenleyiciler yardımıyla belirgin bir şekilde öğretiminin Türkiye'deki bir devlet üniversitesinin Yabancı Diller Yüksekokulunda İngilizce öğrenen ortanın üstü İngilizce düzeyindeki öğrencilerin yabancı dil eşdizimlerin algısal hatırlanmasında ve öğrenilen eşdizimlerin algısal akılda saklanmasında etkisi olup olmadığını araştırmaktır. Çalışmanın hedeflerine ulaşabilmesi için yaşları 18-20 arasında değişen, ortanın üstü İngilizce seviyesindeki 50 hazırlık sınıfı öğrencisi çalışmaya katılmıştır. Çalışma her bir sınıfta 25 öğrencinin olduğu 1 deneysel sınıf ve bir kontrol sınıfından oluşmuştur. Çalışma başladığında B seviye öğrenciler bahar yarıyılında haftada toplam 20 saat genel İngilizce ve İngilizce Okuma/Yazma dersi görmekteydiler. Bahar yarıyılı 3. Dönemde 7; 4. Dönemde ise 8 hafta olmak üzere 2 dönem ve 15 haftadan oluşuyordu. Çalışma 3. dönemin başında yapıldı ve çalışmanın hepsi 10 hafta sürdü. Öğrencilere yapılan erken son testler ve gecikmeli son testlerden toplanan niceliksel veriler ışığında, mevcut çalışma İngilizce hedef eşdizimlerin grafik düzenleyiciler yardımıyla öğretiminin ortanın üstü İngilizce düzeyindeki hazırlık sınıfı öğrencilerinin yabancı dil eşdizimleri algısal hatırlamalarında ve öğrenilen eşdizimleri algısal akılda tutmalarında istatiksel olarak önemli bir etkisi olduğunu göstermiştir. Sonuçlar, İngilizce hedef eşdizimler, arttırılmış görsel ve metinsel girdi içeren grafik düzenleyiciler yardımıyla deney grubundaki öğrencilere öğretildiğinde, öğrencilerin onları kontrol grubundaki öğrencilerden algısal olarak daha iyi hatırladıklarını ve daha uzun bir sure akıllarında tuttuklarını özellikle ortaya koymuştur.

Anahtar Kelimeler: Eşdizimler, grafik düzenleyiciler, kelimeyi hatırlama, kelimeyi akılda tutma

ABSTRACT

This thesis aims to study the effect, if any, of the explicit teaching of L2 collocations through graphic organizers on upper-intermediate level Turkish prep students' L2 collocation recall and retention from a receptive aspect in a formal EFL context at the School of Foreign Languages at a state university in Turkey. In order to achieve the objectives of the study, 50 prep school students aged between 18 and 19 at the upper-intermediate level of English participated in the study and the study consisted of 1 experimental and 1 control group consisting of 25 students in each group. At the beginning of the study, students were taking general English and Reading / Writing lessons for 20 hours per week during the spring semester. The spring semester comprised two periods with 7 weeks in the 3th period and 8 weeks in the 4th period. The study was conducted at the beginning of the 3rd period and the overall study lasted for ten weeks. After the quantitative data gathered from the immediate and delayed posttests were analysed, the current study demonstrated that teaching L2 collocations explicitly through graphic organizers had a statistically significant effect on the receptive recall and retention of L2 collocations of the prep students at the upper-intermediate level. The results show that when L2 collocations were taught to the experimental group by means of graphic organizers enhanced through visual inputs, they receptively recalled them better and retained them in their memory far much longer than the control group students.

Keywords: collocations, graphic organizers, L2 vocabulary recall, L2 vocabulary retention

Chapter I: Introduction

1.1. Background of the Study

In general, vocabulary was one of the largely overlooked and disregarded aspects of learning a language especially with the advent of grammar-based approaches and methods. L2 vocabulary instruction was given very little emphasis in the 1950s. The heavy negative effect of the Grammar Translation Method on the teaching approaches, methods and principles of EFL vocabulary teaching could be the major reason why teaching vocabulary did not get the attention that it deserved. However, as of the 2000s, a refreshing and a revival period has clearly showed itself (Meara, 2002). Beck, McKeown and Kucan (2002) stressed the apparent negligence and downplay over vocabulary in general and reached a research-based conclusion. They indicated that there was less focus on vocabulary acquisition. Durkin (1979) in the observational study of a classic classroom found that vocabulary instruction accounted for only 19 out of 4,469 minutes in the teaching of reading skill and very little vocabulary development took place during content instruction.

During the last decades, however, vocabulary for both the ESL (English as a Second Language) and EFL (English as a Foreign Language) has moved into a position which holds a central place. Since the 1980s, numerous studies have been conducted to gain a clear understanding of vocabulary teaching and powerful vocabulary teaching techniques for EFL and ESL. This change in the position of vocabulary is truly well-deserved since vocabulary instruction is a very essential aspect of EFL. Carter (1998) states that vocabulary is directly related with one's common language ability, and teaching vocabulary is also considered as one of the most serious difficulties in a foreign language. It is also a fact that improving L2 vocabulary positively affects one's ability to acquire his/her proficiency of language and achieve their goals related to L2 learning in life.

In other words, vocabulary is essential for the development of any language. Limited and insufficient knowledge of vocabulary may make the learners of EFL demotivated and frustrated, thus causing them to lose interest in vocabulary learning at any level of their language proficiency Also, developing four skills in a language requires vocabulary knowledge.

According to Folse (2004), communication without adequate grammar knowledge is possible, whereas it is almost impossible to communicate if one does not have advanced vocabulary knowledge. Nation (1994) also notes that the development of writing, reading, speaking and listening will be largely facilitated if an L2 learner has acquired an ample amount of vocabulary and if the learner wants to reach a top performance in these skills. In other words, vocabulary in any given L2 functions as a driving force to foster a learner's proficiency in four skills. Templeton and Pikulski (1999) mention that vocabulary is of paramount importance and they add that vocabulary learning is a prerequisite for success in life since an immense amount of vocabulary as well as the skills for using the vocabulary will increase an L2 learner's ability to get along in such a complex social and economic world.

With this background information in mind, intensive and unending effort has been exerted in L2 vocabulary teaching literature to achieve the most effective, practical and viable technique for teaching L2 vocabulary and these attempts to look into techniques with which L2 vocabulary could be best taught have not ended in the 21st century.

1.2. Statement of the Problem

In my opinion, teaching L2 vocabulary seems to be a troublesome and problematic issue of teaching English as EFL throughout the world. On account of the fact that teaching vocabulary effectively is a prerequisite for successful language acquisition, it is very significant to teach L2 learners words in rich and varied contexts and personalize their vocabulary learning, by adjusting it to their own specific purposes and needs (Schmitt, 2008).

To reach this ultimate goal, selecting and employing the most practical and effective technique of vocabulary teaching which is in line with the needs, expectations and purposes of learners constitutes an indispensable part in teaching L2 vocabulary.

It goes without saying that the graveness of the situation primarily stems from the fact that Turkish EFL learners forget English words very quickly and cannot retain the words in their memory for an extended period of time. When considered from this aspect, that leads to a notable and long-lasting dissatisfaction and discouragement in EFL students' arduous pursuit of English vocabulary recall and retention. This situation may be associated with the conspicuous lack of an effective, viable and engaging EFL vocabulary teaching technique for Turkish EFL learners.

Taking the points mentioned above into account, the major approach which should be adopted in EFL vocabulary teaching is to engage and challenge the EFL learners, exposing them to cognitive load through explicit vocabulary instruction based on visual inputs. Based upon the complexity and prevalence of the problem, the researcher set forth a technique to teach L2 vocabulary, which entails teaching L2 collocations through graphic organizers, and it is based on cognitive learning through explicit and conscious vocabulary instruction, accompanied by visual inputs.

This research mainly aims to study the possible effects of explicit teaching of L2 collocations through graphic organizers enhanced through visual inputs on Turkish prep class students' L2 collocation recall and retention in a formal EFL context. It also aims to shed light on the assumptions, findings and techniques which are widely used in L2 collocation teaching literature along with the practical and pedagogical implications in EFL classrooms in Turkey.

1.3. Purpose of the Study

The building blocks of the current study were laid by a self-question and a self-deliberation of the researcher on the difficulties and obstacles which the EFL teachers have continuously met in teaching collocations to Turkish preparatory class EFL learners who study English compulsorily at the School of Foreign Languages at a state university in Turkey. The researcher, as an instructor of English, has observed many times in his teaching career that Turkish students who have started learning English at a comparatively later period in their life have encountered hardships in recalling and retaining L2 collocations since L2 collocations are complex and variable in nature and it is most often the case that collocations don't have fixed and predictable rules of formation since there is a great number of words which collocate with others, a fact which is hard to overlook in the immense literature of teaching EFL vocabulary.

The present study initially intends to find out whether L2 collocations can be taught effectively through graphic organizers to teenagers who have just started higher education. As an underpinning to this inquiry, whether the teenage students in the current study can store these collocations in their short-term memory and retain them in their long-term memory is the other significant niche that will be largely filled in the current study. Additionally, the answer of the question whether students who won't receive any explicit and direct instruction of L2 collocations in the control group are likely to score poorly or not in the immediate and delayed posttests will be sought in the current study.

To study the issues mentioned above, the following research questions have been proposed in the present study:

1. Does teaching L2 collocations through graphic organizers have any possible effect on upper-intermediate level prep students' L2 receptive vocabulary learning?

a. Does teaching L2 collocations through graphic organizers have any possible effect on upper-intermediate level prep students' L2 receptive vocabulary recall?

b. Does teaching L2 collocations through graphic organizers have any possible effect on upper-intermediate level prep students' L2 receptive vocabulary retention?

The sample of the study (n=50) was collected randomly from two intact classes among a population of 250 teenage students who were studying compulsory English courses at the School of Foreign Languages at a state university. The participation of one fifth of the population provides generalizability for the results of the instrument and representativeness at the institutional level.

1.4. Organization of the Study

In this study, there are five chapters: introduction, literature review, methodology, results, discussion and conclusions.

The first chapter consists of the purpose of the study and the pursuits that have urged and encouraged the researcher to do a research on the topic.

The first chapter also includes the research questions that have been formulated as the core of the research, the importance of and the motive behind the research. Finally, definitions of the significant terms, basic assumptions and a general organization of the research are covered in the first chapter.

The second chapter presents a concise and a relevant review of literature on the main assumptions of the subject of study. This chapter has three main headings: L2 vocabulary knowledge, collocation and graphic organizers. Explicit and implicit teaching of collocations in the EFL literature will be addressed in detail. Graphic organizers will consist of two subheadings, which are graphic organizers as a pedagogical teaching tool and graphic organizers in teaching L2 vocabulary.

The third chapter is mainly related with the details of methodology and analysis of the research. Design of the research, the setting where the study was conducted, instrumentation of the study and the participants are also presented in this research. Also, how the quantitative data was gathered and analyzed is explained in the third chapter.

The fourth chapter contains the detailed discussion of the data gathered, computed and analysed. Findings of the study, their relation and comparison with the findings in the literature are so clarified and elucidated in this chapter.

The fifth chapter includes the sections of conclusion, limitations, implications and recommendations for those who are willing to pursue further studies on the subject of study. The reference list of the sources that were referred to in the study and the appendices are also found in this chapter.

1.5. Significance of the Study

Collocations are one of the significant and sensitive areas of language that learners of English from all over the world find hard to master and that's the same case for Turkish learners of English. As Sadeghi (2009) points out, this problem is very tangible among EFL learners at lower proficiency levels due to the discrepancy between the word patterns of L1 and L2. Because of the differences of words and phrases between L1 and L2, EFL learners in general make lots of mistakes in producing the correct collocations in written and oral language contexts. What's worse, EFL learners at intermediate and upper-intermediate levels of proficiency don't have as much practical and theoretical collocation knowledge as it is required at these levels and a great majority of these learners don't know how to form collocations properly and accurately.

Another crucial aspect of the issue is that collocations are regarded as a significant element of fluent language output (Hyland, 2008). Recently, there has been a growth of

interest and a trend in research on collocations, but this research has mainly focussed on languages other than English and it is really difficult to understand why this is so.

Wagner and Phythian-Sence (2007) mention that learning a word stands for where and how to use it properly, so learning of word lists separately from the context in which they occur, will be a hindrance in the path to achieving communicative competence, which, in turn, will bring all vocabulary learning and teaching ambitions to an end. As Sonaiya (1988) adds, whether effective communication will be hindered or not, hinges on our choice of words. If one chooses words that are in point and to the purpose, it is highly likely that effective communication will take place and the intended message will reach its goal. If not done so, it is quite likely that effective communication will result in disruption and, at long last, failure. Therefore, the imminent need for teaching collocations can be better understood if EFL learners aim to communicate their linguistic messages easily as Altenberg (1998) suggests that "almost 80% of natural language consist of word groups, chunks and other lexical units" (as cited in Hyland, 2008, p. 6).

Furthermore, another aspect of the issue which is worth mentioning is that the researcher's own experience as a university lecturer strongly hints that being able to use the accurate form of collocation in oral and written English is not only a weakness for lower levels of Turkish EFL learners, but also for those at higher levels who normally seem to be experiencing no serious problems in other areas of the English Language. For this reason, teaching collocations appropriately and effectively to EFL learners from all levels of proficiency and competence is an "emergency situation" which needs to be handled outrightly so that mastery and accuracy in the area of vocabulary could be attained.

In conclusion, this study will mostly serve to the Turkish EFL learners who have suffered the same fate by not having been able to learn English collocations at a satisfactory level and to retain them for long periods of time in their memory. Moreover, the gospel truth

that most of the EFL teachers, instructors of English, academicians and researchers have, now and then, suffered and are likely to suffer from the same problem in the future could be the reasonable grounds for conducting the present study.

1.6. Definition of Significant Terms

English as a Foreign Language (EFL): It refers to a situation where the learners have no or very few authentic chances to perform or use the language in the community they live (Harmer, 2007).

English as a Second Language (ESL): It is a general and traditional term used to teach English to non-native speakers in settings where English is spoken as the first language (Nunan, 1999).

Vocabulary: It refers to all the words which an individual uses, or all the words that are present in a subject, field of knowledge or a language (Cambridge Academic Content Dictionary, 2019).

Vocabulary recall: It refers to the research for the right answer within one's presentation and representation of vocabulary knowledge that has just been acquired and the elicitation of responses from one's memory (Cariana & Lee, 2001).

Vocabulary retention: It refers to a memory storage process whereby the information in the short memory is transmitted to long memory by repetition and constant rehearsal (Hummel, 2013).

Graphic Organizer (GO): It is a visual illustration or display that shows and illustrates the links of events or facts in visuals, such as images or pictures (Hall and Strangman, 2008). In this study, the term GO has been used as a general name for all types of GOs.

Collocation: It refers to a group of words which co-occur many times in a language with lexical or grammatical patterns of co-occurrence either in a probabilistic or in a constant way (Carter, 1998).

Chapter II: Review of the Literature

2.1. Theoretical Basis for the Study

The explicit and direct teaching of collocations via visually enhanced graphic organizers is the theoretical framework of the current study. The underlying rationale for using an explicit and direct vocabulary teaching technique in the current study could be accounted for in many ways. Oxford (2003) states that one of the primary aims of the studies conducted on the learning and teaching strategies has lately been to enable the learner to notice a specific feature, directing his/her attention to it to flourish recall and learning. In addition, many L2 studies which investigated the effects of *explicit* and *implicit* vocabulary teaching in comparison have found that implicit teaching is not as effective as explicit teaching (Ortega and Norris, 2000).

In the current study, L2 collocations will be taught explicitly, directly and consciously by attracting the students' attention to them and making them aware of the particular features of the selected collocations. To achieve the stated objective, the researcher has thought that using graphic organizers will facilitate the recall and retention of the collocations and therefore will ultimately lead to their acquisition.

The second rationale of the present study is predicated on the Noticing Hypotheses by Schmidt (1992). According to Schmidt (1992), target linguistic structures are acquired when learners are conscious of them and notice the input while they process the language cognitively. Laufer (2006) has highlighted the effectiveness of the Noticing Hypothesis in teaching new vocabulary by carrying out form-focussed instruction (FFI). Additionally, the role of input enhancement in which a given text is manipulated visually with the use of colourful and pictorial presentation could be very effective in the acquisition and retrieval of vocabulary in the long terms. Nation (2001) also claims that a learner's previous contact with the word can facilitate noticing.

In this study, the researcher aims to place the L2 collocations in graphic organizers, present, depict, and manipulate them visually by using blue colour in the background and writing the target collocations in bold face in an attempt to convert input into intake by making the students fully aware of them by harnessing explicit vocabulary teaching.

The other theoretical basis which the current study is based on is Cognitive Learning Theory (Piaget, 1936). Tsubaki (2012) argues that memory first organizes and encodes the data, then directs and stores it in the final stage. Nawawi, Zaini and Mokhtar (2010) suggest that learning can be best attained if learning, as a whole, is a meaningful process. With this perspective in mind, use of GOs to teach L2 collocations is in line with the Cognitive Learning Theory as it can lead to meaningful vocabulary learning and effective cognitive processing. This could result in the target words' being recalled and retained better when learners happen to encounter them in various contexts while they are practicing their writing and speaking skills in a foreign language.

Furthermore, Kang (2004) adds that visual inputs seem to increase the acquisition of vocabulary and attaches great importance to the fact that a new epoch where visual literacy as well as textual/ language literacy are crucial is coming into sight. Therefore, he emphasizes that teachers of EFL should make use of spatial instructional strategies to increase teaching and learning in a vast scale. As graphic organizers are visuals which are based on spatial instructional strategies, they can be used effectively in teaching vocabulary to EFL students.

Recent studies have also demonstrated that graphic organizers had a positive impact on teaching L2 vocabulary to students. Nilforoushan (2012) stated that her intermediate EFL students achieved quite high scores on the vocabulary achievement tests when they received vocabulary instruction through semantic maps as compared with those who were taught EFL vocabulary without semantic maps. Similarly, Tsubaki (2012) stated that owing to the high cognitive load that they imposed, GOs contributed to more vocabulary retention among

Japanese university students in the EFL setting. Furthermore, Radwan (2011) believes that teaching vocabulary is crucial in increasing learners' language proficiency and he advocates that words should not be taught separately from the context in which they occur. He adds that strategies which enhance learners' receptive processes should be utilised to teach vocabulary and one of these strategies is semantic mapping. With this design in mind, Radwan (2011) studied the impacts of semantic mapping teaching on the vocabulary improvement of adult ESL learners from both receptive and productive dimensions. The positive effect of semantic mapping teaching on vocabulary instruction was also supported by the results.

In summary, in the light of the perspectives and points stated above, the researcher believes that teaching L2 collocations explicitly and directly through graphic organizers will positively affect the L2 vocabulary retention and recall of the students who are going to take part in the study. It is also believed that teaching L2 collocations through GOs which are visually enhanced to increase perceptual saliency will help students recall and retain them better because the visual representation and illustration of these collocations in GOs will enable the students to learn all the important features and associations of these collocations and will serve as a bridge, connecting unknown points to known ones in the given L2 collocations. Therefore, it is likely that teaching L2 collocations through graphic organizers will result in much more meaningful and conscious vocabulary learning on the part of the students in the experimental group than those in the control group who will not receive explicit and direct collocation instruction in any form or manner.

2.2. L2 Vocabulary Knowledge

Based on the Cambridge Advanced Learners Online Dictionary (2015), vocabulary includes "all the words which are used and known by a certain person". Merriam-Webster Online Dictionary (2015) defines it as "a group of words which an individual, group, a language or work uses in a field of knowledge". Vocabulary, in a general sense in ELT, is

words in a language that a learner already knows or is familiar with. Vocabulary could also be described as all the words used in the written and spoken form of a language through which people communicate their thoughts and emotions.

In respect to the ordering of vocabulary skills, Laufer and Goldstein (2004) refer to four grades of skills: *passive recall* is the competence to identify the target word as a form, whereas *active recall* is being able to identify the meaning of the target word. *Passive recognition* is described as the competence to recognize the meaning of the target word when its meaning is given and, lastly, *active recognition* means the competence to recognize actively the meaning of the target word when its meaning options related to it are provided.

Paribakht and Laufer (1998) have categorised productive or active vocabulary into different subcategories as *free active* vocabulary *and controlled active* vocabulary. The former is the vocabulary which can be voluntarily used by learners, whereas the latter is the one produced and generated by learners automatically.

In another distinction, vocabulary could be split into four classes. They are *technical words, academic words, low frequency words* and, lastly, *high frequency words* (Nation, 2001). Nation states that "*high frequency words* cover approximately 2000 families, which is equal to 80 % of the words which are found in scientific texts" (p.25). On the other hand, "academic words account for 10 % of the words which are found in scientific texts, so if one has a good command of 2000 high frequency words and the scientific words as well, they will know 90 % of the common words which are found in scientific text" (p.26). Nation (2001) also states that a vocabulary knowledge of 5,000 word groups is essential to read for pleasure in extensive reading.

Even though it is quite straightforward and direct to render a definition of the term 'vocabulary', recognizing or using it in oral and written contexts is an intricate affair since one has to take into consideration its receptive and productive dimensions so as to be fully

cognizant of its importance. Nation (1994) maintains that having knowledge of a word is more important than having the ability to recognize its forms and meanings because word knowledge is multifaceted and encompasses more than the connection between its form and meaning.

It is undeniable that vocabulary is important in many aspects. First and foremost, there would be no communication, interaction and exchange of information in our daily lives without vocabulary. According to Gallego and Llach (2009), having a large vocabulary size facilitates interaction in the foreign language since, for most language learners, language learning meets the needs of communication and exchange of information in that language.

If one does not tend to completely depend on non-verbal skills, it is highly important to master vocabulary in a foreign language setting. Wilkins (1972, p.102) expresses that "only very little knowledge can be transferred if one does not use accurate grammatical structures, but nothing can be transferred if one does not have sufficient vocabulary knowledge".

The research conducted on the development of vocabulary has increasingly gained interest in the second language acquisition (SLA) over the last thirty years. Therefore, as Zhong (2011, p. 120) notes, "understanding the vocabulary knowledge and its development process contributes to the understanding of how second language (L2) learners process and produce the language". Vocabulary also helps and supports the learner to gain mastery in four language skills (reading, speaking, writing and listening) and aids in building up language proficiency as a whole.

On the other hand, despite attaching importance to the function of vocabulary as an essential back-up of four skills, Nation (1994) adopts an original and unique stance on L2 vocabulary teaching and notes that vocabulary is a means, rather than an end, serving as a tremendous catalyst for the four skills in a language so that learners can reach a high performance in these skills. Additionally, the amount of vocabulary one possesses can

facilitate them to learn more words and enhance their capacity to learn more as the learners with more vocabulary knowledge will have enough competence and skills to increase it even more.

According to the approach which regards vocabulary knowledge as a range of 'interrelated sub-knowledge components' (Nation 1994), knowledge of word means knowledge of its written and spoken form, knowledge of its L1 meaning, associational and connotative knowledge, morphological knowledge, grammatical and collocational knowledge, and knowledge of its social constraint in use.

On the other hand, Laufer (1998) sees knowledge of vocabulary not as an 'all-or-nothing' phenomenon but sees it as moving from unknown to known, developing into an advanced and sophisticated level. He asserts that each word identified and recognized by the learner can be tracked at a specific point in the "continuum of knowledge" of that word.

In other words, knowledge of words is not only related to the meaning and form of a word, but it is also a continuum of the vocabulary knowledge. In other words, it is an infinite circle which covers different levels and sub-knowledge systems.

According to the research on vocabulary development in depth (Pigada and Schmitt, 2006), size (Webb, 2008), depth and receptive to productive use (Laufer, 2006), vocabulary knowledge progresses incrementally (Schmitt, 2000). Knowing a word stands for knowing different dimensions of its knowledge and this is a 'multifaceted and tricky construct' (Nation 2001). Although there is often no clear-cut distinction, it is significant to note that vocabulary can be categorised into two classes in terms of evaluating the knowledge of word, which are *receptive* and *productive* vocabulary.

Before a person can use a word accurately and fluently, they have to know quite a bit about it. The vocabulary which is often understood when it is read, heard or seen in any context forms the *receptive vocabulary* of a person, not making any difference if these words

are well known or little known. *Productive vocabulary*, however, is the vocabulary which is created appropriately in a context, matching the intended meaning of the speaker. Waring (as cited in Zhong, 2011) defined productive *vocabulary* as "the competence to give the L2 equivalent of a word in L1 and *receptive vocabulary* as the competence to give the L1 equivalent of a word in L2" (p.13). From this perspective, while receptive vocabulary deals with recognition, productive vocabulary, on the contrary, deals with recalling. Stated in other words, the former calls for the ability to define or find a synonym for the written form of an L2 word, while the latter requires the ability to actively retrieve the meaning and form of an L2 word from the long-term memory.

Lee and Muncie (2006, p. 297) suggest that "production logically requires some level of receptive knowledge" and for this reason, "the productive lexicon will always be smaller than the receptive lexicon".

In a similar line with the *continuum of progression* approach, Schmitt, Schmitt and Clapham (2001) point out that size of vocabulary knowledge is generally believed to be increasing in the process of time. Schmitt (2000) also highlights that vocabulary knowledge is inclined to increase as the mental storage of new words and the various aspects of vocabulary knowledge being acquired over time increases. This is a natural process which occurs in the course of time.

It is a widely known fact that bits and pieces of the word are added to one's body of knowledge as one is exposed to it in a variety of contexts and situations. By becoming better acquainted with a word, one comes to know its connotations, antonyms, synonyms, nuances and its other meaning relationships with other words related to it, which can be said that his/her vocabulary knowledge is progressing to the productive stage. On the other hand, one gains control of a lot of knowledge about a word before he/she can use it appropriately, effectively and correctly in productive contexts, which, then can be said that his/her

vocabulary knowledge is currently at the receptive stage. In a similar line, the acquisition of receptive and productive vocabulary knowledge could be explained in a time relationship. From this standpoint, receptive vocabulary could be seen as the earlier and preliminary stage of vocabulary knowledge. If the learner can attain the knowledge of a great number of words and can use them automatically, voluntarily and fluently in spoken and written language, it could be said that he/she has completed the acquisition of receptive vocabulary and that his/her receptive vocabulary is mature enough to proceed to the next and final stage, which is the productive stage. In the productive stage, as he/she accumulates and builds up his/her receptive vocabulary knowledge by learning new words in time, he/she also elicits and retrieves the words that has been acquired much earlier in the receptive stage in various settings which require the automatic and spontaneous production of language.

In a different point of view, Llach and Gallego (2009, p. 114) indicate that the "proficiency level of learners in L2 is assessed by the vocabulary size of these language learners and any increase in vocabulary size will increase learners' experience of the target language". However, they add that EFL learners do not attain accumulating such a large amount of vocabulary as native speakers do.

To conclude, all the studies and different categorizations of vocabulary knowledge in L2 profoundly investigated the ways of learning and teaching vocabulary as distinct and individual words. However, as Schmitt (2010) pointed out, multi-word units, including collocations, pose a great challenge and difficulty for L2 learners while they are trying to learn them effectively (Nesselhauf, 2003).

2.3. L2 Collocations

2.3.1. L2 Collocations in Vocabulary Teaching

A collocation could be described as a combination of words that co-exist habitually (Nation, 1994) and they, together with other types of multiword units (MWU), symbolize a larger phenomenon which is called “formulaic language" (Wray, 2002). Benson, Benson and Ilson (1986b) split collocations into two groups. They are lexical collocations and grammatical collocations. The former one is often made up of verb + noun, adjective + noun, noun + verb, adverb + adjective and verb + adverb, whereas a noun, an adjective or a verb before a grammatical structure or a preposition forms the latter one.

In the literature of teaching EFL collocations, Brown (1974) is regarded as one of the leading names who stated that collocations should be incorporated extensively in the EFL classroom. She delineated that the number of collocations that EFL learners know fosters their reading comprehension, oral fluency and listening. Nattinger (1980) also underscored that any language is formed by bunching together the ready-made structures which could be used in certain situations, and the comprehension occurs when the learner can predict which of these structures can be used in these situations.

Nattinger (1980) asserted that collocations help learners etch these words in their memory and can help them know what types of words would co-occur. Syder and Pawley (1983) describe collocations as the “building stones” of fluent speech. If learners are fully equipped with these “building stones”, they diminish the time required for processing the language each time the learner is engaged with it (Lewis, 2002) and help learners achieve fluency in speaking and writing (Schmitt, 2000). According to Wray (2002), so as to understand a language considerably well, the student must be sensitive to the preferences of the native speakers of English.

When it comes to teaching collocations, these preferences are significant as they "help learners sound natural when using the language" (Altuwairesh, 2016, p.16). Wray (2002) also adds that the lack of collocational knowledge can obstruct communication since they function as a mediator and gap-filler between grammar and vocabulary.

Another important argument for the need to teach collocations is that English is a language which is abundant in collocations. As Cowie (2009) clarifies, "much of the language we use ... is ready-made" (p. 49). Nesselhauf (2003) agrees that knowing collocations is essential for native speakers to achieve competence in their mother tongue.

English teachers and instructors usually have to confront and tackle two challenges before they set out to teach collocations in their classes. The first one is the large number of English collocations and the second one is the lack of the most effective way to teach collocations. Schmitt (2000) stresses that collocation is a sophisticated sort of vocabulary knowledge that is hard to know how to teach.

In the light of these points, the other question which inevitably arises is which collocations language instructors should primarily focus on and which ones they should skip teaching in the EFL classes (Nesselhauf, 2003). There are a few criteria on which EFL teachers should base their selections. These are 'frequency' (Nation, 2001), 'congruence' and 'restriction' (Nesselhauf, 2003). Schmitt (2000) also attached importance to congruence but he addressed the necessity of teaching "only the collocations with no direct translation equivalents" (p.81).

However, developing high competency in the accurate and natural use of collocations is a slow process and it comes with plenty of grim challenges for language learners. Henriksen (2013) points out that there are several issues that increase the difficulty of acquiring collocational knowledge and some of these are, irregular spacing of encounters with phrases, and a traditional emphasis on teaching words as single and discrete entities rather

than as collocations. Moreover, L2 learners even at advanced levels of English have a lot of hardships in using and mastering collocations (Wray, 2002) since they are insufficiently exposed to the language. However, these hardships can be overcome by raising the consciousness of EFL learners and exposing them frequently to collocations (Lewis, 2002).

It could be stated that EFL learners have problems not only in the comprehension of collocations but also in the production of them. Nation (2001) believes that when EFL learners are learning receptive skills, the teacher must dwell on "the predictability of the meaning" of collocations by focusing on two important aspects: "semantic opaqueness and uniqueness of meaning" (p.325). Conversely, when EFL learners are coping with productive skills, the focus must be on "the predictability of form" (p.328).

In the existing literature of teaching EFL vocabulary, some techniques and strategies have been suggested to teach collocations effectively and appropriately. One of these useful techniques is WORDLES. WORDLES are clouds of word, which are made up of authentic texts. They could be widely employed in the classroom to ease learners' concentration on the teaching of collocations. Additionally, they are enjoyable and attractive (Harrison, 2009).

Another strategy worth mentioning is that students can be asked to note down the collocations and memorize them. According to Nation (2001), "the memorization of unanalysed chunks is an important strategy" (p.336).

Another useful strategy to pursue is the use of "lexical notebooks" (Lewis, 2002). Lewis suggests that the conventional word book ought to be changed with a lexical notebook. It is highly recommended that students should learn strong collocations and some fixed phrases with their L1 equivalents by writing them down on their lexical notebooks. Kennedy (2003) also suggests EFL learners should be encouraged to learn collocations autonomously through reading, while Nation (2001) suggests teachers should use grids to teach collocations. Woolard (2000) also suggests keeping a record of "mis-collocations" so that they can be used

in class at appropriate times. Nation (2001) also mentions some useful activities, such as searching for collocates and matching collocates. In these activities, students can look up the words in their dictionary or draw on their own knowledge of both L1 and L2.

2.3.2. Explicit Teaching of L2 Collocations

In teaching collocations, explicit form-focussed instruction has received strong support. Lewis (2000) and Nesselhauf (2003), prominent advocates of explicit vocabulary teaching, defend the importance of some amount of consciousness in teaching L2 vocabulary. They argue that one of the conditions for teaching collocations is to direct learners' attention to ready-made chunks explicitly and consciously and to raise their awareness about their importance in enhancing L2 competence. Lewis (1993) stresses the importance of chunk-related activities and suggests that "pedagogical chunking" should be frequently used in class as an activity since he believes that these activities can aid in developing the abilities of noticing, organizing and recording collocations. He emphasizes that L2 learners should acquire the skills which will help them think bigger than single-word items and, if these skills are acquired, they can increase the knowledge of collocational uses of the words they are already familiar with.

The importance of "noticing" as a skill has also gained wide acceptance and recognition by the linguists in the explicit and intentional teaching of collocations. Brown (1974) stresses that L2 learners should be urged to make a habit of noticing collocations by getting exposed to input in and outside the classroom. She also finds the skill of "storing" very essential for L2 learners to develop, adding that if learners are properly taught to store collocations as single words, the process of retrieving can be greatly facilitated.

There are also numerous instructional activities and methods which enable learners to learn new collocations and to consolidate and practice those that have been learnt previously. One of the most well-known of these methods is called "collocation awareness-raising (CAR)

process" (Ying and Hendricks, 2004). Their method consists of three stages. The first step involves helping learners come to an understanding of the concept and significance of collocations in learning a language. In the second stage, teachers introduce learners with some collocations which are related to the activities in class and, subsequently, they request them to use some reference materials to help them enhance their learning. In the third stage, they suggest teaching learners how to notice and point out the collocations step by step and then to practise the already learnt collocations. Likewise, Ellis (1994) highlights the significance of noticing and awareness and notes that the "learners should see the instances of similarity and difference between the input and output" (p.90). Similarly, Woolard (2000) also states that collocations should be taught and explained explicitly to increase the EFL learners' level of awareness and consciousness.

2.3.3. Implicit Teaching of L2 Collocations

Some techniques, by contrast with the explicit ones, have been suggested to engage the learners' interest and attention to the target collocations embedded in the input as it takes a lot of time for a collocation to be fully acquired by meaning-focussed instruction and the amount of time which could be spared to teach them is quite limited in L2 classrooms. Demecheleer, Boers, He, Stengers, Deconinck, and Eyckmans (2017) also argue that meaning-focussed methods fail to direct learners' attention to chunks or collocations if they consist of words that are already known and found largely familiar.

This type of instruction, which focussed on form, was developed by Michael Long (1991). He claimed that when the learners focus on form, their attention could be directed to form through activities in which meaning and communication hold a central position. He stated that this is an incidental attention in nature and it emerges from a communicative need. However, Ellis (2001) found that definition insufficient and inadequate, and elaborated on two ways of focusing on the 'focus-on-form' teaching. They are *incidental focus-on-form* and

planned or *pre-planned focus-on-form*. Ellis (2001) mentions that when learners receive an incidental focus-on-form teaching, there isn't any plan or pre-arrangement about what linguistic features to teach. Various linguistic features can be targeted for instruction via focus-on-form. On the contrary, in planned focus-on-form teaching, learners' attention is directed into target linguistic features through techniques such as input enhancement (e.g. enhancement of text and input flood) or corrective feedback on the learners' errors (ibid). In this type of instruction, only some linguistic items in the input are particularly targeted.

In teaching collocations implicitly, it would be useful to make a distinction between 'input' and 'intake'. Richards and Renandya (2002, p.158) note that "input primarily serves to start the process of language learning, whereas intake is that the part of the input which is somehow understood". If it is understood, it attracts learners' attention. Input also includes the data of the language which is accessible for acquisition. According to Smith (1991), enhancement of input is a possible way to convert input into intake.

One of the most common forms of input enhancement is textual/visual enhancement. By means of this method, highlighting, underlining or italicizing is used to draw attention of learners to target linguistic forms (Hall, 2016). Input flood, also known as input enrichment, is another type of input enhancement. Boers et al. (2017) state that occurrences of a specific target feature are artificially increased in input by means of input flood or input enrichment.

As it is the case in other teaching methods, input enhancement has both pros and cons. Leeser and VanPatten (2006) state that one of the most tangible benefits of the input enhancement method is that learners have exposure to a wealth of L2 input. Additionally, they point out that the natural flow of communication does not break down and the focus on meaning are not disrupted in this method. On the other hand, it won't be wrong to say that the input in such a treatment is too implicit and incidental for learners to help them notice the target features. Likewise, İzumi (2002) asserts that there is no guarantee that input will be

converted into intake even though learners get exposed to it with high frequency. Since few researchers have empirically tested the efficacy of these techniques, the findings from the studies which have been carried out so far are contradictory and there is inconclusive evidence as to their effectiveness in teaching L2 vocabulary. For this reason, it seems highly likely that the controversy about the efficacy and usefulness of these techniques and methods in L2 vocabulary teaching will continue in the years to come.

2.3.4. Research on the Implicit and Explicit Teaching of Collocations

In teaching collocations, the question of which teaching technique has been found to be the most effective is highly disputed and the superiority or the inferiority of explicit instruction over the implicit one is still a matter of controversy. The research so far carried out into this issue has yielded mixed results and the evidence so far yielded is unsatisfactory.

For instance, the findings by Karbor and Rassaei (2012) who studied the efficacy of three methods demonstrated that the most effective method for expanding learners' knowledge of collocation was explicit vocabulary instruction. The findings of another study by Szudarski (2012) which was conducted on 43 Polish learners at intermediate level of proficiency also indicated that teaching collocations implicitly alone could not be so effective and it needed to be backed up by an explicit form of instruction. According to Norris and Ortega (2000), the studies which yielded positive results in favour of explicit collocation instruction should be approached with caution since the effectiveness of these studies were not tested in the long term and only their temporary effects were tested.

On the other hand, Oztina (2009) did a research to study the effects of implicit instruction via input flood treatment and explicit teaching as negative evidence on 91 Turkish EFL learners' acquisition of collocations which comprised *make* and *do*. Both long - and short-term effects of the treatments were tested at both levels of reception and production. Although both methods were found to be highly effective, input flood was found to have more

long-lasting benefits in terms of the recognition of target collocations. In a similar vein, Vaezi and Fahim (2011) did a study and the study findings showed that enhancement of textual /visual input was equally as useful as explicit instruction in increasing L2 learners' knowledge of collocation.

In short, while some studies (e.g. Rassaei and Karbor, 2012; Szudarski, 2012) have found explicit instruction more effective, Fahim and Vaezi's (2011) and Oztina's studies (2009), have not reported such an effectiveness. The inconsistency in the findings of these studies could be due to the discrepancies in the type of explicit and implicit interventions used in the studies. Furthermore, the reason for the difference in results is that the effects of the interventions over varied time spans were measured by the studies. For example, Karbor and Rassaei (2012) compared the methods to see the effectiveness of it in both long and short term, whereas Fahim and Vaezi (2011) only studied the short-term effects.

In summary, since teaching L2 collocations in the classroom through vocabulary activities are difficult and impractical due to limited amount of instruction time, explicit teaching of vocabulary (Hulstijn, 2013) through graphic organizers by providing visual input enhancement (Lee and Huang, 2008) has been suggested as an effective teaching strategy.

2.4. Graphic Organizers

2.4.1. Graphic Organizers as a Pedagogical Teaching Material

Graphic organizers (GOs henceforth) can be defined as the visual models which are used by teachers to teach language and concepts. They are also tools to understand, organize and apply data to reach various purposes (Kottler and Gallavan, 2007). In Kang's opinion, GO is a technique based on creativity to introduce and explain complex knowledge and transform it into graphics so as to display relationships between concepts in a meaningful fashion (2004). Also, since they are visually enriched, they can guide and flourish learners' higher order and critical thinking skills. In this way, it largely facilitates learning and instruction.

What is more, if they are properly and effectively designed and employed, they can increase the reasoning and judgement skills of learners. Moreover, they can enhance the retention of information as they help learners to learn both visually and verbally.

Graphic organizers serve plenty of other useful functions both in teaching language and other subjects as an invaluable teaching tool across content areas and grades. Sewak and Lubin (2007, p.14) claim that graphic organizers "activate the learners cognitive skills, promoting the visual and tactile abilities and thus, making information more meaningful". Lenz, Boudah, Schumaker, Bulgren, and Deshler (2000, p.2) state that, "GOs, as a strategy, direct the learners to understand where they are, where they are navigating through the content and where they have been". They also help students link between the previous and subsequent knowledge (Guastello, 2000), enhance retention and comprehension of text (Moore and Readance, 1984) and organize language and high-order advanced thinking. Ellis (2004) states they can be used to organize writing. Also, Dodge (2005) indicates that they can aid in advanced and high order thinking from the middle level to the high level along *Bloom's Taxonomy*, which includes evaluation, application, synthesis and analysis. From this way of thinking, GOs also enable learners to dwell on important areas for learning, to organize the relations and to infer meaning out of them.

According to Ellis (2004), there are three significant reasons which justify employing GOs. These are:

1. Graphic organizers make the information of the subject you are teaching less unclear and less complicated.
2. Graphic organizers help diminish semantic information processing demands greatly, so they facilitate comprehension.
3. Graphic organizers help learners consider the concepts and the organizing parts of concepts, thus enabling them to learn effectively.

Although GOs are effective and efficient pedagogical tools, one should consider some factors to maximize their usefulness. One of the most important of these factors, the instructional context in which GOs are used, influences their effectiveness a lot. To maximize its effectiveness, teachers should state the purpose for using GOs and model their use properly. Students should also be provided with a great number of opportunities where they can practise them both in an independent and guided fashion.

Furthermore, factors such as age, academic level, content areas, subject matter and grade levels should be attached of paramount importance to meet the learners' needs to prevent learners from getting frustrated and to promote meaningful and fun learning (Gallavan and Kottler, 2007). Al-Hinnawi (2012) notes that GOs can be used by students and teachers alike. Students can employ it as a tool to understand the meanings of words deeper as well as for assessment and revision purposes while teachers can utilize them before, during and after presenting a topic to organize already introduced concepts. They can be made or selected by teachers solely, students solely or both of them. Yet, it is significant that GOs be direct, clear, simple, and easy to teach.

2.4.2. Graphic Organizers in Teaching L2 Vocabulary

There are various instances and kinds of GOs which have been recognised extensively and explained in the L2 vocabulary teaching literature. The most widely used ones are (1) conceptual mapping, (2) conceptual frames, (3) networking, (4) KWL, (5) word charts, (6) word maps (Templeton and Pikulski, 1999), (7) semantic feature analysis grid (Channell, 1981) and (8) pictorial schemata (Lindstromberg,1985). Table 1 shows a semantic feature analysis grid for '*being surprised'*. The plus (+) sign indicates the presence of a feature.

Table 1. Semantic Feature Analysis Grid (Channel, 1981)

	affect with wonder	*because unexpected*	*because difficult to believe*	*so as to cause confusion*	*so as to leave one helpless to act or think*
surprise	+	+			
astonish	+		+		
amaze	+			+	
astound	+				+
flabbergast	+				+

In Figure 1, you see the words which a group of low-intermediate students generated when they were requested to elicit words after hearing the word *'faithfulness'.* Words which are semantically related have been illustrated in semantic mapping. It can be clearly said that semantic maps are useful methods to be used at every level to teach vocabulary. They greatly assist learners in establishing mental relations between the reader and the text and thus increase the depth of the vocabulary learning. It is worth noting that graphic organizer is a strategy which is conducive to deeper level of processing and better retention. In other words, it won't be wrong to state that clustering words in terms of their semantic features is highly likely to enhance learning.

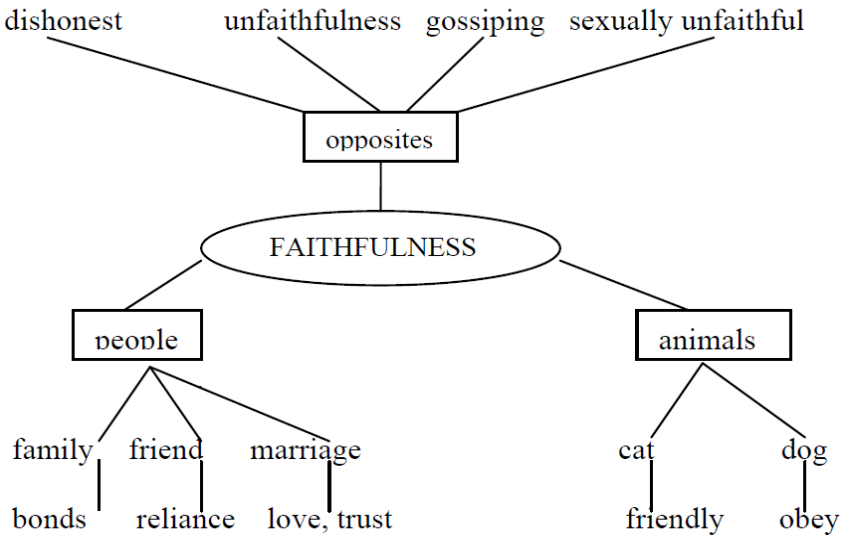

Figure 1. Semantic mapping (Sökmen, 1992)

As another type of GO, Lindstromberg (1985) devised *pictorial schemata*, a type of grid, which is mainly used to back up lexical ordering, helping students distinguish between similar words. In the figure below, adjectives ranging from *happy* to *sad* have been arranged in order as it is in a scale.

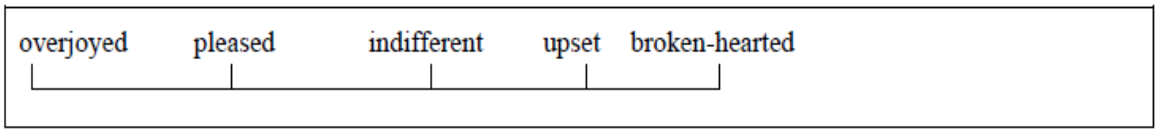

Figure 2. Pictorial schemata (Lennon, 1990)

Venn diagrams are also effective types of GOs to employ when organizing the semantic features of two words in terms of their differences and, if any, similarities. In the Venn diagram below, the differences of the words *slide* and *glide* have been illustrated.

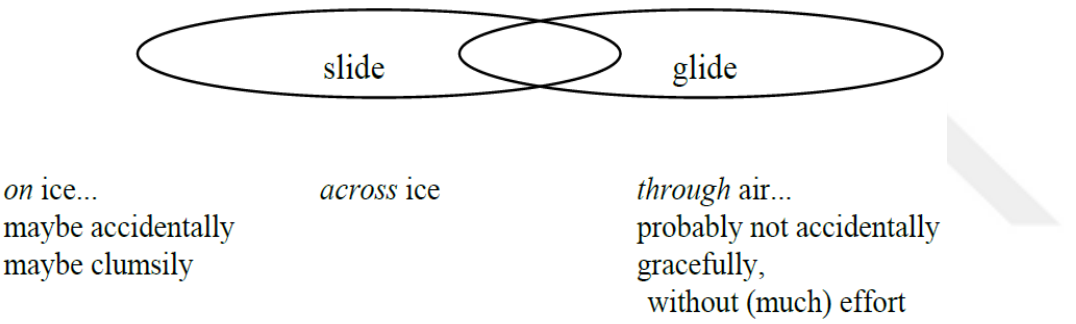

Figure 3. Venn diagram (Lindstromberg, 1985)

In Figure 4, the word *preservation* has been illustrated with the help of a *tree diagram* for low-intermediate ESL students.

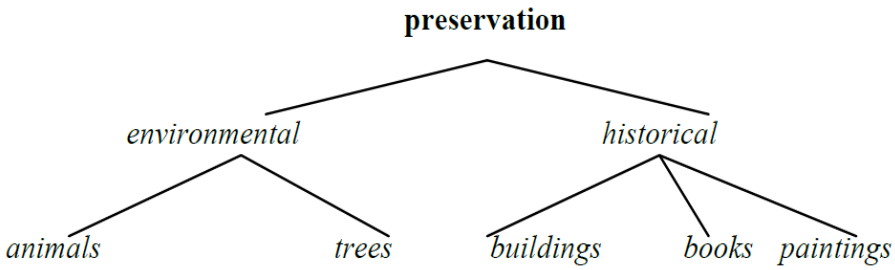

Figure 4. Tree diagram (Sökmen, 1991)

With a different aspect of view, Gil-Garcia and Villegas (2003) classify GOs into six patterns including *evaluative, conceptual, sequential, hierarchical, cyclical and relational*. Table 2 shows the pattern of GOs and their corresponding organizational patterns of text.

Table 2. Types of Graphic Organizers

Graphic Organizer Pattern	Organizational Pattern of Text
Hierarchical	matrix, plot, subcategories, tree, categories and pyramid
Conceptual	mind map, concept map, concept chart and description
Sequential	Chronology, time line, cycle graph, process/ product and line graph
Evaluative	Satisfaction scales, agreement scales and evaluation chart
Relational	Pie chart, cause/ effect, characteristic chart and fishbone,
Cyclical	Life cycle, Cycle graph, and repetitive events

2.4.3. Summary

To sum up, there are a great number of GOs for specific teaching purposes and they serve versatile functions, especially in teaching L2 vocabulary. GOs, an inseparable part of L2 vocabulary knowledge, are useful and effective techniques not only in terms of showing and visualizing relationships to aid in learners' creative and critical thinking, but also in terms of empowering their studying skills and arousing their curiosity. In teaching L2 vocabulary, they are invaluable and irreplaceable tools which provide students with visual relations between L2 words and their L1 meanings.

Through the instrument of graphic organizers, learners can analyse words independently and 'come to grips' with the tricky challenges of word formation by themselves so that they will have a profound and thorough understanding of how L2 words function in any given language.

Besides, they make vocabulary teaching challenging, yet engaging and interesting for students. They can also be used for vocabulary games and vocabulary activities to enrich and diversify vocabulary learning and they greatly help keep students engaged and focussed during vocabulary instruction.

In the next chapter, methodology of the research, which consists of research questions, participants, setting of the study, instruments for data collection, data collection procedure, research design, instructions and activities of the experimental and control group will be discussed and analyzed. Immediately afterwards, data analysis procedure will be examined thoroughly and the chapter will be concluded with a brief summary.

Chapter III: Methodology

3.1. Research Questions

The research questions of the thesis were listed as follows:

1. Is there any possible effect of teaching L2 collocations through graphic organizers on upper-intermediate level prep students' L2 receptive vocabulary learning?

a. Does teaching L2 collocations through graphic organizers have any possible effect on upper-intermediate level prep students' L2 receptive vocabulary recall?

b. Does teaching L2 collocations through graphic organizers have any possible effect on upper-intermediate level prep students' L2 receptive vocabulary retention?

3.2. Participants

The participants of the study were 50 upper - intermediate prep school university students who studied period – based, intensive general English course at a state-owned university in Istanbul, Turkey. The students were between 18 and 19 years of age.

At the start of each fall semester, learners took the English Placement Test and were split into three proficiency levels in accordance with the marks they scored in that test. The proficiency levels of the classes were A, B and C. A level classes received 16 hours in Main Course and 6 hours in Reading & Writing course; B level classes received 14 hours in Main Course and 6 hours in Reading & Writing course and, lastly, C level classes received 12 hours in Main Course and 6 hours in Reading & Writing course on a weekly basis.

Students who were placed in A level classes started to receive the English courses from the elementary level, whereas those who were placed in B level classes started to study English from the pre-intermediate level. The students who were placed in C level classes began to study English from an intermediate level of proficiency.

Since the proficiency levels of the classes differed greatly, the total number of the English courses they received in a period were different, too. The A classes had English

courses 22 hours per week with a total number of 152 hours in Period I, followed by 176 hours in Period II with the same number of course hours in Period III and Period IV respectively. On the other hand, the B classes received 20 hours of English courses weekly with a total number of 140 hours in Period I, and 160 hours in Period II with the same number of course hours in Period III and Period IV respectively. Finally, the C classes received 18 hours of English courses weekly with a total number of 126 hours in Period I and 144 hours in Period II with the same number of course hours in Period III and Period IV respectively. Although there is a different admission level for the prep class students in the English program at the Foreign Languages School, the major aim is to graduate all the students with a B2 (Upper-Intermediate Level) when the academic year comes to an end.

The current study was conducted in two B level classes which the researcher had commenced to deliver at the beginning of Period III. These two classes were assigned to two groups, an experiment and a control group with 25 students in each of them. The control group was made up of 10 male and 15 female students, while the experimental group comprised 12 male and 13 female students.

3.3. Setting of the Study

The present study was carried out at the School of Foreign Languages of a state university in Istanbul. The university is located on the Anatolian side and houses 10 faculties, 2 schools, 14 research centres, 5 offices, and 9 coordination offices.

As one-year prep class was not compulsory for Turkish-medium departments, as of 2016, along with the students of English-medium departments, students from Turkish-medium departments also had a chance to join English classes optionally within student quotas set for classes. With newly opened English-medium departments, the number of students increased as well.

Together with voluntary prep classes, one-year English education was offered to a total of 244 students in 2016-2017 academic year and to 279 students in 2017-2018 academic year. The students who have to complete one-year prep program continue their studies next year in the English-medium departments of Molecular Biology and Genetics, Political Sciences and Public Administration, History, Business Administration, and English Language Teaching.

The academic system at the School of Foreign Languages was period-based, rather than module-based. The fall and spring semester each consisted of two periods, which amounted to four periods in an academic year. The fall semester comprised Period I and Period II, while the spring semester comprised Period III and Period IV. Period I and Period III lasted for seven weeks, while Period II and Period IV lasted for eight weeks.

The prep class students received two types of English courses within the fall and spring semester. They were English Main Course and English Reading &Writing Course.

The study was carried out in Period III in the spring semester of 2018-2019 academic year. In 2018-2019 academic year, there were about 250 students, who were actively attending classes at the School of Foreign Languages to complete the Preparatory English Program (PEP).

3.4. Instruments for Data Collection

In the study, a Target Collocation Familiarity Test, a Collocation Test, an immediate and a delayed posttest were administered for data collection.

a) Target Collocation Familiarity Test

At the start of the research, 23 target collocations were pre-selected from the relevant units of the students' book *English File, Upper-Intermediate (3rd Edition)* and then a Target Collocation Familiarity Test, which was made up of 23 fill-in-the-blanks questions were run on a randomly chosen group, which consisted of 20 students, at the upper-intermediate level.

The 23 sentences which were asked in the Familiarity Test were adopted from those in *The Corpus of Contemporary American English, 2019* and then slightly adapted. The 20 students in the randomly chosen group were asked to complete the blank in the sentences with the correct collocation given in the box. The primary aim of the Familiarity Test was to discover if the students in the group were familiar with the L1 meaning of those 23 pre-selected collocations or not. Each item in the Familiarity Test scored 1 point and the students were assessed out of a total score of 23 points.

After the Target Collocation Familiarity Test (See Appendix I) was administered, it turned out that approximately two thirds (N=14-17) of the students had already known the meaning of 3 collocations in which they scored very high on the test, so these 3 collocations were excluded.

In the next stage, Cronbach's Alfa (α), an internal consistency measure, was run to see if there was a close relation in terms of reliability in the items in the Collocation Familiarity Test. Questions *1, 3* and *10* in the Test were answered correctly by 15, 14 and 17 students respectively by the students in the pilot group and thus, these questions were left out in the Collocation Test.

Naturally, 20 questions were asked in the Collocation Test for both groups. Also, Cronbach's Alpha was run to see how closely related the set of items in the Familiarity Test were in terms of reliability. In Table 3, you see the statistics on the Cronbach's Alpha test.

Table 3. Cronbach's Alpha Statistics for the Familiarity Test Scores

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
,722	,727	23

The results showed that Cronbach's Alpha for the Target Collocation Familiarity Test items was .722, so the Familiarity Test was found to be reliable (23 items; α = .722).

b) Collocation Test

After the collocations which had been found familiar by the randomly chosen group in the Collocation Familiarity Test were excluded, the remaining 20 questions were asked in the Collocation Test for both experimental and control groups. In the Collocation Test, each question scored 5 points and the students were assessed out of a total score of 100. The test aimed to make sure that none of the students had been familiar or had already known the meaning of the collocations before commencing the 5-week long treatment stage.

Collocation Test scores were then entered on SPSS and total sums and means of the students' scores were computed and analysed. Also, an Independent Samples t-test was administered to see whether there was any statistically significant difference in the mean scores of the Collocation Test for the control and the experimental group at the beginning of the study. The statistical procedures and findings of the tests that had been administered were analyzed in detail in the *Results and Discussion* section in Chapter IV.

c) Immediate Posttest

After the 5-week long treatment stage was completed, an immediate posttest with the same number of questions were run on the students of both groups. Similarly, each question scored 5 points and the students were assessed out of 100 points in total. After the immediate posttest was run, the students' scores in both groups were entered on SPSS and computed. It was checked whether the assumptions were met. Then, an Independent Samples t-test was run to determine whether there was a statistically significant difference between the means of immediate posttest scores in both groups.

d) Delayed Posttest

After the immediate posttests were run on both groups, a two-week break was taken and then delayed posttests were administered on the students of both groups. Similarly, each question scored 5 points and the students were assessed out of 100 points in total.

Subsequently, the scores of the students yielded from the delayed posttest in both groups were entered on SPSS and computed. It was checked whether the assumptions were met. Then, an Independent Samples t-test was administered to check the presence of any statistically significant difference between the means of the delayed posttest scores of two groups.

3.5. Data Collection Procedure

3.5.1. Research Design

The goal of the research was to find out if there was a possible differential effect of teaching L2 collocations through graphic organizers on upper-intermediate level prep students' L2 vocabulary recall and retention. The collocations included verb + noun and adjective + noun patterns. The underlying reason for choosing these types of collocations was that it was deemed to be more practical to present, illustrate and teach verb + noun and adjective + noun collocations via graphic organizers. Moreover, time constraints were also taken into consideration and the researcher thought that teaching these types of collocations would be time – saving and practical, still leaving the teacher an ample amount of time to cover the topics in the students' book in the remaining time of the lesson hour.

What's more, at the time of the study, only verb + noun and adjective + noun collocations were included in the students' book and thus were taught in accordance with the syllabus of the English Main Course. All in all, 20 collocations were taught explicitly through graphic organizers over the course of 5 weeks with 10 minutes having been assigned for 4 collocations every week. Table 4 shows the research design of the study.

Table 4. Research Design

Week	Control Group	Experiment Group
1	Collocation Familiarity Test	Collocation Familiarity Test
2	Collocation Test	Collocation Test
3	English File Unit 1 Reading	4 collocations
4	English File Unit 1 Pronunciation	4 collocations
5	English File Unit 2 Listening	4 collocations
6	English File Unit 2 Writing	4 collocations
7	English File Unit 3 Speaking + Immediate Posttest	4 collocations + Immediate Posttest
8	Break	Break
9	Break	Break
10	Delayed Posttest	Delayed Posttest

3.5.2. Instructions and Treatment of the Experiment Group

The experimental group received an explicit and direct teaching of 4 target collocations through graphic organizers every week with a total of 20 collocations (See Appendix II) over the course of 5 weeks.

At the initial stage, the instructor drew a graphic organizer made up of four boxes on the smart board, where the boxes had a blue background. The part of speech of the central word in the graphic organizer was also written in bold in parentheses to ease its recognition.

Then, he asked the students to brainstorm for a few minutes to find which words would accompany and collocate with the word in the centre of the GO.

After the brainstorming session was over, he asked the students whether they were able to come up with any word (s) that would collocate with the word in the centre. If the students couldn't come up with any words, the teacher resorted to filling in the GOs with the target nouns from the relevant unit of the students' book and asked the students to guess and find out what the collocations meant.

The instructor shunned giving the direct L1 equivalent of the target collocations and asked the students to work out their meaning by themselves so that the students would be cognitively more conscious, alert, oriented and attentive while they were striving to elicit the

correct meaning of the collocation. In this way, they would notice the collocation and attend to it and thus learning would most likely occur.

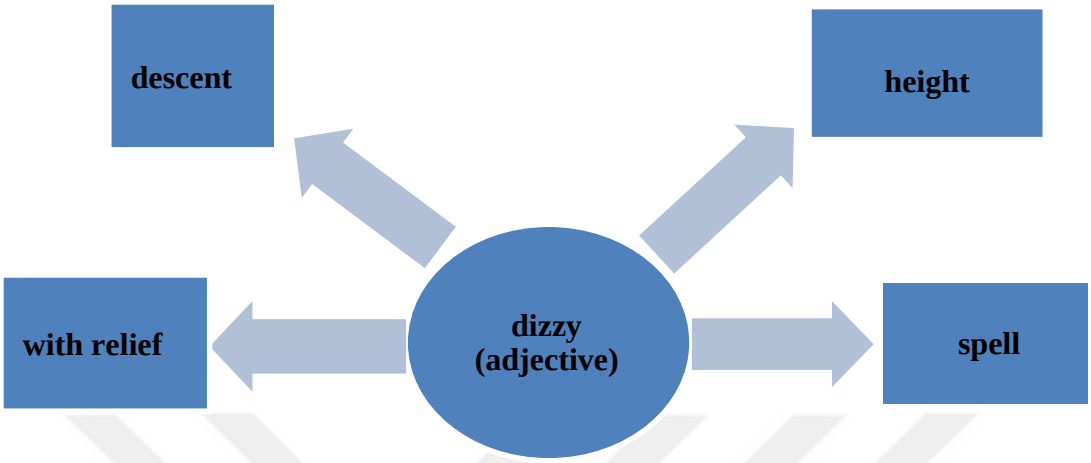

Figure 5. Teaching model of collocations through a GO (Example I)

To exemplify, as it is seen in Figure 5, the nouns which could go with the word *dizzy* were written by the instructor and, then, they were instructed through a graphic organizer. It was mainly the instructor who controlled, modelled and guided the process of L2 vocabulary teaching.

If the students could suggest or come up with any accurate and suitable word, the instructor asked the students what these words were and he wrote these words in the boxes of the graphic organizer. While doing that, the teacher particularly paid attention to the fact that the nouns or the noun phrases which the students had elicited to form accurate and meaningful collocations were the ones which would be covered in the Main Course students' book in the upcoming days.

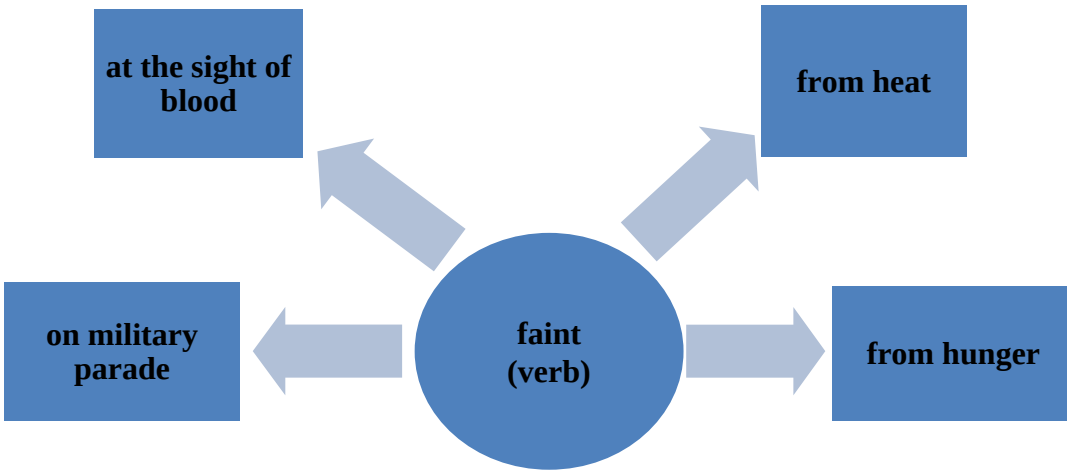

Figure 6. Teaching model of collocations through a GO (Example II)

Similarly, in Figure 6, the instructor, initially, drew a graphic organizer made up of four boxes on the smart board, where the background colour was blue. The part of speech of the central word in the graphic organizer was also written in bold to ease its recognition and increase its perceptual saliency.

Then, he asked the students to brainstorm for a few minutes to find which nouns or noun phrases would perfectly match and fully collocate with the word in the centre of the GO.

After the students had brainstormed for a couple of minutes, the instructor asked the students whether they were able to come up with any word (s) to collocate with the word in the centre. If the students couldn't come up with any words, the teacher, as a last resort, filled in the GOs with the nouns and noun phrases from the relevant unit of the students' book and asked the students to guess and find out their meanings. Finally, the instructor wrote the nouns and noun phrases which could go with the word *faint* and, then, instructed them through a graphic organizer.

Likewise, the instructor avoided providing the direct L1 equivalent of the target collocations and asked the students to infer their meaning so that the students would be cognitively more involved, focussed and attentive while they were struggling to elicit the

correct meaning of the collocation. In this way, they would be fully aware of and deeply involved with the collocations and attend to them and thus learn them as a result of their conscious and meaningful effort.

It was mainly the instructor who controlled, modelled and guided the process of L2 vocabulary teaching, providing the students with the correct nouns and noun phrases, as a last resort, if the students weren't able to come up with any words after the brainstorming session.

3.5.3. Instructions and Activities of the Control Group

While the students in the experimental group were being instructed the target L2 collocations through visually enhanced GOS explicitly, consciously and directly with10-minute sessions every week , the students in the control group didn't receive any explicit, conscious and direct instruction to teach them the L2 collocations in any technique, form or method all throughout the study. In fact, control group students have been exposed to these collocations neither at the time of intervention nor before and after it. Instead, they went on having their usual Main Course (MC) lesson and were engaged with the activities that had been stated in the curriculum and action pack of the course at the beginning of Period III. They also received instructions as to how they will do these activities in company with the student's book, *English File, Upper-Intermediate 3rd Edition,* in a proper and accurate way.

After the Target Collocation Familiarity Test and the Collocation Test were administered on the students in the experimental and control group, control group students did a reading activity in the 3rd week of Period III. They read an article called *Extreme Interviews* and answered the questions about the article in Unit 1.

In the 4th week, they received a pronunciation lesson on intonation and sentence rhythm. They listened to some dialogues and tried to notice the stressed auxiliary verbs which were related to the same unit, too.

In the 5th week, they moved on to Unit 2 and made some listening practice. They listened to a radio interview with a doctor about cyberchondria and then answered the questions with their partners or in small groups, asking for and giving as much information as possible.

In the 6th week, they were engaged with writing and they did an in-class writing activity where they wrote a detailed description about the two items of clothing which they were given as a present on their birthday but later decided to sell since they didn't like it. This writing activity was in Unit 2 as well.

In the 7th week, they started Unit 3 and made some speaking practice. The students worked in pairs, asking and answering a series of questions about air travel. After they finished the speaking activity, they received the immediate posttest just like the students in the experimental group did.

In the 8th and 9th weeks, students in both groups took a break. Finally, in the 10th week, the delayed posttest was run on the students in both groups.

3.6. Data Analysis Procedure

Quantitative data will be gathered from the study via the Collocation Familiarity Test, Collocation Test, immediate posttests and delayed posttests. The data, which will be collected via these tests and analysed descriptively through inferential statistics will be entered on SPSS 22.

Before a statistical analysis of the Collocation Test scores between both groups is made, some assumptions such as the independence of observations, normal distribution of data, homogeneity of variances and significant outliers will be checked. Tests of Normality will be run to make sure that the Collocation Test scores for the experiment and control group have a normal distribution. If there is not any normal distribution of data, Mann-Whitney U, which is a non- parametric statistical test, will be conducted to determine the presence of any

statistically significant difference in the mean scores of the Collocation Test for both groups at the starting point of the research. Then, mean scores of the Collocation Test for the control group and the experimental group will be computed.

The independent variable for Research Question #1a (Does teaching L2 collocations through graphic organizers have any possible effect on upper-intermediate level prep students' L2 receptive vocabulary recall in a formal EFL context at a Turkish university?) was L2 collocation teaching through graphic organizers and the students' L2 receptive vocabulary recall was determined as the dependent variable. Assumptions of the test will be checked and, if they are met, an Independent Samples t-test will be administered to analyze the immediate posttest scores of the experiment and control group and to determine if there is any statistical evidence that the posttest scores of the both groups significantly differ because of the intervention that the experimental group will receive in the study. Yet, if the test assumptions are not met, its non-parametric version, Mann-Whitney Test (Independent Samples), will be run.

The independent variable for Research Question #1b (Does teaching L2 collocations through graphic organizers have any possible effect on upper-intermediate level prep students' L2 receptive vocabulary retention in a formal EFL context at a Turkish university?) was L2 collocation teaching through graphic organizers and the students' L2 receptive vocabulary recall after a two-week break taken after the immediate posttest was determined as the dependent variable. Similarly, assumptions of the test will be checked and, if they are met, an Independent Samples t-test will be administered to analyze the delayed posttest scores of the control and experimental groups and to determine whether there is any statistical evidence that the delayed posttest scores of both groups will significantly differ due to the treatment that the experiment group will receive in the study. Yet, if the test assumptions are not passed, its non-parametric version, Mann-Whitney Test (Independent Samples), will be run.

3.6.1. Checking the Assumptions: Collocation Test

Before conducting a statistical analysis on the Collocation Test scores, some assumptions were studied.

The first assumption was passed since the dependent variable, Collocation Test scores, was measured at the internal or scale level.

The second assumption was also passed as the independent variable contained two independent categorical groups, the experimental and the control group.

The third assumption was fulfilled since there were independent observations, that is to say, no relationship was found in the observations between the groups themselves or in each group. There were different participants in each group and no participants were in more than one group during the study.

The fourth assumption entailed having no significant outliers since outliers may negatively affect the standard deviation and mean of the Collocation Test scores. To that end, histograms were run to determine the presence of any outliers in the Collocation Test scores of both groups.

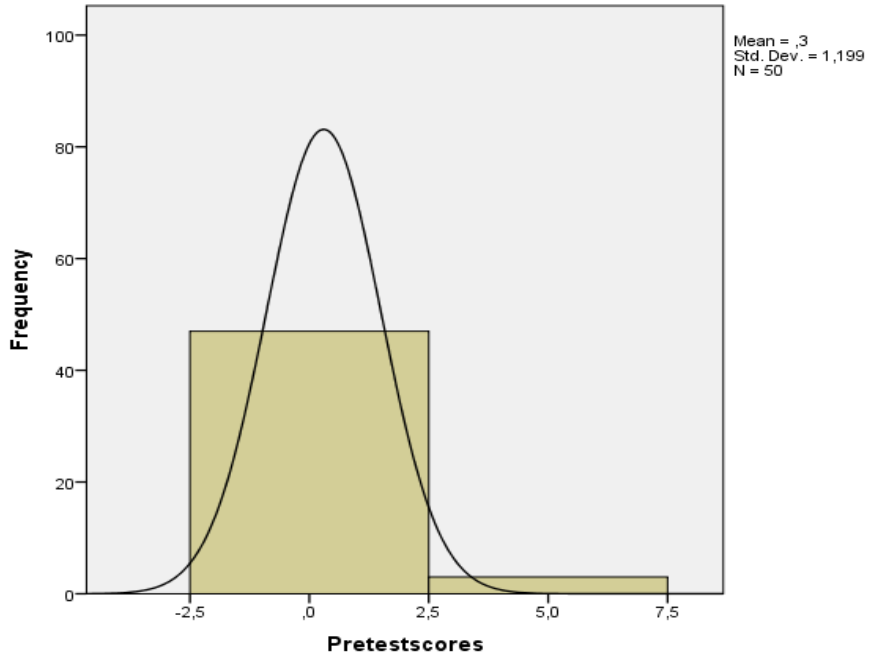

Figure 7. Histogram of Collocation Test Scores

Figure 7 shows that there were not any significant outliers or extreme values detected in the Collocation Test scores. There was not any sample or any event that was very inconsistent with the rest of the data set. Therefore, the fourth assumption was passed, too.

The fifth assumption stipulated that there should be normal distribution in the Collocation Test scores. To understand this, Tests of Normality were run to determine whether the data had normal distribution. Table 5 displays the Normality Tests statistics.

Table 5. Normality Tests of the Collocation Test Scores

		Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Groups	Statistic	Df	Sig.	Statistic	df	Sig.
Collocationtestscores	Control Group	,534	25	,000	,308	25	,000
	Experimental Group	,539	25	,000	,203	25	,000

a. Lilliefors Significance Correction

A visual inspection of the histograms and a Shapiro-Wilk's test ($p < .05$) displayed that the Collocation Test scores had no normal distribution for the control and the experimental group with a skewness of 3.298 (SE=0.464) and a kurtosis of 9.641 (SE=0.902) for the control group; a skewness of 5.000 (SE=0.464) and a kurtosis of 25.000 (SE=0.902)

for the experimental group. Therefore, the null hypothesis that the Collocation Test data was normally distributed was rejected.

3.6.2. Checking the Assumptions: Immediate Posttest

Before conducting a statistical analysis on the immediate posttest scores, some assumptions were studied.

The first assumption was passed since the dependent variable, immediate posttest scores, was measured at the internal or scale level.

The second assumption was also passed as the independent variable contained two independent categorical groups which were made up of the experimental and the control group.

The third assumption was fulfilled since there were independent observations, which means that no relationship was found in the observations between the groups themselves or in each group. There were different participants in each group and no participants were in more than one group during the study.

Assumption four entailed having no significant outliers since outliers may negatively affect the standard deviation and mean of the immediate posttest scores. To that end, histograms were run to determine the presence of any outliers in the immediate posttest scores of both groups.

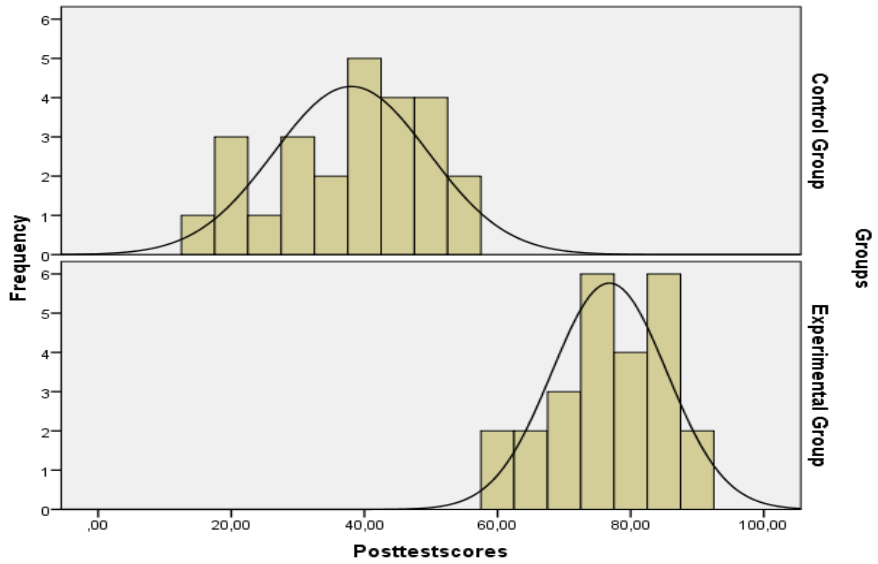

Figure 8. Histogram of the immediate posttest scores

Figure 8 shows that there were not any significant outliers or extreme values detected in the immediate posttest scores. There was not any sample or any event that was very inconsistent with the rest of the data set. Hence, the fourth assumption was passed.

The fifth assumption stipulates that there should be normal distribution in the dependent variable (immediate posttest scores) for each group of the independent variable. In order to test this, tests of normality were run to determine whether the data had normal distribution. Table 6 displays the Tests of Normality statistics of the Immediate Posttest scores for the experimental and control group.

Table 6. Normality Tests of the Immediate Posttest Scores

		Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Groups	Statistic	df	Sig.	Statistic	df	Sig.
Posttestscores	Control Group	,168	25	,066	,938	25	,135
	Experimental Group	,149	25	,160	,938	25	,132

a. Lilliefors Significance Correction

A visual check of the histograms and Shapiro-Wilk's test ($p > .05$) showed that the immediate posttest scores had normal distribution for the control and the experiment group with a skewness of -0.440 (SE=0.464) and a kurtosis of -0.801 (SE=0.902) for the control group (p=0.135); a skewness of -0.400 (SE=0.464) and a kurtosis of -0.610 (SE=0.902) for

the experimental group (p=0.132). Therefore, the null hypothesis that the immediate posttest data had a normal distribution was retained.

The sixth assumption entails that the variances are homogenous. To investigate this assumption, Levene's test for homogeneity of variances was run to determine if variances between the two groups were equal or not. Table 7 shows Levene's test statistics for the homogeneity of variances between the experimental and the control group in the immediate posttest scores.

Table 7. Levene's Test Statistics of the Immediate Posttest Scores

Levene Statistic	df1	df2	Sig.
2,574	1	48	,115

Since the significance value ($p > .05$) in the Levene's test was above 0.05 (p=.115), the variances between the two groups could be treated as equal, so the assumption on the homogeneity of variances was kept and the null hypothesis was accepted (H_0: $u_1 = u_2$).

3.6.3. Checking the Assumptions: Delayed Posttest

Similarly, before conducting a statistical analysis on the delayed posttest scores, some assumptions were checked.

The first assumption was passed since the dependent variable, delayed posttest scores, was measured at the internal or scale level.

The second assumption was also passed as the independent variable contained two independent categorical groups which were made up of the experimental and the control group.

The third assumption was fulfilled since there were independent observations, which means that there were different participants in each group and no participants were in more than one group during the study.

Assumption four entailed having no significant outliers since outliers may negatively affect the standard deviation and mean of the delayed posttest scores. To that end, histograms

were run to determine the presence of any outliers in the delayed posttest scores of both groups.

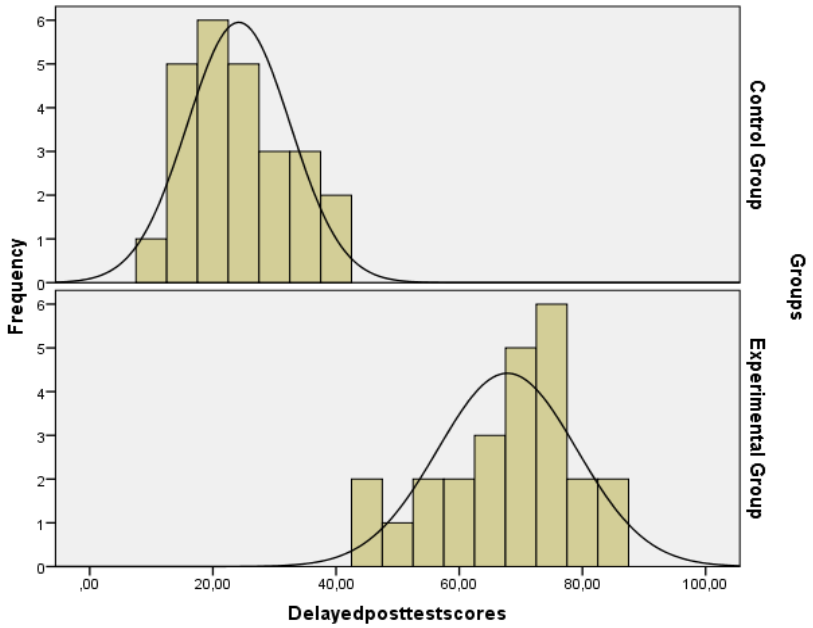

Figure 9. Histogram of the delayed posttest scores

Figure 9 shows that there were not any significant outliers or extreme values detected in the delayed posttest scores. There was not any sample or any event that was very inconsistent with the rest of the data set. Hence, the fourth assumption was passed.

The fifth assumption stipulates that the delayed posttest scores as the dependent variable should have a normal distribution for each group of the independent variable. To check this, Tests of Normality were run to test the normal distribution of the data. Table 8 displays the Tests of Normality statistics for the delayed posttest scores of the experimental and control group.

Table 8. Tests of Normality Statistics of the Delayed Posttest Scores

		Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Groups	Statistic	df	Sig.	Statistic	df	Sig.
Delayedposttestscores	Control Group	,172	25	,055	,938	25	,130
	Experimental Group	,177	25	,041	,937	25	,126

a. Lilliefors Significance Correction

A visual inspection of the histograms and Shapiro-Wilk's test ($p > .05$) showed that the delayed posttest scores had normal distribution for the control and the experimental group with a kurtosis of -0.728 (SE=0.902) and a skewness of 0.389 (SE=0.464) for the control group (p=0.13); a kurtosis of -0.315 (SE=0.902) and a skewness of -0.582 (SE=0.464) for the experimental group (p=0.12). Therefore, the null hypothesis that the delayed posttest data was normally distributed was retained.

The sixth assumption stipulates that there is homogeneity of variances. To check this assumption, Levene's test for homogeneity of variances was run to determine if the variances between the two groups were equal or not. In Table 9, Levene's test statistics for the homogeneity of variances in the delayed posttest scores for both groups are displayed.

Table 9. Levene's Test of the Delayed Posttest Scores

Levene Statistic	df1	df2	Sig.
1,914	1	48	,173

Since the significance value ($p > .05$) of the Levene's test was above 0.05 (p=.173), the variances between the two groups could be treated as equal, so the assumption of the homogeneity of variances was retained and the null hypothesis was accepted (H_0: $u_1 = u_2$).

3.6.4. Summary

In this chapter, setting of the research, participants, instruments for data to be collected, procedure for collection of data, and analysis of data were explained by defining the independent and dependent variables and how each variable was measured to answer the research questions. Moreover, statistical assumptions of the Collocation Test, Immediate Posttest and Delayed Posttest were checked and analysed extensively.

Chapter IV: Results and Discussion

Findings gathered from the present study were separated into four categories. In the first place, findings of the Collocation Test were analysed by using SPSS and examined in detail. Then, the findings of the posttests, immediate and delayed, were analysed and examined in detail respectively.

4.1.1. Collocation Test Scores

After the statistical assumptions were mostly met, mean scores of the Collocation Test for the experimental and control group were computed. The results are displayed in Table 10.

Table 10. Statistics of the Collocation Test Scores

Groups	Mean	Std. Deviation	Minimum	Maximum	Sum	Median	N
Control Group	,40	1,384	0	5	10	,00	25
Experimental Group	,60	1,658	0	5	5	,00	25
Total	,50	1,515	0	5	15	,00	50

Since the Collocation Test data had no normal distribution, Mann-Whitney U, which is a non-parametric statistical test, was administered to determine any statistically significant difference in the mean scores of the Collocation Test for the control and experimental group on the onset of the study. In Table 11, the test statistics are displayed.

Table 11. Statistics of the Collocation Test Scores for Mann-Whitney U Test

Mann-Whitney U	300,000
Wilcoxon W	625,000
Z	-,590
Asymp. Sig. (2-tailed)	,556

a. Grouping Variable: Groups

The Mann-Whitney U Test manifested that there wasn't any statistically significant difference in the mean of the Collocation Test scores between the control and experimental group (p=0.556).

According to these results, the learners didn't know or were unfamiliar with nearly 90-95% of L2 collocations at the beginning of the study. Therefore, the null hypothesis that no difference was found in the mean scores of Collocation Test for both groups was retained

(H_0: $u_1 = u_2$). In Figure 10, Hypothesis Test Summary for the Mann-Whitney U Test is displayed.

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The distribution of Pretestscores is the same across categories of Groups.	Independent-Samples Mann-Whitney U Test	,556	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is ,05.

Figure 10. Hypothesis test summary for the Mann-Whitney U Test

4.1.2. Immediate Posttest Scores

After the statistical assumptions were met, mean scores of the immediate posttests for both groups as well as other descriptive statistics for each group were computed. Table 12 shows these statistics.

Table 12. Descriptive Statistics of the Immediate Posttest Scores

Groups	Mean	N	Std. Deviation	Minimum	Maximum	Sum	Median
Control Group	38,0000	25	11,63687	15,00	55,00	950,00	40,0000
Experimental Group	76,8000	25	8,64581	60,00	90,00	1920,00	75,0000
Total	57,4000	50	22,06761	15,00	90,00	2870,00	57,5000

As it is clear from Table 12 above, the mean score of the control group is 38, whereas that of the experimental group is 76.8. These results patently manifest that the students in the experiment group scored twice as much as the students in the control group. The highest score the control group gained is 55, while the highest score the experimental group gained is 90, which could lead to the conclusion that teaching L2 collocations through graphic organizers may have positively affected the upper-intermediate level prep students' recall of L2 collocations.

In the next stage, an Independent Samples t-test was administered to determine whether the posttest scores of the two groups significantly differed because of the treatment that the experiment group had received in the study. Table 13 shows the Group Statistics for

the posttest scores of the control and experimental group and Table 14 displays the Independent Samples t-test Statistics for the immediate posttest scores of both groups.

Table 13. Group Statistics of the Immediate Posttest Scores

	Groups	N	Mean	Std. Deviation	Std. Error Mean
Posttestscores	Control Group	25	38,0000	11,63687	2,32737
	Experimental Group	25	76,8000	8,64581	1,72916

An Independent Samples t-test was run to compare the immediate posttest scores for both groups. The results showed that a significant difference was found in the immediate posttest scores for the control group (M=38, SD=11.63) and the experimental group (M=76.8, SD=8.64); t (48) =-13.38, p=0.00; d=.789.

Table 14. Independent Samples t-test Statistics of the Immediate Posttest Scores

	t-test for Equality of Means						
	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
						Lower	Upper
Posttestscores	-13,382	48	,000	-38,80000	2,89943	-44,629	-32,970
	-13,382	44,30	,000	- 38,80000	2,89943	-44,642	-32,957

As it is seen in Table 15, the effect size of this analysis F (1, 48) =179.077, p=.000 was found to almost match a large effect (d=.80) in the Cohen's (1988) convention.

Table 15. Tests of Effect Sizes of the Immediate Posttest Scores

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	18818,000[a]	1	18818,000	179,077	,000	,789
Intercept	164738,000	1	164738,000	1567,689	,000	,970
Groups	18818,000	1	18818,000	179,077	,000	,789
Error	5044,000	48	105,083			
Total	188600,000	50				
Corrected Total	23862,000	49				

R Squared = ,789 (Adjusted R Squared = ,784)

These results suggest that teaching L2 collocations through graphic organizers has a statistically significant effect on upper-intermediate level prep students' L2 vocabulary recall. The results specifically indicate that when L2 collocations are taught to students in the

experiment group through visually enhanced graphic organizers, they recall them for a more extended period of time than those in the control group.

4.1.3. Delayed Posttest Scores

After the statistical assumptions were met, mean scores of the delayed posttests for the control group and the experimental group as well as other descriptive statistics for each group were computed. Table 16 shows these statistics.

Table 16. Descriptive Statistics of the Delayed Posttest Scores

Groups	Mean	N	Std. Deviation	Minimum	Maximum	Sum	Median
Control Group	24,2000	25	8,37655	10,00	40,00	605,00	25,0000
Experimental Group	67,8000	25	11,28051	45,00	85,00	1695,00	70,0000
Total	46,0000	50	24,11706	10,00	85,00	2300,00	42,5000

Table 16 shows that the mean score of the control group is 24.20, whereas that of the experimental group is 67.80. These results patently manifest us that the students in the experimental group gained scores almost three times as much as those in the control group.

The highest score in the control group is 40, while that in the experimental group is 85, which could lead to the conclusion that teaching L2 collocations through graphic organizers had a greatly positive effect on upper-intermediate level prep students' L2 vocabulary retention. To put it another way, the students in the experimental group could retain L2 collocations in their memory much better than those in the control group. The reason why the mean of the delayed posttest scores for the control group was much lower is that the students in the control group didn't get subject to any explicit and direct L2 collocation instruction through GOs during the study.

In the subsequent stage, an Independent Samples t-test was conducted to determine the presence of any evidence that the delayed posttest scores of two groups significantly differed because of the treatment and the two-week break which was taken after the immediate posttest was run. Table 17 displays the Group Statistics and Table 18 displays the Independent Samples t-test Statistics for the delayed posttest scores of the control and experimental group.

Table 17. Group Statistics of the Delayed Posttest Scores

	Groups	N	Mean	Std. Deviation	Std. Error Mean
Delayedposttestscores	Control Group	25	24,2000	8,37655	1,67531
	Experimental Group	25	67,8000	11,28051	2,25610

An Independent Samples t-test was run to compare the delayed posttest scores for the control and experimental group. According to the results, the delayed posttest scores significantly differed between the control group (M=24.20, SD=8.37) and the experimental group (M=67.80, SD=11.28); t (48) =-15.51, p=0.00; d=.834.

Table 18. Independent Samples t-test Statistics of the Delayed Posttest Scores

	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference Lower	Upper
Delayed posttestscores	-15,51	48	,000	-43,600	2,81010	-49,2500	-37,9499
	-15,51	44	,000	-43,600	2,81010	-49,2623	-37,9376

As it is clearly observed in Table 19, the effect size of this analysis F (1, 48) =240.729, p=.000 was found to match a large effect (d=.80) in the Cohen's (1988) convention.

Table 19. Tests of Effect Sizes of the Delayed Posttest Scores

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	23762,000[a]	1	23762,000	240,729	,000	,834
Intercept	105800,000	1	105800,000	1071,845	,000	,957
Groups	23762,000	1	23762,000	240,729	,000	,834
Error	4738,000	48	98,708			
Total	134300,000	50				
Corrected Total	28500,000	49				

a. R Squared =, 834 (Adjusted R Squared =, 830)

These results suggest that teaching L2 collocations through visually enhanced graphic organizers had a statistically significant effect on upper-intermediate level prep students' L2 vocabulary retention. The results specifically indicate that when L2 collocations are taught to students in the experiment group through graphic organizers which are rich in visual and textual input, they retain them in their memory for a more extended period of time than the students in the control group do. This could be accounted for with the view that using GOs

"facilitates access and recall of information through rehearsal, which is the presentation again or reformulation of information to either oneself or to others (Frumkin, 2010, p.59).

All in all, the results of the study manifested that the teaching model of L2 collocations through GOs significantly affected the collocation learning of students, both in terms of vocabulary recall (Research Question # 1a) and vocabulary retention (Research Question # 1b).

The comparison of the test scores between the two groups showed that the control group failed to achieve high scores both in the immediate posttest and delayed posttest because of the great likelihood that the students in the control group were not exposed to any explicit and direct teaching of L2 collocations in any way or any input enhancement techniques, so they failed to master the meaningful learning of the collocations in the study.

These higher scores on behalf of GOs could be attributed to some factors which are worth noting:

First of all, the present study demonstrates that the students in the experimental group had easier access, recall and retention of L2 collocations by means of presentation, reformulation and visual representation of these words which were illustrated and depicted in the form of GOs.

The second point which should not be overlooked is that GOs could be used to teach concepts effectively and to enable students to use meaningful context to learn vocabulary (Alberta Education, 2007). In this study, the L2 collocations were used to create meaningful context to teach vocabulary with a technique that would make sense for the students in the experimental group.

The third point is that the treatment lasted for five weeks. In such a period of time, the experimental group students practised and built on their vocabulary knowledge using GOs. In the current study, a rich and a meaningful context to teach collocations was created with the

help of GOs and the students were involved in a “deeper level of processing information” (Peregoy, 2008) as they dealt with making sense of the L2 words effectively.
GOs enabled the experimental group students to visually see and become aware of the linguistic features of the L2 collocations.

The last point which is worth noting is that the employment of visual inputs through textual input enhancement might have accounted for the statistically significant difference in the overall test scores of both groups. In the current study, L2 collocations which were written bold-faced in the GOs were typographically manipulated so as to increase their perceptual and physical saliency. Therefore, the chance of their being noticed was greatly increased and it possibly gathered more attention from the students and this paved the way for an easier input processing. Due to the lack of input enrichment or input flooding as a technique to teach L2 collocations, the students in the control group received much lower scores in posttests than those in the experimental group.

4.1.4. Summary

To sum up, the students in the experimental group outperformed those in the control group both in the immediate posttest and delayed posttest scores in terms of recalling and retaining the L2 target collocations that were instructed to the students in the experimental group through graphic organizers which were visually enhanced. Because the students in the control group were not exposed to any teaching of L2 collocations in any way or any input enhancement techniques, they scored much poorer in both tests. This study clearly showed us how important and effective it was to illustrate, visualize and reformulate L2 collocations by creating a meaningful context. In this sense, GOs were used as a means to create a meaningful context. Thanks to the fact that the linguistic features of L2 collocations were increased in saliency, the experimental group students processed the linguistic information depicted by GOS in a deeper level.

It is also highly likely that teaching the L2 collocations through GOs simplified and clarified the teaching and the learning process, giving the students an opportunity to greatly contribute to their vocabulary learning process. As the GOs were harnessed as visual cues, it aided in the recall and retention of L2 collocations and thus learning was immensely facilitated and a deeper understanding of vocabulary knowledge was reached.

In the next chapter conclusions which could derive from the research will be addressed.

Chapter V: Conclusions

5.1. Conclusions

This study has shown that effective and meaningful recall and retention can be aided through the use of GOs as a teaching technique of L2 collocations. To start with, students who utilised GOs as an effective learning strategy outperformed those who used discussion with co-students (De Backer and Chularu, 2004), underlining (Amer, 1994) and outlining (Robinson and Kievra, 1995).

Studies have also shown that teaching L2 vocabulary through the use of GOs helps students grasp different levels of word meaning that are not merely made up of definitions in the dictionary and use their personal knowledge (Gleason and DiCecco, 2002).

Explicit and direct vocabulary teaching was among the most important underpinnings of the present study (Oxford, 2003). Teaching L2 collocations explicitly and directly enabled the students to notice some specific particular features of collocations.

Also, it was clear that the findings of the study corresponded to the principles and premises of the Noticing Hypotheses (Schmidt, 1992). In this research, L2 collocations were learned effectively since the students in the experimental group were made aware of their presence and the input at the level of 'noticing'. As Schmidt (1992) noted, input cannot become intake for a language learner unless it is consciously recorded. In this research, the employment of GOs, which were visually and textually enhanced, has been the primary facilitator and driving force for 'noticing' to occur and to convert 'input' into 'intake'.

Moreover, the findings of the study were seen to be in accord with Cognitive Learning Theory (Piaget, 1936) since the use of GOs in this study led to meaningful vocabulary learning as a whole (Zaini, Mokhtar and Nawawi, 2010). Accordingly, it is highly likely that the GOs used in this study resulted in low cognitive load and the working memory became

actively engaged in the comprehension and processing of L2 collocations so that they were easily encoded in the long-term memory (Paas, Renkl & Sweller, 2003).

These findings confirm that not teaching L2 collocations explicitly and consciously through GOs or in any other vocabulary teaching technique does not help students acquire the meaning of new words or semantic connection between the words. A vivid example of this was that the students in the control group in this study were neither exposed to nor pre-taught with L2 collocations in any form and thus, couldn't notice the L2 collocations well enough to convert input into intake, so they scored much poorly both in the immediate posttest and delayed posttest.

Another reason why the students in the experimental group scored much higher in the immediate and delayed posttest could be due to the employment of the technique of textual and visual enrichment, which is a type of input enrichment. Combination of the textual enhancement with explicit teaching led to higher effectiveness of it in the present study. Thus, the present study may support the claims that focus-on-form method of teaching draws learners' attention to form in a generally meaning-oriented activity (Lee, 2007). The use of input enrichment in the form of writing the collocating words in bold-face in the GOs may have resulted in the great difference in the immediate and delayed posttest scores of the control and the experimental group as the visual inputs used in this study might have greatly enabled the students in the experiment group to recall and retain the L2 collocations better.

To conclude, the results of the current study showed that GOs are a means for students not only to attain strong L2 vocabulary but they also serve other significant functions as well. GOs have also been useful for connecting prior knowledge to new information (Guastello, 2000), combining language and thought in an organized way, organizing the writing process (Ellis, 1994) and engaging in mid-to high levels of thinking along Bloom's Taxonomy (application, analysis, evaluation, and synthesis) (Dodge, 2005).

5.2. Limitations

There are some limitations of the current study that should be noted and that may be used to suggest directions for future research. The first limitation of the study which is worth noting is that there was a limited time span. Only 10 minute in one class hour was able to be assigned to teach L2 collocations through GOs due to the time constraints imposed on the instructor who had applied the L2 collocation teaching instructions and the treatment. The results could have been different if much more amount of time could be assigned to teach a greater number of L2 collocations in the intervention stage. To further validate the findings of the study, a longer time span for treatment could be required for future studies.

Also, the study was quasi – experimental due to the presence of intact classes, so random assignment of students into groups was not available. Participants of the study were not selected at random, so the findings of the study cannot be generalized to all educational settings and language levels since the study focused only on young upper-intermediate learners of EFL who were learning English compulsorily in the prep school of a university.

Over and above this, no vocabulary teaching technique was pretaught or taught to the students in the control group while the students in the experimental group received intervention, so there was not any other vocabulary teaching technique with which the achievement scores and means of the experimental group students in the tests could be compared or contrasted with those of the control group students. The findings of the study could have greatly differed if there had been one more experimental group and/or/ control group who received the instruction of the given L2 collocations through any different vocabulary teaching technique.

Moreover, as Papathanasiou (2009) showed in her study, learners' proficiency levels might affect the results of studies which are based on vocabulary instruction techniques. More lower level learners need to be studied as well so as to reach a coherent and reasonable

conclusion on whether GOs have more positive and long-lasting effect in elementary and pre-intermediate EFL learners.

Furthermore, the study focused on one dimension of vocabulary, collocational meaning, and studied it from two perspectives (recall and retention) with a receptive aspect. It is yet to be seen if other dimensions of vocabulary could be effectively taught with the help of GOs.

Additionally, this study aimed to investigate the effects of only one vocabulary teaching technique on L2 receptive vocabulary recall and retention but did not take into account its influence on the teaching of other skills. Tests and treatment were all related to recall and retention of L2 vocabulary. However, there is also a productive dimension of word knowledge which should also be taken into account. For this reason, the findings of this study do not represent the effects of the vocabulary teaching technique for all aspects of vocabulary teaching.

Finally, this study focused on contrasting the performance of two groups of students. As a result, individual differences in students' performance were not explored in greater depth.

5.3. Implications

Although this study was conducted on a limited set of collocations, it does yield some pedagogical implications that need to be taken into consideration by EFL teachers, educators, textbook writers and syllabus designers.

Given that previous studies as well as this study have yielded evidence of the greater positive effect of GOs in teaching L2 collocations, a novel and viable vocabulary teaching approach which effectively engages GOs in the teaching of not only L2 collocations, but also of other word features might be required in the design of syllabus and action plan in general, academic and ESP courses.

Therefore, teachers may gain favour more in illustrating and depicting L2 collocations via visually enhanced GOs, thus helping their students link their previous knowledge on the target word with the new knowledge which will be formed with the help of connections and associate the words with the students' personal experiences and their world knowledge.

Explicit and conscious vocabulary teaching techniques through visual inputs should be laid heavy emphasis and its principles and guidelines should be stated in detail in the curricula and syllabi of L2 vocabulary teaching. Moreover, they should be applied extensively in formal classroom settings to teach L2 collocations to students at every level of proficiency.

As Shoari and Farokhi (2014) put it, EFL teachers could harness GOs to make their students learn independently by discovering, consolidating, brainstorming and remembering new words as well as integrating them with L2 collocation teaching. GOs could be enjoyed in student books by student book writers to add diversity, novelty and attraction to L2 vocabulary instruction in a fashion which would give the ELLs just 'a breath of fresh air' from the dull and dismal task of vocabulary teaching.

5.4. Recommendations for Future Research

For further research, the efficacy of teaching L2 vocabulary with the help of graphic organizers on vocabulary recall and retention may be investigated and compared to several methods and strategies of teaching vocabulary, which have previously been overwhelmed and dominated by traditional instruction at the early stages of EFL vocabulary teaching.

Therefore, there is a stubborn fact that EFL teachers, syllabus designers, material developers and textbook writers need to sift through current vocabulary teaching methods and techniques, as teaching materials should be designed properly in accordance with the findings yielded from various research. On that account, for further studies, other aspects of vocabulary knowledge need to be addressed.

Another research area of interest may be replicating this study with an increase in the sample size and the number of L2 collocations for a more extended period of time, or replicating it with students with different language proficiency levels.

REFERENCES

Adolphs, S., & Schmitt, N. (2004). Vocabulary coverage according to spoken. *Vocabulary in a second language: Selection, acquisition, and testing, 10,* 39.

Alberta Education. (2007. English as a second language: Guide to implementation Kindergarten to grade 9. *Alberta Education.* Retrieved from http://education.alberta.ca/media/507659/eslkto9gi.pdf

Al-Hinnawi, A. N. (2012). The Effect of the Graphic Organizer Strategy on University Students' English Vocabulary Building. *English Language Teaching*, *5* (12), 62-69.

Altuwairesh, N. S. (2016). Teaching collocations in EFL classroom. *Arab World English Journal (AWEJ), 7* (4), 13-20.

Amer, A. A. (1994). The effect of knowledge-map and underlining training on the reading comprehension of scientific texts. *English for Specific Purposes, 13,* 35-45.

Beck, I. L., Mckeown, M. G., & Kucan, L. (2002). *Bringing words to life: Robust vocabulary instruction.* New York: Guilford.

Benson, M., Benson, E., & Ilson, R. (1986). Lexicographical description of English.

Boers, F., Demecheleer, M., He, L., Deconinck, J., Stengers, H., & Eyckmans, J. (2017). Typographic enhancement of multiword units in second language text. *International Journal of Applied Linguistics, 27* (2), pp. 448-469.

Boudah, D. J., Lenz, B. K., Bulgren, J. A., Schumaker, J. B., & Deshler, D. D. (2000). Don't water down! Enhance content learning through the unit organizers routine. *Teaching Exceptional Children, 1,* 1-9.

Brown, D. (1974). Advanced vocabulary teaching: The problem of collocation. *RELC Journal, 5* (2), 1–11.

Cariana, R. B., & Lee, D. (2001). The effects of recognition and recall study tasks with feedback in a computer-based vocabulary lesson. *Educational Technology Research & Development, 49* (3), 23-26.

Carter, R. (1998). Vocabulary: Applied Linguistic Perspectives. London: Routledge.

Channell, J. (1981). Applying semantic theory to vocabulary teaching. *ELT Journal, 35* (2), pp. 115-122.

Cohen, J. (1988). Statistical power analysis for the behavioural sciences (2nd ed.). Hillsdale, NJ: Lawrence Earlbaum Associates.

Cowie, A. P. (2009). *Semantics*. Oxford: Oxford University Press.

DiCecco, M.V., & Gleason, M. M. (2002). Using graphic organizers to attain relational knowledge from expository text. *Journal of Learning Disabilities, 35* (4), pp. 306-320. doi: 10.1177/00222194020350040201

Dodge, J. (2005). *Differentiation in action.* New York: Scholastic Inc.

Durkin, D. (1979). What classroom instruction has to say about reading comprehension instruction. *Reading Research Quarterly, 14,* pp. 481-533.

Ellis, E. S. (1994). Integrating writing instruction with content-area instruction: Part II: Writing processes. *Intervention in School and Clinic, 29*(4), 219-230.

Ellis, E. (2004). Q and A: what's the big deal with graphic organizers? Retrieved from http://www.graphicorganizers.com/Sara/ArticlesAbout/Q&A%20 Graphic%20 Organizers.pdf

Ellis, R. (2001). Introduction: Investigating form-focused instruction. *Language Learning, 51 (*1), pp. 1–46.

Fahim, M., & Vaezi, R. (2011). Investigating the effect of visually-enhanced input on the acquisition of lexical collocations by Iranian intermediate EFL learners: A case of verb-noun lexical collocations. *Journal of Language Teaching and Research, 2* (3), pp. 552 -.560.

Folse, K. (2004). Myths about teaching and learning second language vocabulary: what research says. *TESL Reporter* 37 (2), pp. 1-13.

Frumkin, R. (2010). Vocabulary plus: Comprehensive vocabulary instruction for English learners. *The Language and Literacy Spectrum, 20,* pp. 53-68.

Gallavan, N. P., & Kottler, E. (2007). Eight types of graphic organizers for empowering social studies, students and teachers. *The Social Studies, 98* (3), pp. 1-117.

Gil-Garcia, A., & Villegas, J. (2003). Engaging minds, enhancing comprehension and constructing knowledge through visual representations. *Word Association for Case Method Research and Application Conference.* France.

Guastello, E. F. (2000). Concept mapping effects on science content comprehension of low-achieving inner-city seventh graders. *Remedial and Special Education, 21* (6), pp. 1-356.

Hall, G. (2016). The Routledge Handbook of English Language Teaching. New York: Routledge.

Hall, T., & Strangman, N., (2008). *Graphic Organizers*. New York, NY: Cast.

Harmer, J. (2007). The Practice of English Language Teaching. Harlow: Longman Publishing.

Harrison, T. (2009). *What's in a wordle: vocabulary learning made fun*. IATEFL Conference: Cardiff.

Henriksen, B. (2013). Research on L2 learners' collocational competence and development: A progress report. In C. Bardel, C. Lindqvist & B. Laufer (Eds.), *L2 vocabulary acquisition, knowledge and use: New perspectives on assessment and corpus analysis* (pp. 29–56). Amsterdam, Netherlands: Eurosla.

Hulstijn, J. H. (2013). Incidental learning in second language acquisition. In C. A. Chapelle (Ed.), the encyclopaedia of applied linguistics (Vol. 5, pp. 2632-2640). Chichester: Wiley-Blackwell. Retrieved from https://doi.org/10.1002/9781405198431.wbeal0530

Hummel, K. M. (2013). *Introducing second language acquisition: Perspectives and practices*. UK: John Wiley & Sons.

Hyland, K. (2008). As can be seen: Lexical bundles and disciplinary variation. *English for Specific Purposes, 27*, pp. 4-21.

Izumi, S. (2002). Output, input enhancement, and the noticing hypothesis: An experimental study on ESL relativization. *Studies in Second Language Acquisition, 24*, pp. 541–577.

Kang, S. (2004). Using visual organizers to enhance EFL instruction. *ELT Journal, 58* (1), pp. 58-67.

Kennedy, G. (2003). Amplifier collocations in the British National Corpus: implications for English language teaching. *TESOL Quarterly, 37* (3), pp. 467- 487.

Laufer, B. (1998). The development of passive and active vocabulary in a second language: same or different? *Applied Linguistics, 19,* pp.255-271.

Laufer, B. (2006). Comparing focus on form and focus on forms in second-language vocabulary learning. *Canadian Modern Language Review,* 63 (1), pp. 149–66.

Laufer, B., & Goldstein, Z. (2004). Testing vocabulary knowledge: size, strength, and computer adaptiveness. *Language Learning, 54*, pp. 399-436.

Laufer, B., & Paribakht, T.S. (1998).The relationship between passive and active vocabularies: Effects of language learning context. *Language Learning, 48,* pp. 365-391.

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

Lee, S. K. (2007). Effects of textual enhancement and topic familiarity on Korean EFL students' reading comprehension and learning of passive form. *Language learning,* pp. *57* (1), 87-118.

Lee, S. K., & Huang, H. T. (2008).Visual input enhancement and grammar learning: a meta-analytic review. *Studies in Second Language Acquisition, 30,* pp. 307–31.

Lennon, P. (1990). Investigating fluency in EFL: A quantitative approach, *Language Learning, 40,* pp. 387-417.

Lewis, M. (1993). The Lexical Approach. Hove: Language Teaching Publications.

Lewis, M. (2000). Language in the lexical approach. Teaching collocation: Further developments in the lexical approach (pp.155-184) London: Language Teaching Publications.

Lewis, M. (2002). Implementing the lexical approach: putting theory into practice. Boston: Thomson Learning Inc.

Lindstromberg, S. (1985). Schemata for ordering the teaching and learning of vocabulary. *ELT Journal, 39* (4), pp. 235-243.

Llach, M. P., & Gallego, M. (2009). Exploring the increase of receptive vocabulary knowledge in the foreign language: A longitudinal study. *International Journal of English Studies, 9* (1), pp. 113-133.

Long, M. H. (1991). Focus on form: A design feature in language teaching methodology. *Foreign Language Research in Cross-Cultural Perspective, 2* (1), pp. 39-52

Lubin, J., & Sevak, M. (2007). Enhancing learning through the use of graphic organizers: a review of the literature. *Lynchburg College Online Journal of Special Education, 4,* pp. 1-37.

Meara, P. (2002). The rediscovery of vocabulary. *Second Language Research, 18* (4), pp. 393-407.

Moore, D., & Readance, J. (1984). A quantitative and qualitative review of graphic organizers research. *Journal of Educational Research, 78* (1), pp.11-17.

Nation, I. S. P. (1994). New ways in teaching vocabulary. Alexandria, VA: TESOL.

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

Nattinger, J. R. (1980). A lexical phrase grammar for ESL. *TESOL Quarterly*, *14* (3), pp. 337-344.

Nesselhauf, N. (2003). The use of collocations by advanced learners of English and some implications for teaching. *Applied Linguistics, 24,* pp. 223-42.

Nilforoushan, S. (2012). The effect of teaching vocabulary through semantic mapping on EFL learners' awareness of the affective dimensions of deep vocabulary knowledge. *English Language Teaching, 5* (10), pp. 164-172.

Norris, J. M., & Ortega, L. (2000). Effectiveness of L2 instruction: A research synthesis and quantitative meta-analysis. *Language learning*, *50* (3), pp. 417-528.

Nunan, D. (1999). *Second Language Teaching and Learning.* Boston, MA: Heinle and Heinle Publishers.

Oxford, R. L. (2003). Language learning styles and strategies: An overview. *International Review of Applied Linguistics in Language Teaching, 41* (4), pp.271–78.

Oztina, S. (2009). Effects of input flood and negative evidence on learning of make/do collocations: A study with seventh grade Turkish EFL students. (MA Thesis). Anadolu University, Tepebaşı / Eskişehir, Turkey.

Paas, F., Renkl, A, & Sweller, J. (2003). Cognitive load theory and instructional design: Recent developments. *Educational Psychologist, 38* (1), pp. 1-14.

Papathanasiou, E. (2009). An investigation of two ways of presenting vocabulary. *ELT Journal, 63*, pp. 313-322.

Pawley, A., & Syder, F. (1983). Two puzzles for linguistic theory: native-like selection and native-like fluency. In Richards, J., & Schmidt, R. (Eds.). *Language and communication*. New York: Longman Group Limited.

Peregoy, S. (2008). *Reading, writing and learning in ESL: A resource book for teaching K-12 English learners* (5th ed.). Boston, MA: Pearson.

Phythian-Sence, C., & Wagner, R. K. (2007). Vocabulary acquisition: A primer. In R. K. Wagner, A.E. Muse, & K. R. Tannenbaum (Eds.), *Vocabulary acquisition: Implications for reading comprehension* (pp. 1-14). New York: Guilford Press.

Piaget, J. (1936). *Origins of intelligence in the child.* London: Routledge & Kegan Paul.

Pigada, M., & Schmitt, N. (2006). Vocabulary acquisition from extensive reading: A case study. *Reading in a Foreign Language, 18* (1), pp. 1-28.

Radwan, A. A. (2011). Semantic processing and vocabulary development of adult ESL learners. *Asian Journal of English Language Teaching, 21,* pp. 1-21.

Rassaei, E., & Karbor, T. (2012). The effects of three types of attention drawing techniques on the acquisition of English collocations. *International Journal of Research studies in language learning, 2,* pp. 15-28.

Richards, J. C. (2006). Materials development and research – making the connection. *RELC Journal, 37,* pp. 5-26.

Richards, J. C., & Renandya, W. A. (Eds.). (2002). *Methodology in language teaching: An anthology of current practice*. Cambridge University Press.

Robinson, D. H., & Kievra, K. A. (1995). Visual argument: GOs are superior to outlines in improving learning from text. *Journal of Educational Psychology, 87,* pp. 455-467.

Sadeghi, K. (2009). Collocational differences between L1 and L2: Implications for EFL learners and teachers. *TESL Canada Journal, 26* (2), pp. 100-124.

Schmidt, R. (1992). Awareness and second language acquisition. *Annual Review of Applied Linguistics, 13*, pp. 206–26.

Schmitt, N. (2000). *Vocabulary in Language Teaching.* Cambridge: Cambridge University Press.

Schmitt, N. (2008). *Teaching Vocabulary*. Pearson Education.

Schmitt, N. (2010). Researching Vocabulary: A Vocabulary Research Manual. New York: Palgrave Macmillan. Retrieved from http://dx.doi.org/10.1047/9780130243987

Schmitt, N., Schmitt, D., & Clapham, C. (2001). Developing and exploring the behaviour of two new versions of the vocabulary levels test. *Language Testing, 18* (1), pp. 55-88.

Sharwood Smith, M. (1991). Speaking to many minds: On the relevance of different types of language information for the L2 learner. *Interlanguage studies bulletin (Utrecht)*, 2, pp.118-132. https://doi.org/10.1177/026765839100700204

Shoari, E., & Farrokhi, F. (2014). The effects of graphic organizers strategy on improving Iranian EFL learners' vocabulary learning. *Iranian Journal of Research in English Language Teaching, 1* (3), pp. 72-82.

Sonaiya, C.O. (1988). The lexicon in second language acquisition: A lexical approach to error analysis. Unpublished doctoral dissertation, Cornell University. *Dissertation Abstracts International, 49* (2), 247A.

Sökmen, A. (1991). *Common Threads: An Interactive Vocabulary Builder*. Englewood Cliffs, NJ: Prentice Hall Regents.

Sökmen, A. J. (1992) Students as vocabulary generators. *TESOL Journal, 1* (4), pp. 16-18.

Szudarski, P. (2012). Effects of meaning- and formed-focussed instruction on the acquisition of verb-noun collocations in L2 English. *Journal of Second Language Teaching and Research, 1*, pp. 3-37.

Templeton, S., & Pikulski, J. J. (1999). Building the foundations of literacy: The importance of vocabulary and spelling development. Houghton Mifflin Company. Retrieved from http://www.eduplace.com/sgd/nmsv/index.html

Tsubaki, M. (2012). Vocabulary learning with graphic organizers in the EFL environment: Inquiry into the involvement load hypothesis. Education dissertation, Temple University, United States.

VanPatten, B. & M. Leeser. (2006). Theoretical and research considerations underlying classroom practice: The fundamental role of input. (pp. 55-77). Georgetown: Georgetown University Press.

Vocabulary. (2019). In *Cambridge academic content dictionary.* Retrieved from https://dictionary.cambridge.org/dictionary/english/vocabulary

Webb, S. (2008). Receptive and productive vocabulary sizes of L2 learners. *Studies in Second Language Acquisition, 30,* pp. 79-95.

Wilkins, David A. (1972). Linguistics in Language Teaching. Cambridge, MA: MIT Press.

Woolard G. (2000). Collocation: Encouraging learner independence. Further developments in the lexical approach (pp. 28-46). Hove: Language Teaching Publications.

Wray, A. (2002).Formulaic language and the lexicon. Cambridge: Cambridge University Press.

Ying, Y., & Hendricks, A. (2004). Collocation awareness in the writing process. *Reflections of English Language Teaching*, *3*, pp. 51-78.

Zaini, S. H., Mokhtar, S. Z., & Nawawi, M. (2010). The effect of graphic organizer on Students' Learning in School. *Malaysian Journal of Educational Technology*, *10*, pp. 17-23.

Zhong, H. (2011). Learning a word: From receptive to productive language use. The Asian Conference on Language Learning. Official Conference Proceedings, pp. 116-126.

APPENDICES

Appendix I: List of L2 Collocations Asked in the Collocation Familiarity Test

Unit	L2 Collocations
Unit 1	dizzy spell, dizzy heights, dizzy with relief, dizzy descent without wrinkle, fine wrinkles, deep wrinkles
Unit 2	faint from hunger, faint from heat faint at the sight of blood, faint on military parade
Unit 3	remedy for unemployment, herbal remedy exhaust all other remedies, popular remedy
Unit 4	work miracles, miracle cure miracle of engineering, economic miracle
Unit 5	vulnerable to attack, put in a vulnerable position vulnerable to infections, vulnerable members of the society

Appendix II: List of L2 Collocations Used in the Treatment Stage

Unit	L2 Collocations
Unit 1	dizzy spell, dizzy heights, dizzy with relief, dizzy descent
Unit 2	faint from hunger, faint from heat faint at the sight of blood, faint on military parade
Unit 3	remedy for unemployment, herbal remedy exhaust all other remedies, popular remedy
Unit 4	work miracles, miracle cure miracle of engineering, economic miracle
Unit 5	vulnerable to attack, put in a vulnerable position vulnerable to infections, vulnerable members of the society

Appendix III: Target Collocation Familiarity Test

Section 1: The Questions

economic miracle, dizzy descent, exhaust all other remedies, fine wrinkles, deep wrinkles,
a popular remedy, put sb in a vulnerable position, herbal remedy, remedy for unemployment,
miracle of engineering, faint from heat, vulnerable to infections, dizzy spells, miracle cure,
faint from hunger, vulnerable to attack, vulnerable members of the society, work miracles,
faint at the sight of blood, dizzy heights, without wrinkle, dizzy with relief, faint on military parade

Complete the sentences with the best collocation from the box. Use the correct tenses and verb forms where necessary. Also capitalize where necessary. (23x1=23 pts.)

1. My mother is 50 years old, quite in shape and surprisingly, her soft red cheeks are _____ thanks to the natural anti-aging creams she has been using.

2. With the rising inflation and high cost of living, it seems pretty unlikely that the government will be able to come up with a _____, which is very high among the young people in India.

3. She was an attractive lady of medium height with a round face and a slim figure. Her hair was shoulder-length and she had some _____ around the eyes which could only be spotted from a close distance.

4. AIDS is caused by a highly hazardous virus. The virus attacks the immune system, leaving your body _____.

5. We've all occasionally experienced _____ when first we are standing up. They are common and can be caused by dehydration and low blood sugar.

6. The homeless man who hadn't had even a bite to eat for several days _____, a depressing sight for the pedestrians that were waiting to go across the street.

7. Cancer is still a horrible disease and millions of people die from it every year. However, there is still no _____ to completely get rid of it for the rest of the people's life.

8. According to a new research, many modern laptops and an increasing number of desktop computers are much more _____ through hacking than was previously thought.

9. The charity organization, boasting eight years of serving some of the most _____, is still helping those who are in need of love, support and care.

10. It's a scientifically proven fact that if one knits his/her eyebrows in every facial expression he/she makes, she/he may face the risk of having quite _____ on his/her face later in life due to increasing age.

11. She dreamed of reaching the _____ of stardom in pop music but she failed to realize her dream when she had a tragic accident and died at a young age.

12. That beauty cream which I had bought yesterday really _____ and freshened up my face contrary to my expectations.

13. Yesterday I went to see a doctor with the symptoms of runny nose, severe cough, fatigue and watering in my eyes. When the doctor examined me, she stated that I had caught just a common cold and would recover in a couple of days. Almost _____, I took a deep breath and went back home with a broad smile on my face.

14. The Japanese _____ is reputed as the record period of economic growth in Japan starting from the period after World War II to the end of the Cold War.

15. When the airplane started to drift down to get prepared for landing, the passengers on board the plane felt a bit scared with their blushing faces due to the abrupt and _____ of the plane on the ground.

16. I think you should _____ before applying to court and seek ways of coming to an agreement with your employer about your social rights.

17. The sudden resignation of the financial director _____ the company _____ since they couldn't hire a new director immediately. They were entirely tied hand and foot.

18. The _____ which contains a banned toxic element was recalled by its distributor last month. Now what's in question is if any sanction will be placed on the company for its wrong-doing.

19. The suspension bridge which was built by the company my friend's father owned was greatly admired by the national press and labelled as a _____.

20. The doctor advised me to raise my leg to direct the blood flow to the brain and go to a shady place against the risk of _____.

21. Due to the extreme heat and long hours of standing on feet, two soldiers _____ and were taken to a nearby hospital for medical treatment.

22. Although some people who fear blood or needles confront with a primary increase and then sudden reduction of their blood pressure, it is still unclear whether _____ is based on fear or any other reason.

23. Before discovery of anaesthesia, patients woke up during surgery and they were completely aware of the doctor's every action! A brandy dose was, in the least, _____ to ease the pain of the sufferers on the operation table.

Section 2: The Answer Key

1. without wrinkle
2. remedy for unemployment
3. fine wrinkles
4. vulnerable to infections
5. dizzy spells
6. fainted from hunger
7. miracle cure
8. vulnerable to attack
9. vulnerable members of the society
10. deep wrinkles
11. dizzy heights
12. worked miracles
13. dizzy with relief
14. economic miracle
15. dizzy descent
16. exhaust all other remedies
17. put…in a vulnerable position
18. herbal remedy
19. miracle of engineering
20. fainting from heat
21. fainted on military parade
22. fainting at the sight of blood
23. popular remedy

Appendix IV: Tests (Collocation Test, Immediate Posttest and Delayed Posttest)

Section 1: The Questions

economic miracle, dizzy descent, exhaust all other remedies, a popular remedy, put sb in a vulnerable position, herbal remedy, remedy for unemployment, miracle of engineering, faint from heat, vulnerable to infections, dizzy spells, miracle cure, faint from hunger, vulnerable to attack, work miracles, faint at the sight of blood, dizzy heights, faint on military parade, dizzy with relief, vulnerable members of the society

Complete the sentences with the best collocation from the box. Use the correct tenses and verb forms where necessary. Also capitalize where necessary. (20x5=100 pts.)

1. With the rising inflation and high cost of living, it seems pretty unlikely that the government will be able to come up with a _____, which is very high among the young people in India.

2. AIDS is caused by a highly hazardous virus. The virus attacks the immune system, leaving your body _____.

3. We've all occasionally experienced _____ when first we are standing up. They are common and can be caused by dehydration and low blood sugar.

4. The homeless man who hadn't had even a bite to eat for several days _____, a depressing sight for the pedestrians that were waiting to go across the street.

5. Cancer is still a horrible disease and millions of people die from it every year. However, there is still no _____ to completely get rid of it for the rest of the people's life.

6. According to a new research, many modern laptops and an increasing number of desktop computers are much more _____ through hacking than was previously thought.

7. The charity organization, boasting eight years of serving some of the most _____, is still helping those who are in need of love, support and care.

8. She dreamed of reaching the _____ of stardom in pop music but she failed to realize her dream when she had a tragic accident and died at a young age.

9. That beauty cream which I had bought yesterday really _____ and freshened up my face contrary to my expectations.

10. Yesterday I went to see a doctor with the symptoms of runny nose, severe cough, fatigue and watering in my eyes. When the doctor examined me, she stated that I had caught just a common cold and would recover in a couple of days. Almost _____, I took a deep breath and went back home with a broad smile on my face.

11. The Japanese _____ is reputed as the record period of economic growth in Japan starting from the period after World War II to the end of the Cold War.

12. When the airplane started to drift down to get prepared for landing, the passengers on board the plane felt a bit scared with their blushing faces due to the abrupt and _____ of the plane on the ground.

13. I think you should _____ before applying to court and seek ways of coming to an agreement with your employer about your social rights.

14. The sudden resignation of the financial director _____ the company _____ since they couldn't hire a new director immediately. They were entirely tied hand and foot.

15. The _____ which contains a banned toxic element was recalled by its distributor last month. Now what's in question is if any sanction will be placed on the company for its wrong-doing.

16. The suspension bridge which was built by the company my friend's father owned was greatly admired by the national press and labelled as a _____.

17. The doctor advised me to raise my leg to direct the blood flow to the brain and go to a shady place against the risk of _____.

18. Due to the extreme heat and long hours of standing on feet, two soldiers _____ and were taken to a nearby hospital for medical treatment.

19. Although some people who fear blood or needles confront with a primary increase and then sudden reduction of their blood pressure, it is still unclear whether _____ is based on fear or any other reason.

20. Before discovery of anaesthesia, patients woke up during surgery and they were completely ware of the doctor's every action! A brandy dose was, in the least, _____ to ease the pain of the sufferers on the operation table.

Section 2: The Answer Key

1. remedy for unemployment
2. vulnerable to infections
3. dizzy spells
4. fainted from hunger
5. miracle cure
6. vulnerable to attack
7. vulnerable members of the society
8. dizzy heights
9. worked miracles
10. dizzy with relief
11. economic miracle
12. dizzy descent
13. exhaust all other remedies
14. put…in a vulnerable position
15. herbal remedy
16. miracle of engineering
17. fainting from heat
18. fainted on military parade
19. fainting at the sight of blood
20. popular remedy