IMPLICIT PHRASAL VERB KNOWLEDGE
GAINS THROUGH CONCEPTUAL
METAPHOR THEORY: A CASE OF
UNIVERSITY PREP SCHOOL STUDENTS

Doktora Tezi

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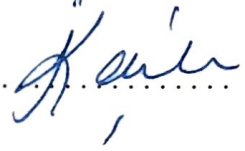**Supervisor: Prof. Dr. İlknur KEÇİK**
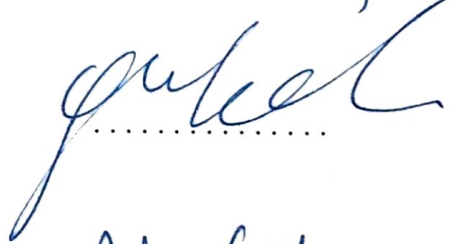
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ÖZET

KAVRAMSAL EĞRETİLEME KURAMI IŞIĞINDA ÖĞRETİLEN ÖBEK EYLEMLERİN İÇSELLEŞTİRİLEREK KAZANIMI: ÜNİVERSİTE HAZIRLIK SINIFI ÖĞRENCİLERİ ÖRNEĞİ

Dilşah KALAY

Yabancı Diller Eğitimi Anabilim Dalı
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Araştırmanın başlıca amacı öbek eylemlerin Kavramsal Eğretileme Kuramı ışığında açık kelime öğretimi tekniği kullanılarak öğretilmesi yoluyla hem kısa hem de uzun süreli bir öğrenme sağlanıp sağlanamayacağını sorgulamaktır. Çalışmanın diğer bir amacı ise, öbek eylemlerin geliştirilecek ve uygulanacak olan bu sözcük öğretimi tekniği ile öğretilmesinin katılımcılarda örtük bilgi ile sonuçlanıp sonuçlanmayacağının irdelenerek, sözcük öbeklerinin içselleştirilip içselleştirilmediğinin araştırılmasıdır. Bu bağlamda, öğretilen öbek eylemlerin algı düzeyinde etkin olup olmadığının araştırılması için çoktan seçmeli bir test, aynı eylemlerin üretim düzeyinde aktif olup olmadıklarının ölçülmesi için ise üretim düzeyinde bir sözcük bilgisi testi geliştirilmiştir. Bunun yanı sıra, katılımcıların bu kazanımları ne kadar içselleştirdiklerine ilişkin bulguları araştırmak için katılımcıların tepki sürelerini ölçen maskelenmiş tekrarlı çağrıştırma tekniğiyle sözcük tanıma testi ve kendi-hızıyla okuma alıştırması gibi testler uygulanmıştır. Çalışmaya, kolayda örneklem yöntemi ile seçilen 60 hazırlık sınıfı öğrencisi katılmıştır. Yapılan analizler sonucunda Kavramsal Eğretileme Kuramı ışığında geliştirilen ve uygulanan açık öğretim tekniğinin öbek eylemlerin öğrenimine ve uzun bellekte saklanıp uygun bağlamlarla karşılaşıldığında kısa sürede hatırlanması ve kullanılmasına önemli bir etkisi olduğu görülmüştür. Ayrıca, geliştirilen tekniğin öğrencilerin öbek eylemleri tanıma ve işlemleme sürelerinde de büyük bir etkisinin olduğu anlaşılmıştır. Bu araştırmanın sonuçlarının ikinci dil edinim kuramlarından Arayüz (interface) Hipotezi tartışmalarına, geliştirilen açık öğretim sistematiğinin bellekte örtük bilgi ile sonuçlanıp sonuçlanmayacağını araştırıp sorgulaması nedeniyle katkı sağlayacağı düşünülmektedir.

Anahtar Sözcükler: Öbek eylemler, Kavramsal eğretileme kuramı, Arayüz (interface) hipotezi, Açık yönergeli öğretim, Örtük sözcük bilgisi.

ABSTRACT

IMPLICIT PHRASAL VERB KNOWLEDGE GAINS THROUGH CONCEPTUAL
APPROACH: A CASE OF UNIVERSITY PREP SCHOOL STUDENTS

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The major concern of this study is to describe the attempt to explicitly teach phrasal verb constructions in the light of conceptual metaphor theory, focusing on the metaphorical orientations of particles as well as to investigate the relationship between such an explicit phrasal verb instruction and implicit phrasal verb knowledge gains. It is a within group pretest/posttest design experimental research carried out with 60 Turkish EFL learners enrolled in the School of Foreign Languages in Kütahya Dumlupınar University in Kütahya, Turkey. The analysis was conducted in terms of three dimensions; which are achievement and retention of receptive and productive PV knowledge, subconscious lexical recognition and processing and semantic lexical processing. For the analysis of first dimension, a multiple-choice test to evaluate receptive PV knowledge as well as a c-test to measure controlled productive PV knowledge were administered as pretest, immediate posttest and delayed posttest. To investigate the subconscious lexical recognition and processing, a masked repetition priming lexical decision task and to examine semantic lexical processing a self-paced task were applied to the participants. The results of the study found out that explicitly presented PV knowledge in the light of conceptual metaphors significantly influences not only the achievement and retention of receptive and productive PV knowledge, but also the subconscious lexical recognition and processing as well as semantic priming of PV knowledge, validating a strong interface position in terms of lexical aspect of language learning.

Keywords: Phrasal verbs, Conceptual metaphor theory, Interface hypothesis, Explicit instruction, Implicit word knowledge.

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<div align="right">Dilşah KALAY
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ETİK İLKE VE KURALLARA UYGUNLUK BEYANNAMESİ

Bu tezin bana ait, özgün bir çalışma olduğunu; çalışmamın hazırlık, veri toplama, analiz ve bilgilerin sunumu olmak üzere tüm aşamalarında bilimsel etik ilke ve kurallara uygun davrandığımı; bu çalışma kapsamında elde edilen tüm veri ve bilgiler için kaynak gösterdiğimi ve bu kaynaklara kaynakçada yer verdiğimi; bu çalışmanın Anadolu Üniversitesi tarafından kullanılan "Turnitin programı"yla tarandığını ve hiçbir şekilde "intihal içermediğini" beyan ederim. Herhangi bir zamanda, çalışmamla ilgili yaptığım bu beyana aykırı bir durumun saptanması durumunda, ortaya çıkacak tüm ahlaki ve hukuki sonuçları kabul ettiğimi bildiririm.

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I hereby truthfully declare that this thesis is an original work prepared by me; that I have behaved in accordance with the scientific ethical principles and rules throughout the stages of preparation, data collection, analysis and presentation of my work; that I have cited the sources of all the data and information that could be obtained within the scope of this study, and included these sources in the references section; and that this study has been scanned for plagiarism with "Turnitin programı" used by Anadolu University, and that "it does not have any plagiarism" whatsoever. I also declare that, if a case contrary to my declaration is detected in my work at any time, I hereby express my consent to all the ethical and legal consequences that are involved.

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LIST OF ABBREVIATIONS

AVP   : Adverbial phrase

BNC   : British National Corpus

CEFR   : Common European Framework

COCA   : Corpus of Contemporary American English

ERP   : Event-Related Potential

FS   : Formulaic sequencing gains

KDPU   : Kütahya Dumlupınar University

L1   : First language – Mother tongue

L2   : Second language

LDT   : Lexical decision task

MET   : Michigan English Test

MRPLDT   : Masked Repetition Priming Lexical Decision Task

MS   : Millisecond

PV   : Phrasal verb

PWM   : Per million words

RT   : Response time

SA   : Semantic association gains

SFL   : School of Foreign Languages

VS.   : Versus

To my precious parents and loving brother…

CHAPTER 1

1. INTRODUCTION

Mastery of vocabulary is among the crucial components of second language acquisition (SLA) as it both helps learners to deliver their message in a meaningful way and promotes their listening, writing and especially the reading skills. (Laufer & Hulstijn, 2001; Cobb, 2007; Nation, 2011; Yang & Dai, 2011; Al-Darayseh, 2014). Approximately 8000-9000 word families are considered to be necessary for learners of English after full development of their mother tongue in order to be competent enough to understand authentic texts in another language (Nation, 2006).

Hence, in the last four decades the emphasis on vocabulary acquisition *"has mushroomed enormously"* (Meara, 1995; p. 11) on the contrary to grammar acquisition which was the focal point in the field of second language acquisition (SLA) up until 1980s. Vocabulary acquisition being at the core of language learning and one of the essential building blocks in SLA became the center of theories such as Lexical Learning Hypothesis (Ellis, 1997) which proposes that grammatical development is incremental and determined by learning of lexical constituents (Bates & Goodman, 1997; Malvern et. al., 2008; Eisenbeiss, 2009).

With this recent change in the focus of studies besides learning of single words, learning of multiword units such as idioms, (e.g., to smell a rat), phrasal verbs (e.g., to give up), stock phrases (e.g., last but not least), prefabs (e.g., take-home food) and other similar multiword sequences gained great prominence since these words have an important place in English as the language prosper with such structures (Gardner & Davies, 2007). Multiword knowledge is considered as a crucial aspect of native-like fluency in language development (Schmitt, 2004; Wray, 2000, 2002).

As one of these multiword combinations phrasal verbs (PVs) that are the focus of this study have an important place in spoken communication. Phrasal verbs are defined as multiword sequences consisting of a verb followed by an adverbial particle; such as *carry out, find out,* or *pick up* (Biber, Johansson, Leech, Conrad & Finegan, 1999). Likewise, Longman Phrasal Verbs Dictionary (2000) defines phrasal verbs as a verb composed of two or three words, mostly two words - verb + particle; particle may be a preposition or an adverb. Darwin and Gray (1999) adds another comment to this explanation in that phrasal verbs are verb + particle combinations, both compounds of which lose their meaning, and thus are used as a single item both lexically and

syntactically (p. 76-77). This notion is also emphasized by Ghazala (2006) in that as a combination of verb + adverb/preposition, phrasal verbs possess idiomatic meanings which cannot be inferred from individual meanings of the component words (p. 133).

From all these definitions, it can be understood that phrasal verbs are comprised of a basic verb such as 'go', 'come', 'turn', 'put' etc. and a particle like an adverb 'up', 'out' or a preposition like 'in', 'on', because of which the meaning of the verb may change. That is to say, syntactically phrasal verbs are multiword units composed of a verb followed by a particle, but semantically the meanings of PVs are not direct sum of their components. As an example, *point out* means *to mention* in the following sentence:

> *As he is afraid of accidents, my father always **points out** dangers of driving alone.*

However, in the sentence, neither my father was *showing something with his finger*, nor he was *out* somewhere. He was just *talking about* the dangers.

Furthermore, the notion of transitivity is an important concern in understanding and categorizing PV constructions. Similar to one-word verbs, PVs can be either transitive or intransitive (Celce-Murcia & Larsen-Freeman, 1999). As is known, intransitive verbs do not take any objects whereas transitive verbs require a direct object, clause or noun phrase. In this respect, intransitive PVs are not followed by an object and therefore the particle is never separated from the main verb (Quirk et. al., 1985). However, an object always follows the transitive PVs (Kamarudin, 2013), but it may come before or after the particle (Quirk et. al., 1985). What is more, there is always a possibility of encountering a transitive PV functioning as intransitive (Celce-Murcia & Larsen-Freeman, 1999):

> *Richard **came across** well at the convention.* (to make a good impression)

When the frequency of these constructions is concerned, according to McCarthy and O'Dell (2004), more than 5.000 phrasal verbs as well as related noun and adjective forms are present in daily English (p. 4). In a similar vein, Celce-Murcia and Larsen-Freeman (1999) present that phrasal verbs *"...are ubiquitous in English"*. However, in which genre they are mostly used is a matter of debate. According to Biber et. al (1999), corpus analysis indicates that phrasal verbs are generally used in spoken or fictional, rather than academic contexts. With regard to the corpus statistics, the frequency of these multiword units is revealed to be 2,000 times per 1 million words in fiction and spoken language. As a support to the previous researchers, De Cock (2005) claims that the

number of phrasal verbs used in formal writing is half the number used in spoken language by the native speakers. Nevertheless, in spite of these low usage rates of phrasal verbs in academic contexts, Fletcher (2005) believes that in order to reflect some ideas in specific situations, especially in formal contexts, phrasal verbs prove to be the most proper structures. Hence, it is worth noting to encourage language learners to use these word combinations within contexts as correct phrasal verb usage in a speech is an indicator of fluency in production (Cornell, 1985) and without phrasal verbs it is not possible to communicate in English (Celce-Murcia & Larsen-Freeman, 1999).

As understood from the explanations above, PVs are prevalently used word combinations in English. However, they are interpreted differently from other word combinations as the main stress is on the particle not the main verb (Richards & Schmidt, 2010, p. 436). Particles are adverbs or prepositions that are closely linked to the phrasal verbs (Biber et. al., 1999; Hornby, 2000). Some of the most important particles are *down, in, off, on, out, over, back, away* and *up*. As for the frequency of these particles, according to Rustka-Ostyn (2003), the most commonly used particle is *up*, and followed by *out, off, in(to), down, on, away*, etc. (p. 75). However, Gardner and Davies's (2007) frequency analysis of particles reveals that *out* is the most frequently used adverbial particle and it is followed by *up, down, back, off*, etc. in a row in their frequency list. Based on this frequency list, with the present study it is determined to focus on the most frequent four particles, which are *up, down, out* and *back*.

With respect to the semantic features of PVs, as Darwin and Gray (1999) and Ghazala (2006) emphasize, PVs are multiword units whose meanings should be analyzed irrespective of individual meanings of their component words. Within this perspective, different researchers make similar categorizations with different terms on the basis of direct understanding of the sum of the both component words, metaphorical sense deduced from the meaning of neither the main verb nor the particle (See Dagut & Laufer, 1985; Laufer & Eliasson,1993; Celce-Murcia & Larsen-Freeman, 1999). As a recent study, Liao and Fukuya (2004) carried out a classification based on the similar criterion, but with different terminology; *literal* and *figurative* PVs. The present study focuses on this classification, PVs referring to their literal and figurative (Liao & Fukuya, 2004) meanings where figurative is based on the different senses of the particles.

Regarding the meanings of the particles, there are differing views either suggesting that no rules and systematicity is present for understanding particles or claiming that a

systematic way of particle grouping can be performed based on the semantic reference. Traditionally, particle meanings have been acknowledged as arbitrary and purely idiomatic, and thus no semantic feature can be associated with the particle (Fraser, 1976, p. 77). Contemporarily, Porto Requejo and Pena Díaz (2008) challenge the traditional researchers and defend that particles are interconnected in "a big semantic network of related senses" (p. 112), which means that particles are associated within a semantic frame resorting to either their core or abstract meanings.

All in all, the studies above reveal that the semantic categorization of phrasal verbs indicate parallelism with a difference in the terminology used. In spite of the differing category names, the main criteria to classify PVs is the predictability of the overall PV meaning, which leads to some problems in learning/teaching process. That is to say, because of their complex structure and unpredictable meanings (Lee, 2012; White, 2012), PVs are acknowledged as problematic constructions and that is why language learners are tend to avoid using them when required (Laufer & Eliasson, 1993; Liao & Fukuya, 2004; Kayael, 2007; Barekat & Baniasady, 2014; Güleryüz Adamhasan, 2014; Saltık, 2014; El-Dakhs, 2016). In the following sections, the background studies on PVs and the reasons why PVs are difficult to learn are presented.

Within this perspective, this chapter offers an introduction to the background of the study, statement of the problem, objectives and significance of the study, research questions, scope and delimitations and operational definitions used in this study in order to give readers a general impression about the study.

1.1. Background to the Study

As mentioned above phrasal verbs have an important role in gaining fluency, as Gardner and Davies (2007, p. 340) state they *"tend to be very common and highly productive in the English language as a whole"* and also conceivably settle *"the multiword middle ground between syntax and lexis"* which results in vital ramifications for second language acquisition (Gass & Selinker, 2008). At the same time, phrasal verbs pose great difficulty for non-native learners because of the unpredictability of their meanings (Lee, 2012; White, 2012), which leads to the situation that non-native speakers of English, especially at lower levels of language proficiency, are prone to avoid resorting to phrasal verbs in production due to the difficulty they get into while dealing with such words (Laufer & Eliasson, 1993; Liao & Fukuya, 2004; Kayael, 2007; Barekat &

Baniasady, 2014; Güleryüz Adamhasan, 2014; El-Dakhs, 2016). As an example, Saltık (2014) carried out a study in order to examine Turkish EFL students' possible problems with phrasal verbs and their perceptions about proposed reasons in the literature. He developed a survey to investigate the perceptions related to different aspects of phrasal verbs and administered two different types of tasks; a multiple-choice test and uncontrolled writing task to the participants. The results of the questionnaire showed that students find the idiomatic and productive nature of phrasal verbs the most problematic aspect in terms of acquisition. Besides, the analysis of the tasks revealed that students with a low level of English used phrasal verbs very rarely, which can be attributed to their ignorance of phrasal verbs. Overall, with this study, it is evident that method of instruction proves crucial and a special focus on phrasal verbs constructions in teaching process seems vital.

Phrasal verbs are constructions that are mostly encountered in spoken language (Biber et. al, 1999) and they are generally not in the lists of most frequent words (Saltık, 2014; p. 80), which leads language teachers to ignore them. Therefore, it might be difficult for language learners to be exposed to these forms if they have limited opportunity to practice them both in and out of the class. Within this perspective, how to teach phrasal verbs effectively is a matter of debate in the field of instructed foreign language learning. Coady (1997) puts forward that such structures *"are not learned well through ordinary language experience"* (p. 282). In other words, language learners need to be instructed explicitly on these multiword constructions instead of being left to their own resources for implicit processing (Nattinger & DeCarrico, 1992; Lewis, 1997).

As for explicit instruction versus implicit processing dichotomy, the debate continues in second language acquisition research (DeKeyser, 1995). It is generally acknowledged that implicit processing occurs automatically and subconsciously whereas explicit processing takes place deliberately and consciously. Both explicit and implicit conditions have proponents in the field. Some scholars support the subconscious focus on vocabulary (Paribakht & Wesche, 1997; Zahar et al., 2001; Lee & VanPatten, 2003, Nasser, 2015) whereas others attach importance to deliberate involvement in processing (Groot, 2000; Smith, 2004). One of the first supporters of implicit condition is Krashen (1985) with his input hypothesis, proposing that acquisition of language is only carried out by understanding the messages, thus explicit instruction only results in learning but not acquisition. As for vocabulary acquisition, Huckin and Coady (1999) argues that,

except for the first few thousand most common words, second language vocabulary is predominantly acquired incidentally, through learners' unintentional exposure to words. In this case, vocabulary can be accepted as the byproduct - rather than specific purpose - of any learning process not explicitly governed towards vocabulary learning (Dupuy & Krashen, 1993; Cho & Krashen, 1994; Paribakht & Wesche, 1997; Horst, Cobb, & Meara, 1998; Huckin & Coady, 1999; Laufer & Hill, 2000; Yoshii & Flaitz, 2002; Mondria, 2003; Rieder, 2003; Waring & Takaki, 2003; Pigada & Schmitt, 2006; Brown, Waring, & Donkaewbua, 2008; Kweon & Kim, 2008; Vural, 2010). On the other hand, there are many scholars who favor explicit condition in vocabulary instruction (Ellis, 1995; Zimmerman, 1997; Hulstijn & Laufer, 2001; Laufer, 2003; Wang, 2005; Gregory, 2008; Min, 2008), especially with respect to multiword sequences; (Ozcan Bayram, 2009; Zaferanieh & Behrooznia, 2011; Akel Oğuz, 2012; Karami, 2013). Some other researchers maintain a balance between explicit and implicit vocabulary learning (Nation, 1990; Nation, 2007; Souleyman, 2009; Sonbul & Schmitt, 2010; Al-Darayseh, 2014). Such scholars claim that, contrary to widely held notion, vocabulary knowledge is such a complex construct that it entails various dimensions including not only explicit but also implicit mental representations (Nation, 2001; Aitchison, 2003; Schmitt, 2010; Sonbul & Schmitt; 2013).

Regarding the complexity of explicit versus implicit dichotomy, Ellis (2005) expanded on the distinction between explicit and implicit processes, noting that although such processes are carried out in separate parts of the brain, they interact. That is to say, when explicit language mechanisms are followed by subsequent input processing, implicit knowledge develops. This relationship between explicit instruction and implicit knowledge acquisition is called *the Interface* of explicit and implicit knowledge. In SLA, discussions on the relationship between these knowledge types generally refer to high level constructions and abstract rules, emphasizing the process of grammar acquisition (Ellis, 2005; Sorace, 2011).

With respect to the lexical dimension of language learning, the interface is the connection between L2 form of the words and their meaning, which is different from the general interface position since implicit lexical knowledge starts to improve immediately with the former explicit learning task whereas subsequent input processing is required for development of other kinds of implicit knowledge after explicit learning tasks (Ellis, 2005). This form-meaning connection of vocabulary is generally established when

learners encounter words in context and resort to differing strategies so as to come up with their meaning. With the establishment of form-meaning bond in memory, the connection gets more rooted in the semantic system. When phrasal verbs are concerned, establishing form-meaning connection gets much more difficult since most of these verbs are multiword sequences built up as combinations of common verbs like *get, come, put, take* and prepositions called *particles* such as *in, on off, up, down; "functioning as a single unit both lexically and syntactically"* (Liao & Fukuya, 2004; p.196), which means that a change in one of the components of the phrasal verb leads to the change in overall meaning (Güleryüz Adamhasan, 2014). Therefore, a systematic way of binding phrasal verb forms to meanings seems to be a need for proper learning of these structures.

Traditionally, phrasal verbs were presented to language learners in lists with their first language equivalents or in reading texts/listening scripts and learners were expected to learn and remember, in other words memorize, these verbs themselves since verb + particle combinations appeared to be completely random and complex (Cornell, 1985; Side, 1990). This way of textbook presentation was generally followed by matching or fill-in-the-blanks activities, a highly common criticism about phrasal verb instruction in the literature (Darwin & Gray, 1999; Gardner & Davies, 2007; Tyler & Evans, 2004). According to White (2012) presentation of phrasal verbs as arbitrary combinations that are not examined and rationalized leads to memorization without semantic and conceptual analysis, which prevents learners from applying their present knowledge to new contexts (Van der Veer, 2000). Hence, since 1980s, cognitive linguistic research has focused on a systematic semantic presentation of phrasal verb constructions - what the contribution of individuals is to the whole - (Dirven, 2001; Kurtyka, 2001; Rudzka-Ostyn, 2003; Tyler & Evans, 2003; Crutchley, 2007) and come up with *Conceptual Metaphor Theory*. This approach holds the assumption that a continuum exists between the concrete and the abstract in terms of meanings of phrasal verb constructions and metaphors present the connection between them (Kovacs, 2006). Particles in phrasal verbs serve as the orientational metaphors similar to spatial orientations derived from human body experiences like *up-down, in-out, front-back, on-off, deep-shallow,* and *central-peripheral* (Lakoff & Johnson, 1980) and detailed analysis of spatial connotations of these particles, called *cognitive image schema* (Morgan, 1997), is expected to facilitate acquisition of phrasal verbs. In other words, according to Kurtyka (2001), well-organized mental visualization of orientational metaphors guides the learning process from concrete

to abstract, that is, from literal to metaphorical meaning of phrasal verbs, with no mere memorization.

All in all, in the light of the conceptual metaphor theory, the current investigation is focused on whether explicit teaching of phrasal verbs through conceptual metaphors will result directly and instantaneously in implicit phrasal verb acquisition.

1.2. Statement of the Problem

The primary problem referred to in the present research is phrasal verb constructions that lead to continuous confusion in ESL and EFL learners because of which language learners are more prone to feel antipathy towards these structures on the way to proficiency in English (Boers, 2000; Kurtyka, 2001; Littlemore & Low, 2006). In a similar vein, literature (Crystal, 1995; Kubota, 1997; Thrush, 2001; Hall, 2002; Hourany, 2002; White, 2012; Güleryüz Adamhasan, 2014) has revealed that ESL/EFL learners have always difficulty in mastering phrasal verbs, not only at receptive but also productive level, on account of the syntactic and semantic complexities and these structures prove much more troublesome for those learners whose mother tongue does not accept phrasal verb constructions (Celce-Murcia & Larsen-Freeman, 1999) such as Hebrew (Dagut & Laufer, 1985), Chinese (Liao & Fukuya; 1993), Arabic and Russian (Siyanova & Schmitt, 2011).

From this point of view, Turkish learners of English experience similar difficulties while learning phrasal verbs, as well. One of the aspects causing these difficulties is the fact that different languages may hold conceptual structures in different ways (Cadierno, 2008; Conventry & Guijarro-Fuentes, 2008; Talmy, 2008). That is to say, the structural discrepancies between learners' mother tongue and target language may pose problems during the learning process (Güleryüz Adamhasan, 2014; Kartal & Uner, 2017). To explain in vivid detail, many studies propose that since no such structure is present in Turkish, Turkish EFL learners lack the awareness of orientational meanings of particles forming phrasal verbs (Yasuda, 2010), which leads to the chief problem of understanding such constructions. As an opposing view to this common view in literature, Özgen and Koşaner (2015) carried out some empirical tests and intuitive judgments in order to investigate the differences between the phrasal verbs and prepositional verbs on both conceptual and empirical grounds in Turkish data. The findings of the tests and intuitive observations indicated that Turkish has phrasal verbs which behave totally in different

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manner than prepositional verbs. This shows that difficulties Turkish learners face while learning phrasal verbs may not result from structural differences between Turkish and English but may originate from unexpected nature of phrasal verb meanings. As meanings of phrasal verbs change with each particle, it may sometimes be hard to conceptualize the individual words with their dictionary meaning and what is more (White, 2012; Lee, 2012), same verb + particle combination may result in different meanings in different contexts (The American Heritage Dictionary of Phrasal Verbs, 2005), which underpins the argument that phrasal verbs are demanding and problematic for language learners (White, 2012; Güleryüz Adamhasan, 2014; Kartal & Uner, 2017). Another aspect resulting in a challenge for second language learners to learn phrasal verbs is their complex and complicated structure (Güzel, 2014). To illustrate, the verb and the particle constituting these units may be either together (i.e. *Turn on* the lights, please.) or separated (i.e. *Turn* the lights *on*, please) (Büyükkarcı, 2010). The last aspect leading to problems in the learning process is that as the meanings of phrasal verbs may be idiomatic, no logical formula or pattern exists to facilitate learning (Büyükkarcı, 2010). In this regard, the method of instruction proves crucial and a special focus on phrasal verbs constructions in a systematic way seems vital (Güzel, 2014), not only for PV learning but also their long-term retention.

The other problem addressed in the current study is the relationship between explicit teaching and implicit acquisition of phrasal verbs. In the literature, second language acquisition theory compares explicit and implicit language processes and claims that explicit learning mechanisms results in development of explicit vocabulary knowledge whereas implicit word knowledge is only improved by implicit learning mechanisms. Since different views on the relation between explicit and implicit knowledge types – such as strong, weak and non-interface positions – exist (Gass & Selinker, 2008), the question of whether there is an "interface" between explicit vocabulary instruction and implicit word knowledge remains an unresolved issue in the field.

Bearing all these in mind, the major concern of the present study is to describe the attempt to explicitly teach phrasal verb constructions in the light of conceptual metaphor theory focusing on the metaphorical orientations of particles and examine the effects of instruction on achievement and retention of receptive and productive phrasal verb knowledge. The other purpose of the study is to investigate the relationship between such

an explicit PV instruction and implicit PV knowledge gains by examining the effects of the explicit instruction on subconscious lexical recognition and semantic lexical processing of phrasal verbs.

1.3. Objectives and Significance of the Study

The main purpose of the current study is to find out the short term and long-term retention of phrasal verbs taught explicitly in the light of conceptual theory following noticing, retrieval and generative activities. When the vocabulary acquisition as a general term is concerned, as Wei (2007) states it is meaningless if language learners pick up a lot of vocabulary but are not able to process them receptively and productively in the long run. Therefore, with the concern of storage and retrieval of phrasal verbs, establishing form-meaning bond is a critical point to focus in the present study.

Apart from these, regarding the phrasal verb instruction in EFL/ESL field, the traditional method, which mainly focuses on pairings of target phrasal verbs with their L1 equivalents followed by fill-in the blanks or matching exercises, is commonly criticized in the literature (Darwin & Gray, 1999; Gardner & Davies, 2007; Tyler & Evans, 2004), since it paves the way for mere memorization and rote learning without semantic and conceptual analysis (White, 2012). Thus, an explicit systematic semantic presentation of phrasal verbs is needed for helping language learners to conceptualize these constructions to learn.

To this end, the second aim of the present study is based on the interface between explicit phrasal verb instruction in consideration of conceptual metaphor theory and implicit phrasal verb knowledge gains. Understanding this relationship between explicit instruction and implicit knowledge is crucial for SLA research (Elgort, 2007; 2011; Obermeier, 2015) since in spite of the benefits of explicit teaching techniques, it is a common belief that implicit knowledge cannot be easily gained through explicit methods (Ellis, 1994; 2005; Hulstijn, 2002). With a lexical acquisition perspective, by investigating the interface between explicit instruction and implicit phrasal verb knowledge, it is expected that the present study will make contributions to the process of vocabulary acquisition with respect to implicit - long-term - vocabulary knowledge gains attained through explicit vocabulary instruction in the light of conceptual metaphor theory. Furthermore, the findings obtained with the current study are anticipated to add to the existing body of research on how form-meaning connections are established in the

learning process of phrasal verb constructions. Finally, according to Elgort (2007; 2011) and Obermeier (2015), most of the interface discussions have generally focused on grammar acquisition and the absence of interface research concerned with vocabulary knowledge is an obvious gap in the SLA field. Therefore, the results of the current study are expected to encourage researchers to go beyond grammar acquisition and elaborate on vocabulary, specifically phrasal verbs.

1.4. Research Questions

In this aspect, the present study addresses the following research questions that constitute the basis of the study:

1. Are there any significant differences between pretest, immediate posttest and delayed posttest scores of the participants receiving explicit phrasal verb instruction in the light of conceptual metaphor theory on;

    a) achievement and retention of receptive phrasal verb knowledge in Multiple choice tests?
    b) achievement and retention of productive phrasal verb knowledge under a controlled situation in C-tests?

2. Are there any significant differences in response times (RTs) of the participants due to prime types for formal lexical representations in Masked Repetition Priming Lexical Decision Task;

    a) within each test (pre/post/delayed)?
    b) between three tests (pre/post/delayed)?

3. Are there any significant differences between pretest, immediate posttest and delayed posttest results of participants' response times (RTs) for;

    a) formulaic sequencing in Self-paced Reading Task?
    b) semantic associations in Self-paced Reading Task?

1.5. Scope and Delimitations

The first limitation may be the limited number of subjects involved in the study. At the beginning, it is aimed to conduct the study with 88 language learners. However, as it has a pretest, immediate and delayed posttest design as well as an 8-week treatment, the number of participants decreased in time. In the end, 60 students participated in the study, hence the findings need to be treated with some caution. More participants might be needed so as to make wider generalizations to the population.

Another limitation might be that due to time constraints, the delayed posttests have to be administered in a three-week interval after instruction, which indicates the importance of one more delayed posttest to be administered in a period of two or three months in order to measure long-term effects of the treatment.

1.6. Definition of Terms

In the present study, the following operational definitions will be adopted:

Acquisition: The term is used for referring to uptake of vocabulary for consistent usage in the language system (Ellis, 2005).

Conceptual Metaphor: A metaphor that "*exists in the mind of a speaker, and may thus be unconscious*" (Johansen, 2007, p. 11). Conceptual metaphors occur with the inferences between the knowledge from two different domains or concepts (mapping of a domain into another).

Explicit Knowledge: Knowledge related to deliberate processing (Segalowitz, 2003), clarified with conscious awareness (Ellis, 2005).

Explicit Learning: Input processing in which there exists learners' conscious and deliberate intention for improving target language (Hulstijn, 2005).

Explicit Teaching: A series of supports and scaffolds whereby students are guided with clear statements about the purpose and rationale for learning the new skill, clear explanations and demonstrations of the instructional target and supported practice with feedback until independent mastery has been achieved (Archer & Hughes, 2011).

Implicit knowledge: Knowledge related to subconscious processing (Ellis, 2008).

Implicit learning: Input processing in which subconscious and automatic language development is observed (Hulstijn, 2005).

Metaphor: A property of concepts and processes of human thought and reasoning – from a cognitive linguistic viewpoint (Lakoff & Johnson, 1980).

Orientational Metaphors: The metaphors that show how concepts are spatially related to each other and related to human orientations in space, such as up-down, in-out, front-back, on-off etc. These metaphors make a system organization on concepts in terms of mutual spatial relations (Lakoff & Johnson, 1980, p. 14).

Particle: *"An adverb or a preposition that can combine with a verb to make a phrasal verb"* (Hornby, 2000, p. 923).

Phrasal Verb: Two or three-word expressions composed of a common verb (such as 'take', 'get', 'go') and a particle (either an adverb like 'up', 'through' or a preposition such as 'in', 'on') functioning as a single unit not only lexically but also syntactically (Quirk et. al., 1985; Lewis, 1993; Darwin & Gray, 1999).

Based on the aims of the current study, Chapter 2 presents the main body of related literature, Chapter 3 puts in the methodology developed for the investigation, Chapter 4 provides the findings of the analyses, Chapter 5 discusses these findings in relation to the related literature and finally Chapter 6 summarizes the whole study with its findings and presents pedagogical and methodological implications as well as views on further research as concluding remarks.

CHAPTER 2

2. REVIEW OF LITERATURE

2.1. Introduction

In the following chapter, an overview of the literature to the present study is put forward, starting from the theoretical background of the study that is the interface between explicit and implicit knowledge types in second language acquisition and representation of these knowledge types based on different interface positions. The chapter continues with the conceptual metaphor theory on which the methodology of the study is based and is followed by the recent research on phrasal verb learning and acquisition.

2.2. Explicit vs Implicit Knowledge/Learning

Implicit learning is defined as the acquisition of information with its underlying structure in a complicated environment through a naturally and unconsciously occurring automatic process by drawing learners' attention to the meaning of target forms (R. Ellis, 2005; 2009). On the other hand, explicit learning is explained as a selective learning process in which more conscious operations, in order to test hypothesis, are required for assimilation of a specific rule or structure (DeKeyser, 1995). Within this scope, explicit teaching can be identified as a series of supports and scaffolds whereby students are guided through the learning process with clear statements about the purpose and rationale for learning the new skill, clear explanations and demonstrations of the instructional target and supported practice with feedback until independent mastery has been achieved (Archer & Hughes, 2011). When the explicit and implicit knowledge is to be defined, the main difference arises from the absence of awareness (Sonbul & Schmitt, 2013). In that, explicit knowledge is the declarative knowledge that is consciously controlled, learnt and verbalizable whereas implicit knowledge is procedural knowledge that is held unconsciously and thus reached rapidly and easily (R. Ellis, 2006, p. 95). Herein, viewing knowledge as a continuum, it may be easier to conceptualize explicit knowledge becoming implicit through follow-up practice, continuous exposure and repetitive drills or vice versa (Gass & Selinker, 2008; p. 243). However, the debate on the relation between these two knowledge types still continues to attract attention in the field of second language acquisition.

2.3. Interface of Knowledge Types

The interface debate in SLA research has been determined by the view that explicit language instruction becomes invaluable only if it contributes to implicit knowledge as improving implicit knowledge and internalization of the target language structure is the main goal and end point of the language learning process (Ellis, 2007). Herein, the main question is whether explicit instruction is influential on the progress of implicit knowledge. This question has been answered by three different positions: No Interface Position, Weak Interface Position and Strong Interface Position (Gass & Selinker, 2008).

No interface position is best represented by Krashen's acquisition and learning distinction. According to Krashen, what is explicitly learned can never be fluent and automatic, which means that it cannot be a part of the acquired system. However, there are some counterarguments developed against this position (Gass & Selinker, 2008). One of these objections is that if fluent and unconscious speech can be accepted as evidence of acquired system, then according to No Interface position, formally learnt structures are never used in such speeches, which is an inefficacious way of brain processing to handle different information types as it would require two separate linguistic systems for explicit and implicit learning in such a case. The second counterargument is that considering the learners who learn a language only in formal settings, under the assumption of No Interface position, it would be expected for those learners to never produce second language utterances as no acquisition could be achieved in formal settings, which is not possible. The final opposition is about the falsifiability of Krashen's acquisition and learning distinction. That is to say, Krashen has neither proved that learning and acquisition are two separate systems, nor provided a measure for investigating whether they are separate or not (Gass & Selinker, 2008). All in all, as can be understood, No Interface position is largely discredited in the field and the debate continues to concentrate on Strong and Weak Interface positions (Ellis, 2014).

N. Ellis (2005, 2007) is a proponent of **Weak interface position** in the field. He claims that a relationship exists between explicit and implicit knowledge; although these two knowledge types are "dissociable", they are "cooperative" (2005, p. 305). By "cooperative", N. Ellis (2005) means that both conscious and unconscious mechanisms collaborate in all phases of cognitive tasks, including language processing. However, this collaboration does not imply that explicit knowledge may totally convert into implicit knowledge, or vice versa.

Strong interface position proposes that explicit knowledge can turn into implicit knowledge through repeated practice, as it is the case for skill-building theories (Obermeier, 2015). DeKeyser (1997) explains this strong relationship with a continuum. In this continuum, learning starts progressing from declarative knowledge about a skill or behavior to procedural knowledge, and finally to automatized knowledge. In other words, explicitly instructed language structures can become internalized and thus be converted into implicit knowledge through productive practice, i. e. performance.

Nevertheless, the question is which language components are within the access of the interface. That is to say, do the discussions on the interface of explicit and implicit knowledge include only grammatical structures? Are lexis or semantics involved, as well? According to the literature, aforementioned debate on the interface generally refers to higher level constructions and abstract language rules, framed under the title of syntax and/or pragmatics (Ellis, 2005). When it comes to the lexical aspect of language learning, similar to the other language aspects, scholars believe that in order to strengthen the connection between explicit lexical learning and implicit lexical knowledge gains, explicit lexical instruction must be integrated within a context of natural use (Ellis, 2005; Elgort, 2007; 2011; Obermeier, 2015). As an example, Ellis (2005) shares his notes from an observation on incidental word learning with deliberate conscious attention and noticing. In his study, the learner encounters a nonword in a fictitious language and partially understands the cognitive content of this word by a process of syntactic bootstrapping in which the morphosyntactic contexts cue that there is a new noun to be worked out. Within the context, gradually, the learner tries to deduce its meaning through deliberate conscious attention, contextual clues and interaction with the companion. Finally, the meaning of this nonword is revealed due to the incidental encounters of the word within the context, indicating that for implicit lexical knowledge gains, natural contextual use, when accompanied by some clues and frequent encounters, is required.

2.4. Studies on Explicit and Implicit Knowledge

Since the beginning of 1980s, many studies have been carried out in order to investigate how effective explicit and implicit instructional conditions are on the development of explicit and implicit knowledge. Norris and Ortega (2000) conducted a meta-analysis and examined 49 studies between 1980 and 1998. According to their results, first, instruction leads to knowledge gains, especially the explicit instruction.

Second, this direct instruction proves to be more influential in developing both types of knowledge. Finally, the developed new knowledge is long-lasting. Apart from that, in their meta-analysis, they have found many differences between studies in terms of explicit and implicit knowledge gains, based on the operationalization of the measures of implicit and explicit knowledge. Within those studies analyzed, explicit treatments such as memorization tasks and decontextualized language use is favored.

Tode (2007) attempted to examine the durability of the effect of explicit and implicit instructions on beginning EFL learners' learning of the copula be. Three groups of 89 Japanese junior high school students took part in this quasi-experimental research. The first was explicitly instructed on the rule of the copula be. The second group was given implicit instruction under which the participants memorized exemplars without focusing on the rule. The third group was not given any treatment on the target structure. The findings revealed short-term retention for explicit instruction group but not the others, and no long-term retention was observed for all three groups. Tode (2007) attributes these findings to the fact that the instruction irrespective of whether it is explicit or implicit requires some adjustments to retain its effects such as follow-up practice and corrective feedback.

As another study, Loewen, Erlam, and Ellis (2009) attempted to scrutinize the impact of implicit knowledge by drawing learners' attention to a different structure (the indefinite article *a* to express generic meaning) apart from the target structure (third person -s). This study demonstrated that incidental acquisition of third person -s as either implicit or explicit knowledge did not take place although learners were exposed to multiple examples of it during instruction, which can be explained by the fact that because of the nonsaliency of the feature, blocking, and the powerful distracting effect of the instruction, the learners did not dual-task, as a result did not notice the structure in the input and no knowledge gains were revealed.

In a meta-analysis by Spada and Tomita (2010), 41 studies investigating explicit and implicit instructional techniques and measures were concentrated. Findings showed that explicit and direct techniques were more efficient in facilitating not only explicit but also implicit knowledge than indirect instruction. These findings are also supported by another recent study carried out by Andringa, de Glopper, & Hacquebord (2011) in which it was revealed that explicit and implicit instruction promoted the use of the target structures in similar tasks equally effectively. Also, a correlation between explicit and

implicit measure was observed, as an indicator showing that they, somehow, assess the same construct.

All these studies in the literature have led to the assumption that aforementioned analysis on explicit and implicit knowledge do not measure different constructs although these knowledge types are acknowledged to be separated but related. In other words, implicit knowledge cannot be measured in the same way as explicit knowledge. In the following section, a different way of assessing implicit knowledge is presented.

2.5. Assessing Implicit Knowledge

How effective the explicit instruction is on expanding explicit and implicit knowledge during a second language learning process has been extensively investigated in the recent years. Nevertheless, the ongoing debate on the extent to which the explicit teaching can contribute to the implicit knowledge gains still continues to exist. According to R. Ellis (2005, 2009), this debate partly results from the fact that not only the operationalization of implicit knowledge is difficult but also no appropriate test for measuring this knowledge is present, which is a very well supported view by the meta-analysis of Norris and Ortega (2000) in that the tests used in order to evaluate the efficiency of explicit language instruction in facilitating implicit knowledge do not actually assess the implicit knowledge but rather explicit knowledge. In a similar vein, in a validation study, R. Ellis (2005) revealed that implicit and explicit knowledge are two distinct constructs although they are related, by proposing measures of both knowledge types focus on separate factors. As a matter of fact, different measures for explicit and implicit knowledge can be achieved if the implicit knowledge is appropriately operationalized (R. Ellis, 2005; 2009; R. Ellis et al., 2009; Akakura, 2012). Within this perspective, psycholinguistic techniques are relied on for deeper analysis in implicit knowledge gains.

Tokowicz and MacWhinney (2005) administered the participants, English speakers of L2 Spanish, two measures - one is an explicit instruction measure while the other is an Event-Related Potential (ERP) behavior measure - and results illustrated that the performances of subjects in two measures are different. Likewise, Osterhout, McLaughlin, Pitkanen, Frenck-Mestre, and Molinaro (2006) tried to evaluate the ERP behavior of English learners of L2 French and their study indicated that although the subjects did not do well in the explicit instruction task employed, they showed ERP

behavior qualitatively similar to the natives. In sum, the findings of such studies indicate that psycholinguistic measures, such as ERP, are appropriate candidates for assessing implicit knowledge and the results of such measures can suggest that when operationalized properly, implicit knowledge may develop before explicit knowledge, even in a short period of instruction time (Sonbul & Schmitt, 2013).

Priming technique is another predominant experimental paradigm utilized in research on cognitive aspects of language acquisition, especially explaining the processing and operationalization of a target language pattern. Although it has been originated in the field of theoretical psycholinguistics, it has become increasingly prevalent in applied linguistics over the past two decades (Trofimovich & McDonough, 2011).

2.5.1. Priming technique

Priming research has been a part of cognitive psychology, psycholinguistics, and neuroscience for a long time. However, it is relatively new to field of second language acquisition (Trofimovich & McDonough, 2011). In this field, priming is defined as a term referring to the fact that prior experience with a specific language form or meaning either facilitates or interferes with a person's subsequent language comprehension or production (Trofimovich & McDonough, 2011). The main purpose with such priming experiments in SLA is to reveal the existence of a relation among neural processing subsystems and differentiate their functions with respect to people's interpretation and understanding of language meanings. Built relationships among these fostered neural subsystems influences not only the fluency development but also the language proficiency itself. Knowing a word or language construction well enough to facilitate priming means that the knowledge has been reinforced appropriately enough by the learner in order to be converted into a part of automatic processing systems. This conversion demonstrates the quality of the knowledge and the priming represents built relationships among neural subsystems required for subsequent processing.

Rueckl (2003) notes that two contrasting theoretical views dominates the literature on priming effects, which are theories of memory or theories of activation. In the theories of activation, physiological mechanisms underlying priming are different from general learning processes in which priming is acknowledged as a form of subconscious response irrespective of learning. These theorists believe that in Pavlov's dog experiment, as an

example, salivation is activated as a reaction of bodily mechanisms, not as a result of learning. Therefore, from the activation perspective, priming is explained as a cognitive after-effect related to domain-specific mechanisms rather than a perceptual phenomenon referring to the relations between different mechanisms (Rueckl, 2003, p. 67). On the contrary, in theories of priming from a memory perspective, the concern is less related to the physiology and more to the organization of memory. The primary focus is on whether a singular or separated memory system is available. Distinctions are made in terms of episodic vs. semantic memory as well as declarative vs. procedural knowledge. In this sense, explicit vs. implicit dichotomy in the field of second language acquisition is accepted within the scope of this perspective on the organization of memory. From the memory view, priming is acknowledged as a part of learning and remembering.

According to Rueckl (2003), the connectionist theories combine these activation and memory theories and propose that priming is a form of learning in which other classes of phenomena related to specific neurological subsystems are also involved in perceptual and mental tasks. In line with this, the connectionists explain cognitive processes with respect to nodes in a network, which represent the features of the processed input. When a stimulus is provided, a flow of activation takes place within the network. When the lexical processing is concerned within this perspective, Reuckl (2003) states that the connectionists proposed a triangle model of lexical representations composed of three separate layers representing the orthographic, phonological, and semantic features of a word (p. 71). This model suggests that words with similar spellings have similar patterns of activation over the orthographic layer; words with similar sound have similar patterns of activation over the phonological layer and words meaning the same have similar patterns of activation over the semantic layer.

Overall, with priming research, it is aimed to provide not only insights about subconscious mental processes, but also explanations on issues of memory organization. Typically, priming experiments are carried out by cognitive psychologists, neuroscientists and psycholinguists on native speakers. However, in the field of SLA, these experiments are conducted with non-native speakers of a language in order to understand their language comprehension, production and processing, that is to language acquisition. As these experiments provide information of which language learners are unaware, this information can be acknowledged as evidence of implicit and automatic knowledge, which cannot be measured through traditional tests limiting the focus only to

the explicit knowledge and strategical processes. Trofimovich and McDonough (2011) suggests three types of priming methods utilized in SLA research; auditory, syntactic and semantic priming. With auditory priming, learners' perception of the target language is revealed in spoken language. Syntactic priming clarifies about learners' awareness on grammatical patterns of the language and the development of these patterns in time. Finally, semantic priming demonstrates how a previous experience with a word or picture facilitates the processing of a semantically related word or picture. Psycholinguistic research studies have commonly employed these types of priming in different psycholinguistic measures such as lexical decision tasks, object decision tasks and semantic reading tasks in order to investigate how target language patterns are processed and operationalized as an evidence of acquisition.

Apart from all these, returning to the issue of explicit vs. implicit dichotomy, as mentioned above, theories of priming from a memory perspective provide deeper insight into this distinction. In this sense, a number of studies in the field of SLA focused on explicit vs. implicit dichotomy administering the priming technique. As an example, Segalowitz, Watson and Segalowitz (1995) designed a study to investigate the extent to which English word recognition is supervised by automatic processes when compared to controlled processes. Generally, as a measure for word recognition, lexical decision tasks are utilized by comparing response times (RTs). The study also focused on the development of automaticity in word recognition skill for selected words as a result of reading experience carried out for three weeks. Their findings revealed faster response times with automatic processes, that is the more an item is seen, the faster it is processed. Additionally, the reading task proved to have a positive impact on the response times as it facilitated a change in the nature of the underlying recognition process, resulting in automaticity.

Elgort (2007, 2011) designed three experiments so as to investigate acquisition of some learnt pseudowords through a lexical decision task with a visual stimulus and three different priming conditions. Her main aim was to examine how effective the intentional decontextualized learning of target vocabulary was on the internalization of those words. First experiment revealed a prime lexicality effect for 7- and 8-letter, but not for 9-letter stimuli. Second experiment indicated identity priming effect for newly acquired pseudowords, regardless of the length of the words. As a result, these two experiments indicated that formal-lexical representations of target vocabulary seem to have been

attained. The final experiment was conducted on semantic representations of pseudowords, and the findings revealed that lexical-semantic representations of the target words was established, and these representations started to integrate into subjects' system. Overall, Elgort's (2007, 2011) studies verified that higher degree of automaticity was observed for learnt pseudowords than nonwords and low frequency second language words, which proves that deliberate learning facilitates the representational and functional dimensions of second language vocabulary knowledge.

As another study, Elgort and Piasecki (2014) conducted a research on 41 late adult German - English bilinguals and evaluated the effect of using bilingual (L2 - L1) flashcards as deliberate learning technique on bilingual L2 vocabulary learning. Lexical representations in the study were analyzed using form priming and semantic priming. The findings indicated robust formal-lexical (orthographic) representations for target pseudowords but only bilingual subjects with high level of second language vocabulary could establish high quality lexical- semantic representations, which suggests that the ability to understand the meaning of a word from its forms, or vice versa, does not seem to provide much explanation about the quality of lexical knowledge.

Likewise, Elgort and Warren (2014) studied the acquisition of second language vocabulary through reading an authentic text. Upper-intermediate and advanced level English learners were the subjects of the study. They were expected to read a text specifically designed for analysis of pseudowords placed purposefully. A meaning generation task was employed to analyze the explicit knowledge of target pseudowords and a lexical decision task was used in order to examine form and semantic priming. The researchers found out that individual differences such as age, language proficiency, learning strategies etc., lexical features and text characteristics like concreteness, frequency etc. individually or altogether had an effect on second language vocabulary acquisition process.

Apart from the analysis of lexical gains in terms of single words, some researchers have studied multiword sequences resorting to psycholinguistic measures. As an example, Underwood, Schmitt and Galpin (2004) adopted an eye-movement technique in order to investigate the way eye tracks the words in formulaic units when compared to non-formulaic sequences in given texts. Their assumption here is that this analysis would reveal the underlying mental processing controlling the eye movements. The results of the study showed fewer fixations on target words when they are the target word in the

multiword unit, which maintains the view that the brain processes such sequences as a whole. Moreover, faster recognition was revealed when the target word is the final word, but this was applicable just for native subjects. Non-native participants did not show such a pace, which indicates that while learning formulaic units, high level of mastery is required for shorter fixation times.

In a follow-up study, Schmitt and Underwood (2004) explored the underlying processing of multiword structures through a self-paced reading task as a measure since they want to focus on each component of the target units. Their findings showed that recognition times for target formulaic units were lower for native participants, which supports the previous study. Regarding the analysis on the final components of the units, it is revealed that these target words were processed a little faster than control words by both native and non-native participants, but the analysis did not prove to be statistically significant. According to the researchers, this may be because subjects wanted to see all the unit together, not words separated, or it might be because the terminal word was not the proper candidate for analysis as participants may have slowed down to the end of the sequence and therefore the results proved insignificant. Another finding is that the recognition time for the words in the units that are known were much faster for non-native subjects, but this may be result from the difficulty effect of unknown units. Overall, as Schmitt and Underwood (2004) are the first researchers to use a self-paced reading task to explain the processing of multiword sequences, it seems clear that they have raised some questions in minds, answers of which may provide some theoretical understanding of lexical processing, especially in terms of the explicit and implicit dichotomy.

In another study, Tremblay et al. (2011) scrutinized whether lexical bundles - a sequence of three or more words that co-occur frequently in a particular register (Biber, Johansson, Leech, Conrad & Finegan, 1999) - are processed holistically or not. They carried out three self-paced experiments and compared sentences containing lexical bundles with sentence fragments including non-lexical bundles of much lower frequency. According to the results, participants read sentences with lexical bundles much faster in all three experiments. What is more, the analysis of two more follow-up experiments, a word and sentence recall task, revealed that target lexical bundles presented in previous self-paced tasks were remembered correctly, which suggests that frequent formulaic units may leave some traces in the memory.

One last study on multiword units was carried out by Obermeier's (2015). Based on Elgort's (2007, 2011) studies, Obermeier (2015) designed a research in order to investigate the impact of deliberate learning on the acquisition of multiword units in terms of three conditions; namely formal representations, formulaic sequencing and semantic association gains. The tasks applied were a masked priming lexical decision task as well as a self-paced reading task. Response times were collected for each task and analyzed in a repeated measures linear mixed-effects model. The analysis of masked priming LDT indicated increased priming effects for learnt figurative multiword units, proving that implicit knowledge gains were attained with respect to formal and semantic representations as a result of deliberate learning. On the other hand, the results of self-paced reading task showed formulaic sequencing gains regarding literal multiword units, resulting from both incidental and deliberate learning. As for semantic association gains, self-paced reading task revealed similar effects of deliberate learning for literal and figurative multiword units.

All in all, as understood from the literature above, attaining implicit knowledge has always been the main concern of the vocabulary acquisition research for years. In this regard, the criteria for examining the tacit knowledge gains is explained as follows.

2.5.2. Criteria for investigating implicit knowledge gains

In order to understand implicit knowledge processes, operationalization of its measures is an important element to keep in mind (Gass, 1999). Based on Elgort's (2007, 2011) studies, Obermeier (2015) proposed four criteria to investigate the implicit knowledge gains of multiword sequences (p. 85):

    a) The analysis of formal-lexical representations of target multiword units

    b) The analysis of individual words of multiword units that are formulaically sequenced as a coherent whole

    c) The analysis of lexical-semantic representations of target multiword units

    d) The analysis of the fluent access to the lexical representations of newly learnt multiword sequences

In the present study, the implicit knowledge gains have been investigated based on Obermeier's (2015) criteria as his criteria involve not only formal but also semantic representations, in addition to formulaic sequencing of determined word combination.

The word combination focused in this study have been specified as "Phrasal Verbs" since they are the multiword sequences that have always posed difficulty for non-native speakers of English to acquire due to the unpredictability of their meanings (Lee, 2012; White, 2012), which leads those learners, especially low proficiency ones, to avoid using phrasal verbs within a context (Laufer & Eliasson, 1993; Liao & Fukuya, 2004; Kayael, 2007; Barekat & Baniasady, 2014; Güleryüz Adamhasan, 2014; Saltık, 2014; El-Dakhs, 2016).

2.6. Research on Acquisition of Phrasal Verbs

In the present section, the studies on acquisition of phrasal verbs are presented. Within this perspective, first difficulties learner encounter while learning phrasal verbs and the sources of these difficulties are mentioned. Then, the research on how to teach these structures are given.

2.6.1. Learners' problems with phrasal verbs

As mentioned beforehand, phrasal verbs in English are among the elements that are notoriously challenging especially for ESL/EFL students (Kurtyka, 2001; Gardner & Davies, 2007; White, 2012; Güzel, 2014; Güleryüz Adamhasan, 2014; Saltık, 2014). One of the reasons for the challenge the learners face results from the confusion about the terminological definition of the phrasal verb, the application of which produces conflicting results (Darwin & Gray, 1999). Although the phrasal verb is usually defined as a verb + particle combination acting as a single verb, there is no consensus on whether a verb + particle combination is admitted as an example of a phrasal verb or a free combination (such as *drink up*) (p. 66 - 67). As a result of the confusion about the definition of the PV, teachers and students experience problems with the proper uses of PVs including movements of the particles as is the case in separable and inseparable transitive PVs. Darwin and Gray (1999) exemplify this confusion that if language learners are told particles in PVs cannot be fronted but provided with some PVs such as *improve on* and *go down* which do permit particle fronting, it is expected that those learners get confused and finally resort to avoidance of PVs.

Celce-Murcia and Larsen-Freeman (1999) also argue the extreme uniqueness and wide variability of phrasal verbs, which leads to crucial problems about their learning, especially related to their semantics. The semantic unpredictability plus random and

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unsystematic use of PVs are recognized as a source of difficulty, as well. It may sometimes be possible to guess the PV meaning referring to its components - verb and/or adverbial particle - but this is not always applicable due to the idiomatic aspect of PVs (Darwin & Gray, 1999), which is called "deceptive transparency" (Laufer, 1997, p. 25). Deceptive transparency is the fact that the meanings of PVs cannot always be understood by analyzing the inherent constituents. In other words, these structures may have other polysemous meanings (Schmitt and Redwood, 2011; White, 2012). Gardner and Davies (2007) examines the British National Corpus and comes up with the finding that 100 most frequent verb + particle combinations have an average of 5.6 different meanings (p. 353). According to Dagut & Laufer (1985), two difficulties are observed with polysemous PVs, one of which is that learners may not be acquainted with the extended idiomatic meanings of target PVs that are not literal and transparent. The other difficulty lies behind the fact that the learner may not be familiar with the PV form itself, and hence try to analyze the structure as separate words rather than a word combination as a chunk. Both of these problems either results in learners' generally resorting to one-word equivalence rather than the PV forms (Dagut & Laufer, 1985; Celce-Murcia and Larsen-Freeman, 1999) or avoidance (Saltık, 2014).

Another reason about the difficulty in learning PVs is related to the mother tongues of learners of English. According to Neagu (2007), learners who lack PVs in their mother tongue have difficulty in understanding and mastering these structures. Celce-Murcia and Larsen-Freeman (1999) proposes that phrasal verbs are generally unique to Germanic languages like English, German, Dutch, etc. and based on this, studies show that learners from non-Germanic languages experience problems in terms of comprehension and use during the learning process (Dagut & Laufer, 1985; Liao& Fukuya, 2004). As a matter of fact, all these difficulties may result from the typological difference between the mother tongue and the target language being learnt. To explain, different lexicalization of conceptual structures is observed in different languages (Talmy, 2000). As an example, core schema of the path trajectory such as movement is given through a satellite to the main verbs like a particle or a preposition in languages like German and English; however, the verb provides that schema itself in languages like Japanese, Korean and Turkish (Talmy, 2008), which provides the reason why verb-framed language speakers are unable to understand the importance of the satellites and master them. In the case of PVs in English, adverbial particles are the satellites, and for a learner of a verb-framed

language they may pose difficulty in both understanding the orientational meanings of particles and their preferability to one another. Within this perspective, Yasuda (2010) claims that as such learners are not well-informed about the contribution of adverbial particles to the whole PV structure, they recognize these verb combinations as idiomatic and inseparable (p. 251), which, once again, results in avoidance (Laufer & Eliasson, 1993; Liao & Fukuya, 2004; White, 2012).

When the satellite-framed languages are concerned, the presence of prepositions and/or adverbial particles in a sentence and the difference between them may be another source of difficulty for learners of such languages. It is not always easy for learners to determine whether a preposition or a particle should follow a noun, adjective or verb since a particle changes the meaning of the structure it is combined whereas a preposition do not (Heaton, 1965; p. V). Furthermore, some particles such as about, over, through etc. can be used as both an adverbial and a preposition in specific word combinations while others cannot. Also, some PVs take a pronoun as its object whereas some others do not (Collins Cobuild Dictionary, 2002). Herein, learners have problems in mastering the meanings of the verbs when they are conjoined with a preposition or a particle, especially when they do not know the meaning of the main verb as meanings of the verbs change with each different particle and/preposition (Alexandra, 2001). This makes a whole sentence incomprehensible and difficult to process (Güleryüz Adamhasan, 2014).

One last difficulty learners face about the grammatical forms of PVs results from the adverbial particle and its place in a sentence. Despite PVs being multiword constituents, particles can be separated from the main verb in accordance with its transitive or intransitive nature. Schmitt and Redwood (2011) claims that this is a problematic aspect of PVs which come up with the questions of "Which PVs can be separated?" and "What is the structure that can separate main verb and the particle in a PV?". What is more, these kind of uses includes not only transitivity and grammatical dimensions, but also context, target meaning and syntactic possibilities, as well, which further complicates the PV learning process.

Schmitt and Redwood (2011) also argues that PVs in English has a productive nature. That is to say, the number of PVs increases, and new ones are produced in time. Gardner and Davies (2007) discuss that the most frequent 160 PVs in the corpus are generated from 20 verbs and 8 particles, which poses difficulty for ESL/EFL learners in that it is always possible for them to encounter a verb with a different particle in different

contexts. That is why Celce-Murcia and Larsen-Freeman (1999) name PVs as "ubiquitous". Also, Gardner and Davies (2007) supports Celce-Murcia and Larsen-Freeman (1999) by stating that learners of English are expected to come across a PV in every 150 words they are exposed (p. 347), making the mastery of PVs much complicated and troublesome.

Overall, it seems obvious that English PVs have gained notoriety with its challenging structure in terms of its obscure definition, extreme uniqueness to specific languages, wide variability, polysemous nature, grammatical complexity, productivity and ubiquity. When all these challenges are concerned, PV constructions appear to require some attention from language practitioners in the teaching process. In the following section, the traditional and current approaches while focusing on PVs and possible problems resulting from these methods are explained.

2.6.2. Studies on teaching/learning of phrasal verbs

In traditional approaches, PVs are generally presented as arbitrary verb + particle combinations. Syntactic properties of verbs are the main concern of such approaches and they ignore the semantic contribution of particles in the overall meaning (Castillo, 2017). PVs are presented around the main verb (i.e. put) and followed by different particles (i.e. put up, put down, put off etc.), which urges the learners to list the target PVs with their L1 equivalents and memorize them, leading the aforementioned difficulties above.

With a criticism, Kurtyka (2001) attempts to categorize current approaches in terms of syntactic aspects or semantic contents of PV. The focus of formal and syntactic approaches is the main verb or the particle. In these approaches, language exercises and activities are designed grouping PVs centered on either common verbs such as *come, take, get, go* etc. or the particles like *out, off, down* etc. irrespective of their semantic aspect. The grammar book by Carter and McCarthy (2006) called *The Cambridge Grammar of English* adopts this approach and presents the PVs by classifying them accordingly.

On the other hand, the semantic approach is developed organizing target PVs around specific themes such as *illnesses, relationship* or *family*. As an example, Acklam and Burgess (1996) categorizes PVs like *grow up*, *bring up*, *get on* etc. under the title of "family" and presents the related exercises based on this theme.

Another approach combines the syntactic and semantic aspects of PVs. In this approach, Heaton (1995) not only classifies target PV structures in accordance with the

particles and the themes, but he also provides learners with the semantic analyses of those PVs. This approach is highly criticized by Kurtyka (2001) in that, the difference between figurative and literal meanings of PVs is ignored during instruction, resulting in problems in mastery of target idiomatic expressions.

Additionally, in their practice book called *"English Phrasal Verbs in Use - Intermediate"*, McCarty and O'Dell (2004) suggested a way of teaching based on the categorization of PVs according to their functions in specific contexts in order to *oppose, support, discuss problems, arrange things* etc. and to some concepts such as *time, cause and effect, change, memory, sound* etc. As an example, to express the cause and effect relationship in a written context, PVs like *stem from, result in, depend on, point to* etc. are introduced together. Following that, some receptive activities including matching and replacing are administered. Finally, a sentence production task is carried out as an answer to some questions provided.

Celce-Murcia and Larsen-Freeman (1999) in their book called *the Grammar Book* first define the syntactic aspects of PVs focusing on composition, transitivity and separability, then introduce the semantic categories of PVs as literal, aspectual and idiomatic PVs. As a conclusion, they note the most challenging dimension of PVs as the idiomaticity and acknowledge that although PVs reveal some "Semantic Systematicity" to some extent, it is not sufficient to eliminate the learning problems caused by idiomaticity (p.436). Therefore, a more systematic and motivating approach in terms of semantic load is required for thorough understanding and longer retention of PVs.

Along with this line, an attempt of teaching PVs based on conceptual metaphor theory is taken in this study. In the following section, the explicit instruction in the light of this theory is explained in detail.

2.7. Conceptual Metaphor Theory

Conceptual metaphor theory is developed based on the term "metaphor" that is rooted in the conceptual system of people's everyday lives (Lakoff & Johnson, 1980). Herein, the analysis of metaphor covers not only the thoughts and actions, but also the language itself. As a matter of fact, conceptual metaphor theorists acknowledge language as a source of evidence for the conceptual systems that is to a large extent metaphorical, since communication and interaction is also a part of the same system, grounded in the experiences with the outer world (Lakoff & Johnson, ibid).

Conceptual metaphors are conceptualizations that show "how humans understand the world and how all aspects of language are structured" (Tyler, 2008, p. 460). These metaphors also play a central role in defining everyday realities within people's conceptual system (Lakoff & Johnson, 1980; 2003). As can be understood, these metaphors are significant in understanding the human thinking processes as they may even reveal the unconscious thoughts, as well (Johansen, 2007, p. 11).

Conceptual metaphors occur with the inferences between the knowledge from two different domains or concepts. In other words, knowledge about a domain is mapped onto another concept, which results in conceptual metaphors. These metaphors comprise of two components which are named as target domain and source domain (Lakoff & Johnson, 1980). Target domain is the concept that is mapped onto whereas source domain is the domain that is mapped from. Indeed, source domain provides the inference patterns in order to reason about the target domain (Lakoff & Johnson, 2003).

To explain, source domain is a basic and easily accessible concept such as attributes, processes, relationships that are semantically associated, and thus stored in mind together. On the other hand, target domain is a much more abstract concept that cannot be directly experienced, and therefore in need of help - conceptual metaphors - to mirror the source domain's features. In this sense, the "logic" of a language is based on the coherences between the spatialized form of the language and the conceptual system, especially the metaphorical aspects of the conceptual system (Lakoff & Johnson, 2003).

YOU ARE **WASTING** MY TIME.

WASTE

(SOURCE DOMAIN)   (TARGET DOMAIN)

"TIME IS MONEY."

Figure 2.1. *An example of a conceptual metaphor: Time is Money.*

As illustrated in Figure 2.1, "TIME IS MONEY." is a conceptual metaphor (Lakoff & Johnson, 2003, p. 7-8). In this example, the source domain is MONEY, which is more concrete and easily understood whereas TIME is the target domain that is more abstract and difficult to grasp. Concept of MONEY that we already have is mapped onto the concept of TIME corresponding to the idea that TIME is as valuable as MONEY. Therefore, we understand and experience TIME as the kind of a concept that can be *spent, wasted* or *saved*.

Similarly, Lakoff and Johnson (2003) provide some sentences as follows:

You're *wasting* my time.

This gadget will *save you* hours.

He's living on *borrowed* time.

You don't use your time *profitably*.

All the sentences above covers the topic of TIME and the domains are developed based on the relationship between people and MONEY, since TIME IS MONEY is the conceptual metaphor for all the sentences above.

Another conceptual metaphor example by Lakoff and Johnson (2003) is HAPPY IS UP. "I'm feeling *up*.", "My spirits *rose*." and "You are in *high* spirits." are provided as the metaphorical expressions based on that conceptual metaphor (p. 15). For these everyday expressions, Lakoff and Johnson (2003) discuss the relation between the concepts HAPPY and UP. They also note that these expressions are commonly used in written and spoken contexts although the exact metaphor HAPPY IS UP is rarely present.

2.7.1. Features of conceptual metaphor theory

Based on Lakoff & Johnson (1980), Johansen (2007) lists six points for understanding the functions and structures of conceptual metaphors. First of all, *cultural dependence* appears to be a crucial element for analysis of conceptual metaphors. This means that the most culturally important values comply with the metaphorical structure of the crucial concepts in a culture (Lakoff & Johnson, 1980, p. 22). To exemplify, for the expression "The future will be better.", the conceptual metaphor is THE FUTURE IS UP or GOOD IS UP, through which modern culture and the concept of development is reflected (Lakoff & Johnson, ibid).

The second point Johansen (2007) mentions is the *partial* nature of conceptual metaphor structuring (p. 14). Fan (2006) explains this view in that in understanding one concept through the mapping of another, some aspects of concepts are left hidden. That is to say, when the target domain mirrors the source domain, only some of the features of the concept is mapped, not all. To illustrate, Lakoff and Johnson (2003) put forward that with the conceptual metaphor THEORIES ARE BUILDINGS, only the *strength* of theories or the *structure* and *foundation* the theories (outer part) are based upon is mentioned. However, the relationship between theories and *floors, rooms, windows* (inner part) are disregarded although they can be accepted as some features of buildings, as well (p. 52).

Thirdly, *multiple mappings* may be observed with conceptual metaphors. According to Johansen (2007), many different conceptual metaphors may point to one single concept in order to identify different ways of understanding that concept. For instance, human mind can be conceptualized either as a MACHINE that operates like an engine or a BRITTLE OBJECT that is easily disrupted in terms of psychology (Lakoff & Johnson, 2003, p. 28).

We've been working on this problem all day and now we're *running out of steam.*

(MIND IS A MACHINE)

The experience *shattered* him. (MIND IS A BRITTLE OBJECT)

Fourth point by Johansen (2007) is the systematicity required in the process of mapping from the source domain to target domain. This means that domains that are mapped onto other concepts are not selected randomly, but rather the conceptual system is *grounded* in a particular way. As an example, when the expression "I'm depressed." is concerned, the automatic and unconscious connection is established with the underlying conceptual metaphor SAD IS DOWN. This systematic mapping is performed by *Invariance Principle* by Lakoff (1993) in that a consistency is carried out between cognitive topology of source domain and internal nature of target domain in metaphorical mapping (p. 208), which confirms that the negative sense in the DOWN domain is in parallel with assumptions in the SAD domain, rather than other senses.

The fifth property of conceptual metaphors Johansen (2007) describes is *highlighting* and *hiding*. Following Conceptual metaphor theory, in the mapping process some features of target domain can be selected to be highlighted whereas some others

could be hidden through features of the source domain. For instance, in the conceptual metaphor HAPPY IS UP, positive senses inferred by UP is promoted and highlighted. On the other hand, in the metaphor LIFE IS A GAMBLING GAME, life is conceptualized as a game with consequences of either winning or losing by chance, but aspects of actual gambling situations are, for sure, disregarded and hidden.

Final point mentioned in Johansen's (2007) analysis is that conceptual metaphors have some *philosophical implications*. Traditionally, mind and body are definitely separated and concepts in mind are generally objective and unfold based on conscious reasoning. After the empirical research on figurative language, it has become evident that most of the thoughts are unconscious (Johansen, 2007, p. 11) and the reasoning in mind is strictly tied to bodily experiences, which challenges the past views and lead the discussion to philosophical aspect of conceptual metaphors.

Understanding what conceptual metaphor theory is dwelt upon and covering the basic features of this theory, the relation between PV constructions and conceptual metaphors is explained under the following title.

2.7.2. Conceptual metaphor theory and PVs

Conceptual metaphors, as mentioned beforehand, are used in order to deal with the abstract concepts and relate them to people's physical interactions with the outer world in the form of linguistic expressions (Esparza-Castillo, 2017). As stated by Johnson (1987), *"...the embodiment of human meaning and understanding manifests itself over and over, in ways intimately connected to imaginative structuring of experience."*; that can be explained as *"...forms of imagination that grow out of bodily experience, as it contributed to our understanding and guides out reasoning."* (p. xiv). He considers two types of imaginative structure, image schemata and metaphorical projections. Image schemata is a recurring and dynamic pattern of people's perceptual interactions and motor programs giving coherence and structure to their experiences. As for the metaphorical projections, they are acknowledged as a pervasive mode of understanding by which patterns are projected from one domain of experience in order to structure another domain of a different kind. Therefore, metaphor is not just a linguistic mode of expression but rather, it is one of the chief cognitive structures which leads to coherent and ordered experiences which people can reason about and make sense of. With metaphors, people could use patterns in their physical experiences in order to organize more abstract

understanding. Within this perspective, in the present study it is assumed that conceptual metaphors can be utilized in order to reveal the mystery of phrasal verbs as a form of verb + particle component.

Particles, as one of the components of PVs, are crucial elements in mastering PV constructions since they may carry different meanings. Rundell (2005) claims that most of the common particles including UP, DOWN, BACK, OUT, OFF have both a literal meaning, that is the basic and core sense in terms of the spatial orientation, and a figurative use, which is accepted as the metaphorical connotation. In conceptual metaphor theory, the mental mappings of spatial orientations of particles are promoted and mirrored onto other domains expanding the literal meanings to much more figurative meanings without mere memorization (Yasuda, 2010). For instance, DOWN has the literal meaning of moving from a higher to a lower place in the following sentence "He has fainted and *fell down* on the floor." (Rudzka-Ostyn, 2003). However, it is also metaphorically equated with loss of status or power. That is to say, when a person leaves a powerful position, it is called *stepping down*. Also, when a director is removed from his/her high position in a profession, it means that "S/he is *brought down*." (Rundell, 2005). Indeed, the relation between DOWN and loss of power is based on people's experiences with the outer world: when two men have a fight and one of them strikes the other down, the loser who is physically on the bottom has lost the power. This systematic process indicates that particles with spatial orientations may come up with new, more abstract, metaphorical and mostly non-spatial meanings, leading more in-depth understanding of expressions (Evans & Tyler, 2005).

When the entire phrasal verb as a verb + particle construction is concerned, the aforementioned metaphorical orientations of particles provides a systematic semantic network for understanding the whole structure. According to Rudzka-Ostyn (2003), the particle with its spatial orientations may give the clues to the meaning of a PV as it is not selected arbitrarily. As an example, in the sentence "She *cheered up* when she saw the presents her friends had brought.", *cheer up* shows that the happiness level (as a feeling) moves to a higher position, or in the statement "The plane has just *taken off*.", *take off* indicates the removal of the plane from the ground. To conclude, with respect to conceptual metaphors, phrasal verbs are acknowledged as organized meaningful systems rather than arbitrarily formed structures, in which orientational metaphors promote mental mappings between two different domains, that is SPATIAL ORIENTATIONS

and ABSTRACT CONCEPTS, and strengthen the link between these domains in order to bring out the underlying meanings of PVs.

To clarify the relation between conceptual metaphors and PVs, the following sentences with the same PV are illustrated:

A police officer was killed when his car *blew up*. (Oxford Learner's Dict., 2000)

Jack will *blow up* when he sees what you have done. (Rudzka-Ostyn, 2003)

In the first sentence, *blow up* has the basic, literal meaning as "to be destroyed by an explosion" whereas in the second sentence, it has the idiomatic meaning of "getting angry with somebody". These two senses have a direct connection through some semantic similarities (Nhu & Huyen, 2009) that can be explained as follows: When a car *blows up*, there is an explosion with fire and boom. Likewise, when people get angry and *blow up*, they start shouting and storming. In these two meanings, the result is always an explosion either literally or metaphorically.

Apart from these PVs, some PVs have only a metaphorical meaning such as *end up* and *wind up*. Both of these PVs mean "to find yourself in a place or situation that you did not intend or expect to be in" (Oxford Learner's Dictionaries, 2000). On the surface, there appears to be no connection between the main verbs "wind" or "end" and the particle UP, but UP may sometimes express the meaning of "arrival at the very top, to the highest point", which can be metaphorically extended to "abstract limits". To this end, in the PVs *end up* and *wind up*, the activity seems to have reached the highest limit, and therefore comes to an end (Rustka-Ostyn, 2003, p. 88), bridging the meaning gap between the main verb and the particle and making the entire PV more explicable.

As can be understood, mastery of PVs within the perspective of conceptual metaphor theory seems to be demanding since the transition of PV meanings from concrete to abstract may not be familiar to the language learners (Neagu, 2007). However, as an alternative to traditional approaches such as rote memorization, it appears facilitating in terms of removing the heavy load on learners' memory.

In the next section, theoretical as well as empirical studies conducted on phrasal verbs constructions based on the conceptual metaphor theory are presented in detail.

2.7.3. Research on conceptual metaphor theory and PVs

The paradigm of conceptual metaphor theory appears appealing in the PV acquisition process as it has the potential to stimulate alternative and complementary

strategies for learning PV constructions as opposed to rote memorization as a traditional view.

Neagu (2007) revisited the issue of English PVs from the viewpoint of conceptual metaphor theory. She sought answer for the question of whether particles are purely idiomatic or composed of clusters of related and transparent meanings so that they can be used in a quite motivated and logical way. The researcher focused on only two particles, *out* and *up* by considering spatial domain as the source for a large variety of semantic extensions through metaphors. The analysis of these two particles demonstrated that particles in PV in English disclose figurative meanings derived from central/prototypical locative meaning. This indicates that abstract senses do not develop randomly but there is a systematicity that should not be disregarded if it is expected to reduce the amount of memory load learners of English have in mastery of PV constructions.

Porto Requejo and Pena Diaz (2008) analyzed the meanings of some PVs by applying the conceptual model of prepositions as large networks of related senses with a central spatial meaning that could be extended towards more abstract, metaphorical senses. The target particles were *in* and *out*, referring to the container concept. A number of metaphorical projections emerged from the analysis that evidenced both the unitary meaning of the particles in different contexts and the motivation underlying the apparent arbitrariness of the particles. In other words, all the possible senses of a particle appear to be related and therefore motivated, instead of constituting a bunch of arbitrary, unconnected senses. As a result, the metaphorical meanings of particles can be generalized and transferred to new PVs when they are operationalized appropriately.

Likewise, Arıca Akkök (2009) focused on teaching PVs in the light of conceptual metaphor theory as an alternative to the traditional approach resulting in difficulties language learners face when learning PVs. Based on Rudzka-Ostyn's (2003) conceptual framework, the researcher explained semantic features and cognitive motivations of PVs by resorting to the orientational metaphors of particles. The target particles focused in this study were *up, down, in* and *out*. Both core and metaphorical senses of these four particles were explained with specific schemas and examples. Following the conceptual explanations, Arıca Akkök (2009) provided some sample activities to be used in the teaching process.

Apart from these, many empirical studies have been conducted in order to investigate the effects of the instruction through conceptual metaphors on PV acquisition.

To start with these studies, Boers (2000) carried out an experimental research with French university students. Participants were separated into two groups as control and experimental groups. They were then asked to fill-in-the-blanks of a reading passage designed in the form of a cloze test with appropriate PVs. Subjects in the control group were provided with explanatory PV instruction in the form of a list as in alphabetical order in a dictionary whereas the experimental group received the same instructional treatment as well as extra information on orientational metaphors of adverbial particles. Findings indicated that the participants in the experimental group outperformed the ones in the control group in terms of their correct answers in the cloze test, which shows that raising awareness on metaphorical expressions focusing on the orientational metaphors of the particles help learners process PVs more effectively rather than by rote learning and blind memorization.

In a similar vein, Nhu and Huyen (2009) investigated the effects of conceptual metaphor theory for four particles *in, out, up* and *down* (two pairs of opposite particles). With a quantitative research design, the study focused on 124 high school students, separated into two groups as experimental and control groups with equal numbers of participants. Some fill-in-the-blanks and guessing exercises were administered to the subjects and the researchers found a statistically significant difference between two groups, revealing that PV instruction in the light of conceptual metaphor theory does improve learners' ability to guess the meaning of unfamiliar PVs when compared to the traditional approach.

In order to compare the traditional PV instruction, which is rote memorization, with PV instruction through conceptual metaphors, Yasuda (2010) divided 115 Japanese university students into two, as experimental group with 59 participants and control group with 56 subjects. The participants in the control group learned a set of PVs through traditional instruction, whereas those in the experimental group received the same input through conceptual metaphors, adapted from Lakoff and Johnson (1980). Then, all the subjects were asked to fill in the missing adverbial particles of 42 PVs, 21 of which were exposed PVs during the treatment process, and the rest were unexposed ones. The findings indicated that the participants in the experimental group performed significantly better than those in the control group in terms of unexposed PVs. Yasuda (2010) concludes that when the target PV structures are not stored as a unit in learners' mental

lexicon, learners knowledgeable about conceptual metaphors may resort to the notion of metaphorical orientations of particles in order to make an educated guess.

Lee (2012) designed a study to highlight the systematicity of the semantics of PVs and to reinforce learners' conceptual understanding with various learning activities. The researcher focused on three particles *out, up* and *over* in six 50-min class sessions. Participants' performances in different tasks such as in-class tests and homework assignments were examined quantitatively and qualitatively. The quantitative data was composed of multiple-choice tests investigating whether participants could choose the proper PV for specific sentential contexts whereas the qualitative datasets included some tasks like verbalizations, definitions and explanation tasks. The purpose of these tasks was not only to reveal effect of instruction, but also to reinforce the learning process. The findings of the study revealed that participants' performance significantly improved, their guessing rate decreased, and the metaphorical knowledge was also generalized and transferred to new items. Moreover, participants' explanations became semantically rich and image-oriented. All in all, these results indicate that in order to draw learners' attention to the conceptual bases of grammatical features such as PVs, there is a need for meaning-oriented grammar instruction which is more advantageous in promoting conceptual understanding, theoretical thinking and practical application.

Contrary to these findings in the literature, Yang and Hsieh (2010) argued against the evidence of conceptual metaphor awareness facilitating memory retention of PVs. They conducted this study with 30 eighth-grader junior high school students in Taiwan. These participants were separated into two groups as experimental and control groups. Their aim was to apply mainly conceptual metaphor awareness method to facilitate adolescents' PV learning by comparing this method with traditional translation method. According to their analysis, the results confirmed conceptual metaphors' positive effect to aid participants on learning English PVs. However, the experimental group have distinctively better performance only on the performance of unfamiliar PVs. With respect to the retention, conceptual metaphor theory did not have a fostering effect on PV knowledge retention. First of all, this might result from the interlanguage transfer. That is to say, there may be either positive transfer facilitating the learning of particles or negative transfer affecting the learning process negatively. Additionally, as suggested above in Yasuda's (2010) study, typological differences between L1 and L2 might interfere with the PV acquisition process, as well. Native language of the participants was Chinese, a

verb-framed language, in this study and Chinese learners of English tend to perceive PVs as inseparable chunks or fixed expressions. Hence, these learners need some explicit practice on conceptual orientations of particles; otherwise they rely on mere memorization and rote learning. Overall, the findings on the fact that PVs were not maintained in the memory may be attributed to the typological differences between L1 and L2, leading learners to different strategies rather than compositional processing of PVs.

When the Turkish context is concerned, Karahan (2015) conducted a study to find out whether awareness raising about PVs through conceptual metaphors assist Turkish EFL learners in their PV learning and to what extent awareness-raising is helpful. The target particles in this study were *up, down, into, out* and *off*. 63 first year ELT Department students took part in the research. They were divided into two groups as experimental and control groups. Subjects in the control group were presented with a set of PVs through a checklist including the Turkish translation of each PV whereas the ones in the experimental groups were instructed through conceptual metaphors raising awareness of the participants on the metaphorical orientations of target particles. Findings of the study demonstrated that the participants who learned PVs by recognizing the functions of orientational metaphors did not necessarily perform significantly better than those who learned them through their Turkish equivalents with example sentences. Though the participants in the experimental group performed slightly better than the ones in the control group on posttest, this difference was found to be statistically nonsignificant.

Kartal and Uner (2017) conducted a research with a similar purpose and participant profile, but they came up with opposing findings to Karahan's (2015) study. The researcher investigated the effects of conceptual metaphors on Turkish EFL learners' acquisition of PVs. The participants were 120 beginner, elementary, and pre-intermediate level students. As target particles, they focused on *down, into, out, up* and *off*. With a pre-posttest quasi experimental design, a PV completion test was utilized as the measurement instrument in the study. Based on their proficiency levels, participants were divided into control and experimental groups. The experimental group received PV instruction through conceptual metaphors focusing on the orientational meanings of particles whereas the control group was instructed through traditional memorization method. The results put forward that the explicit teaching of the metaphors as well as the target particles helped learners to improve their PV knowledge. Also, as they examined the

impacts of conceptual metaphors based on proficiency levels of the student, the findings revealed that the most successful group was pre-intermediate group whereas the least one was beginner group. What is more, no statistically significant difference was observed between pre-intermediate and elementary level students indicating that the explicit instruction of conceptual metaphor embedded into the particles of PVs appears to work more with the pre-intermediate and elementary level students than the beginning level students.

With a different participant profile, Güleryüz Adamhasan (2014) designed a study based on the conceptual metaphor theory with the purpose of examining the effectiveness of teaching and learning PVs by focusing on the metaphorical orientations of particles. The particles used in this study were *up, down, out, in, into* and *off*. The researcher integrated conceptual metaphor activities to the existing language syllabus in order to investigate not only their effects in acquisition of PVs but also the long-term retention of PVs. Furthermore, the researcher also scrutinized the effects of conceptual metaphors on the students' level of motivation, interest, enjoyment and pleasure towards the teaching and learning process. As a case study, 12 eleventh grade students in an ESP class took part in the study and Phrasal Verbs Tests, Intrinsic Motivation Inventory and informal interviews were administered to these participants in order to collect the data. The findings revealed that the treatment contributed to the students' success in learning and retrieving of the target PVs despite the changeable nature of mean scores of the PVs tests throughout the treatment. As for the results of the qualitative data, the students revealed positive attitudes towards the process of teaching and learning PVs through conceptual metaphors.

To conclude, the studies presented above attempted to investigate how effective PV instruction based on conceptual metaphor theory is on the master of PV constructions by focusing on different particles with their orientational meanings. Along with this line, with the findings of this study, it is anticipated to investigate the impacts of the explicit PV instruction based on the conceptual metaphor theory on achievement and long-term retention of receptive and productive PV knowledge. Furthermore, with the purpose of investigating the relationship between explicit PV instruction and implicit PV knowledge gains, this study is expected to explain subconscious lexical recognition and semantic lexical processing of PV knowledge accounting for how well the PVs are internalized due to the explicit instruction presented in the light of conceptual metaphor theory.

CHAPTER 3

3. METHODOLOGY

3.1. Introduction

The chief purpose of the current study is to investigate the effects of explicitly presented phrasal verb constructions in the light of conceptual metaphor theory on implicit phrasal verb knowledge gains

With this perspective, the present chapter puts in an overview of the research design, the participants, quantitative data collection instruments for measuring receptive and productive knowledge of phrasal verb constructions, and the teaching procedure of explicit instruction of those structures.

3.2. Overview of the Research Design

The current study is a within group pretest/posttest experimental design research carried out at the School of Foreign Languages, Kütahya Dumlupınar University in Kütahya, Turkey.

At the very beginning of the study, Michigan English Proficiency Test (MET) was administered to the participants in order to determine their proficiency levels. MET is a standardized exam for test takers, who want to evaluate their general English language proficiency in social, educational, and workplace contexts (CaMLA, 2015). There are 4 sections in this test; listening, reading and grammar, speaking and writing. The sections concentrating on speaking and writing skills are optional and no specific section for evaluation of vocabulary is present. Test takers' vocabulary knowledge is investigated in listening and reading sections (CaMLA, 2015). All 4 sections are scored out of 80 each, and according to CaMLA (2015), MET does not have a pass score. Scoring is carried out using an advanced mathematical model based on 'Item Response Theory'. The scaled scores are not percentages and thus they do not show how many items test takers answered correctly, but rather indicate where they stand on the language ability scale. Therefore, the scores taken from MET can be in accordance with the Common European Framework (CEFR) levels (CaMLA, 2015). The interpretation of MET scaled scores in relation to the CEFR levels is illustrated in Table 3.1.

For the present investigation, only the listening and reading and grammar sections of the sample test of MET was applied to the subjects. All the participants took both sections and grading was carried out based on the MET scoring procedures (CaMLA,

2015). Scores taken from MET was between 19 and 42 and analysis of the test results indicated that 60 of the participants were at the proficiency level of A2. The ones who got higher grades and thus revealed a higher proficiency level according to the CEFR were eliminated from the study.

Table 3.1. *Relationship between MET scores and CEFR levels (CaMLA, 2015)*

MET Listening Scores	
Scaled Score	**CEFR Level**
64 and above	C1
53-63	B2
40-52	B1
39 or below	A2

MET Reading & Grammar Scores	
Scaled Score	**CEFR Level**
64 and above	C1
53-63	B2
40-52	B1
39 or below	A2

After the proficiency test, as pretests a multiple-choice test and a c-test were used for investigation of achievement of receptive and productive phrasal verb knowledge. Also, a masked repetition priming lexical decision task and a self-paced reading task were applied to measure the response times (RTs) of participants in the formal recognition and semantic processing of phrasal verbs prior to treatment. Following the application of the pretests, the treatment, which took 6 consecutive weeks in spring semester of 2017/2018 academic year, started. During this process, instructional materials and the noticing, retrieval and generative activities (Nation, 2001) developed in the light of conceptual metaphor theory (Rudzka-Ostyn; 2003) were administered to the participants in order to teach the phrasal verbs explicitly. The instruction was carried out by the researcher herself. After the instruction, the participants were given the same four tests as immediate posttests, and also approximately 3 weeks later these tests were administered again as delayed posttests in order to analyze the retention of phrasal verb knowledge.

All in all, findings of aforementioned activities and tasks were expected to provide evidence on facilitated processing of formal, formulaic and semantic representations of phrasal verb presented in the light of conceptual metaphor theory, which was indicative

of explicit phrasal verb instruction resulting in acquisition as implicit phrasal verb knowledge. This evidence of explicit vocabulary instruction leading to implicit word knowledge would corroborate a strong interface for lexical learning.

3.3. Participants and Research Setting

The current study was conducted at School of Foreign Languages (SFL) at Kütahya Dumlupınar University (KDPU) in Kütahya, Turkey. KDPU is a Turkish - medium university and the English preparatory class is obligatory for the students of the Faculties of Western Languages, Mathematics Teaching and Electric and Electronical Engineering. Besides, some students from other departments, who declares that they want to learn English, are accepted to the program according to their university entrance exam scores. SFL gives English instruction to university students for two terms intensively. All newcomers from aforementioned departments are supposed to take a proficiency exam administered at the beginning of the academic year. The ones who receive below 65 out of 100 from this test have to attend prep school. These students are placed at different groups according to their proficiency levels determined by a placement test. Throughout the academic year, students take an achievement test once every eight weeks, and two in total each semester. They also take pre-determined quizzes once every four weeks and unexpected pop quizzes.

The courses the students take are categorized as follows: Main Course, Listening-Speaking and Reading-Writing. The number of class hours for English is 24 hours weekly. Additionally, they might take a 4-hour course for another language such as Russian, Spanish, French, Japanese or German if they want. The course book followed (New English File) is a communicative one, focusing on four skills in an integrated way. This course book is supplemented by another book series specifically designed for skills purposes (Q Skills Series) and other materials. There is no explicit vocabulary teaching course during the semester, thus since the medium of instruction is English, the students have opportunities to receive vocabulary input only by listening to lectures and reading the course materials assigned by the instructors.

The participants of this study were composed of 60 elementary level Turkish EFL students, who were selected according to nonprobability sampling method, in which the researcher chooses the subjects as they are available and convenient in predetermined classrooms/groups (Creswell, 2012). The participant number was determined through

G*Power (Appendix I), a tool used to compute statistical power analyses in a study (Faul et. al, 2009). Given the type of the analysis and effect size in a study, G*Power calculates the optimal sample size assuring an adequate power to detect statistical significance. In the present analysis, with 60 participants, the power was specified as .95.

In the beginning, the study started with 88 students, who completed a voluntary participation form (Appendix IV). However, as it has a pretest, immediate and delayed posttest design as well as an 8-week treatment, the number of participants decreased in time. That is to say, when a student did not participate in even one of the sessions of the treatment, s/he was excluded from the study as their absence might negatively affect the findings of the research.

3.4. Data Gathering Instruments

Data gathering instruments for treatment are separated into two: The instrument measuring receptive and productive phrasal verb knowledge in terms of achievement and retention and the instruments measuring subconscious lexical recognition as well as formulaic sequencing and semantic processing gains.

3.4.1. PV knowledge tests

In order to investigate achievement and retention of receptive and productive phrasal verb knowledge, two tests were administered – namely a multiple-choice test and a c-test. Items in both of these tests were specified through Corpus of Contemporary American English (COCA; Davies, 2008), which is composed of more than 520 million words of text (20 million words each year 1990-2015) from 5 genres - nominately spoken, fiction, popular magazines, newspapers, and academic texts (Davies, 2008) and British National Corpus (BNC), which was originally created by Oxford University press in the 1980s - early 1990s, and consists of 100 million words of text from a wide range of similar genres (the British National Corpus, 2007).

The reason why COCA (Davies, 2008) and BNC was chosen as the reference corpus is that it is much easier to find specific contexts in which target phrasal verbs occur; hence the contexts with sentences including phrasal verbs were extracted from these corpora and adapted as test items in both multiple-choice test and c-test. The criteria to choose the contexts were determined as follows: (1) There should be enough context for test takers to process and select the correct phrasal verb and (2) the level of vocabulary should be

appropriate to participants' proficiency level. With these purposes, firstly the readability score of the items in both tests was calculated through Flesch Reading Ease Readability Test (Flesch, 1948). The reason why this test was selected for the analysis is that this readability formula utilizes word and sentence length in a text in order to reveal how much readable a text is, and thus it is commonly used in development of L2 reading materials in language teaching field (Crossley et. al., 2011).

3.4.1.1. *Assessing receptive PV knowledge*

To evaluate receptive knowledge of phrasal verbs, multiple-choice test format adopted by Schmitt et al., (2004) and Schmitt and Redwood (2011) was utilized in the present study (Appendix V). The test was composed of 32 questions on target phrasal verbs and test takers were to select one from five options according to this format. The three distractors were designed as semantically and formally close to the correct answer in terms of meaning, length and structure. Furthermore, "I don't know." took place in all items as the fifth option in order not to force the subjects to guess unless they knew the correct answer.

Example Item:
    The man showed me his pocketknife and I _____, bumping the table.
       a)   put back
       b)   came back
       c)   **stepped back**
       d)   pulled back
       e)   I don't know.

When the items were specified based on the contexts extracted from COCA, their readability analysis was calculated through Flesch Reading Ease Readability Test (Flesch, 1948). The readability score of the overall multiple-choice test was found to be 80.8, which shows they are expected to be easily understood by target participants (Renuka & Pushpanjali, 2013). Secondly, the frequency of the words in items was assessed via Compleat Lexical Tutor (Cobb, 2007). The analysis revealed that 91.66% of the vocabulary in sentences were within the level of most frequent 1.000 or 2.000 words, which means that most of the words in the items of the multiple-choice test could easily be understood by the target participant group.

Regarding content validity, the multiple-choice test developed was checked and confirmed by two different native speakers three times and two ELT experts twice. Accordingly, the items 1, 12, 14, 20, 27 and 32 were changed because the context was too limited, and the vocabulary was too difficult for participants to understand. An example of changed items is presented as follows:

Previous Item:
27. In the urge to protect itself for the negative battles of the present, the party _____ from its only truly positive policy for the future.
  - a) gave back
  - b) came back
  - **c) pulled back**
  - d) brought back
  - e) I don't know.

New Item:
27. K: Justin Bieber decided to go ahead and take the paternity test on Friday.

  G: Really? I remember the woman said she _____ from asking him to take the paternity test, didn't she?
  - a) gave back
  - b) came back
  - **c) pulled back**
  - d) brought back
  - e) I don't know.

Furthermore, item analysis was carried out in order to evaluate the quality and the effectiveness of the individual test items and the test as a whole (Brown, 1996). For each individual item in the multiple-choice test, item difficulty and item discrimination analysis were employed. Additionally, the KR20 calculation was conducted in order to measure the overall test reliability. The analysis has indicated that most of the items are moderately difficult and nine of them are fairly easy. Just two of the items prove to be difficult. With respect to the item discrimination, most of the items have a positive discrimination index of 0.3 or above, which reveals that test takers with high scores have a high probability of responding correctly whereas the ones with low scores have a low probability. Finally, KR20 analysis has shown that reliability coefficient is .81, which means that as it is above .80, this test has internal consistency and high reliability (Kubiszyn & Borich, 2000). The findings of the item analysis of the multiple-choice test is given in Appendix VII.

3.4.1.2. *Assessing productive PV knowledge*

To assess the productive knowledge of phrasal verbs in a semi-controlled situation, C-test format adapted from Schmitt et al. (2004) and Schmitt and Redwood (2011) was used in the current study (Appendix VI). In this test format, the context was presented intact, but instead of words in target sequences, a blank is inserted. In order to constrain possible word choice for each blank, initial letters of each word were given. As producing the target phrase appropriate to the surrounding context was crucial in this test, meaning entailed by the context was provided in the right margin as part of the item. Also, the whole phrase was presented in bold so as to highlight the fact that each blank belongs to a larger phrase (Schmitt et al., 2004).

Example Item:
> When we were finished reading the book, we used our graphic organizer to fill out the beginning, middle and end of the book. I modeled my thinking for my students, while I was trying to **f_____ o_____** what happened in the beginning of the story. *(figure out)*
>
> **(to understand)**

When the items were specified based on the contexts extracted from COCA, their readability score was also calculated through Flesch Reading Ease Readability Test (Flesch, 1948). The readability score was found to be 77.6, which reveals that the items are fairly easy to be understood by target participant group (Renuka & Pushpanjali, 2013). What is more, the frequency of the words in items was also evaluated via Compleat Lexical Tutor (Cobb, 2007). When the analysis was carried out, it was indicated that 92.68% of the vocabulary in sentences were within the level of most frequent 1.000 or 2.000 words which means that most of the words in the items of the C-test can easily be understood by the target participants.

For content validity, the C-test developed was checked and confirmed by two different native speakers three times and two ELT experts twice. Accordingly, the item 5 was changed because the context was too limited for participants to understand. An example of changed items is presented as follows:

Previous Item:
> **5.** For the curl-up test, children lay flat on their back with their knees bent and arms across their chest. Children were instructed to **s_____ u_____** until their elbows touched their knees and to do their maximum in a 60-s session. *(sat up)*
>
> **(to make your back straighter while sitting)**

New Item:	
5.	As I feel a panic attack coming on at the beginning, I s_____ u_____ and remind myself to breathe, knowing that it will pass. *(sit up)*
	(to make your back straighter while sitting)

Moreover, item analysis of C-test was conducted so as to evaluate the quality and the effectiveness of the individual items and the whole test (Brown, 1996). Also, item difficulty and item discrimination analysis were carried out for each individual item and the KR20 calculation was run with the purpose of measuring the overall test reliability. The analysis has revealed that most of the items prove to be fairly easy and thus participants answered correctly and there is no item that is difficult. With respect to the item discrimination, most of the items have a positive discrimination index of 0.3 or above, which indicates that the item is good at discriminating between good or bad test takers. KR20 analysis has shown that reliability coefficient of the overall test is .77, which is acceptable (Fraenkel & Wallen, 1996). The results of the item analysis of the C-test is given in Appendix VII.

3.4.2. PV processing tasks

Two instruments determined for investigating interface in the current study were the masked repetition priming lexical decision task and the self-paced reading task as used in Obermeier's study (2015). The experiment was implemented by assessing subjects individually in a testing room by using a Hewlett Packard Elitebook 8560p personal computer, with 2.40 GHz Intel Core i7 processors, displayed on 15.6 inch LCD monitors. Both instruments were designed in order to measure response times (RTs); therefore, the tasks were created through PsychoPy, a software for developing psychological experiments (Pierce, 2007; 2009; 2018).

3.4.2.1. *The masked repetition priming lexical decision task*

96 items, called targets, were created for the masked repetition priming lexical decision task (MRPLDT) through an open-source psycholinguistic software PsychoPy (Pierce, 2007; 2009; 2018).

Half of these 96 items were positive (YES) responses (intact PVs) whereas the other half were negative (NO) responses (nonsense PVs) as presented in Table 3.2. When the negative (NO) responses are concerned, 48 non-word PVs were created with plausible English spellings via the Wuggy Software (Keuleers & Brysbaert, 2010). While selecting the most appropriate PV through the sofware, 'OLD20' feature of output options was taken into consideration. This feature computes the average orthographic Levenshtein distance between the generated candidate and its 20 most similar words in the lexicon, which proves to be a good indication of the neighborhood size and density of the nonword (Yarkoni, Balota & Yap, 2008). The lower the values are, the denser the neighborhood of the candidate is (Keuleers & Brysbaert, 2010; p. 632). Therefore, as a result of the computation for each intact PV, the candidate with the lowest value was selected. Overall, the nonsense PVs were built to resemble the intact PVs including a non-word (which was determined as the content word, that is the verb; the particle component wasn't changed) and composed of 10 letters maximum.

Table 3.2. *Items in MRPLDT*

96 ITEMS	**(48)** Positive (YES) Responses (Intact PVs)	Critical Trail PVs **(32 items)**
		Intact Filler PVs **(16 items)**
	(48) Negative (NO) Responses (Nonsense PVs)	Created via the Wuggy Software

Within the 48 positive (YES) responses there are two categories; critical trail PVs and intact filler PVs. 32 PVs were the critical trails were for the investigation and focus of the experiment whereas the fillers were composed of 16 totally different PVs. These PVs were included in the lexical decision task in order to decrease the number of critical trials in the analysis by balancing out the positive responses in the lexical decision task. To select the target filler PVs for the trials, high frequency lists proposed by Gardner and Davies (2007), Liu (2011) and Garnier and Schmitt (2015) were utilized and the verbs known by participants were included as intact fillers.

Apart from the targets, each critical trial was analyzed under a priming condition; identity prime (16 trials) or unrelated prime (16 trials). A similar pattern priming was applied to both filler trails (8 items as identity prime and 8 trials as unrelated prime) and nonsense PVs (24 items as identity prime and 24 trials as unrelated prime), as well. Identity and unrelated primes were derived from the target PVs they preceded. Identity

primes were the same PVs as intact targets they preceded but they were printed in lowercase letters unlike targets that were presented in uppercase letters. For instance, as illustrated in Table 3.3, the target "FIGURE OUT" is primed by "figure out". The reason why lowercase letters were preferred is that repetition of completely the same primes might include the confounding factor of visual identity priming (Obermeier, 2015). On the other hand, the unrelated primes were determined by combination of different English PVs, number of letters of which were totally the same as the corresponding word in the phrasal verb target. That is, as shown in Table 3.3, unrelated prime for phrasal verb target "CARRY OUT" is "slice off", in which first word has five letters and second word has three letters. This procedure was carried out throughout all items, including intact and nonsense PV constructions. The complete list of items is presented in Appendix VIII.

Table 3.3. *Item types for the MRPLDT*

PRIMES	TARGETS
YES on MRPLDT	
slice off	CARRY OUT
(unrelated prime)	(intact phrasal verb)
figure out	FIGURE OUT
(identity prime)	(intact phrasal verb)
NO on MRPLDT	
bubs into	RANE DOWN
(unrelated prime)	(intact phrasal verb)
gubs back	GUBS BACK
(identity prime)	(intact phrasal verb)

In each trial, the target PV, preceded by a 522 ms mask and then a 100 ms prime, was presented until it was responded. Forster and Veres (1998) presents the mask to native participants for 500 ms. However, Elgort (2007) claims that a somewhat longer duration might be necessary for L2 participants in order to reach the stage of native participants in terms of prime processing (p. 121). Therefore, 522 ms were allocated for mask processing in the present study, as well. What is more, normally in priming tasks with lexical decision, the primes are presented for 56 ms (Elgort, 2007; 2011), but in the current study, it was planned to present the primes for 100 ms (relatively limited time of presentation) as it was in Obermeier's study (2015) because the target words were multiword units; not single, individual words. Moreover, the reason why these primes were shown for 100 ms is that it is half the 200 ms which is accepted as necessary time span for eye to fixate on a word long enough to recognize that word for conscious processing to start - accepted

maximum word length is 17 letters - (Rayner, 1998). Therefore, this brief prime presentation guarantees the processing of target primes as one complete unit, rather than as a sequence of words (Obermeier; 2015). On the other hand, targets were presented until response or timeout was observed at 2500 ms if not responded (See Appendix IX, for the screens of an example trial).

As illustrated in Figure 3.1, the targets are "CARRY OUT" and "FIGURE OUT". In the identity prime condition, for the target "FIGURE OUT" the prime is "figure out" in lowercase letters. Also, as the number of characters have to be the same in each mask, prime and target words; *######, figure* and *FIGURE* all have six and *###, out* and *OUT* have three characters. On the other hand, in the unrelated prime condition, for the target "CARRY OUT" the prime is "slice off" in lowercase letters and the number of characters are the same for mask, prime and the target words, which are *#####, slice* and *carry* and *###, off* and *out*.

A. Unrelated prime condition   **B. Identity prime condition**
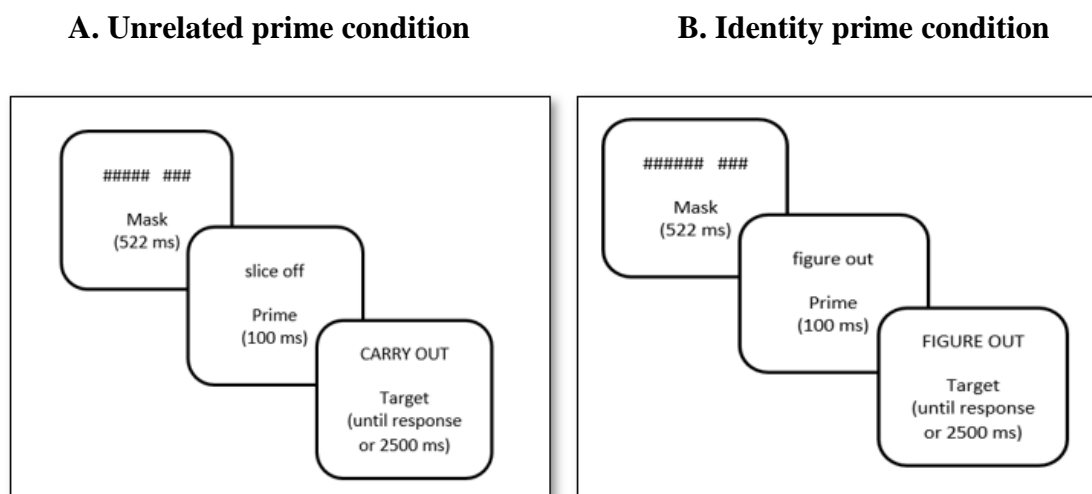
Figure 3.1. *Trails for MRPLDT*

With this lexical decision task, as it is the case for traditional lexical decision tasks, participants were expected to decide whether the phrasal verbs presented were English or not. Thus, they answered YES if the verb component of the target phrasal verb was English, or NO if it was not so. Participants provided responses to each trial pressing the pre-determined buttons on the keyboard. Normally, in psychology and cognitive science research, some special response boxes are utilized in order to measure response times accurately. For practical purposes, the keyboard (See Appendix X) was used in the present study as a response input device. Participants were to press the [x] button (labelled as

YES) corresponding to their left index finger to say "YES" while they were to push [n] button (labelled as NO) corresponding to their right middle finger to say "NO". To continue with the following trail, they pressed [SPACE] button (labelled as CONTINUE) corresponding to their right index finger, which was determined owing to the right-hand dominance of upcoming self-paced reading task. However, participants could use both of their hands interchangeably in accordance with how comfortable they felt.

Before starting the task, participants were given a handout with some instructions about the MRPLDT and they were asked to read these instructions carefully. At the beginning of the task, as the nature of the task requires, in order to get used to the application, the participants were given 20 practice trials prior to the actual task, which focused on totally different PVs. Following the practice trail participants started the actual task to be completed in 15 minutes.

3.4.2.2. *The self-paced reading task*

The self-paced reading task (SPRT) was administered immediately after the MRPLDT. SPRT is an adapted version of the one used by Vine and Warren (2012) and Obermeier (2015) and was created via PsychoPy software (Pierce, 2007; 2009; 2018). Each item was comprised of a sentence as well as a comprehension question. The target PV was presented in the middle of the sentence and semantic associates were placed four to nine words after PV. In the example sentence in Figure 3.2, "figure out" is the target PV and "understand" is the semantic associate corresponding to the PV. Sentence A is indicated as an illustration; otherwise participants did never see the full sentence at once. Similarly, critical PV is capitalized, and semantic associate is underlined just for illustration. During the task, subjects encountered each word when they pushed [SPACE] button on the keyboard (See Appendix X). In the SPRT, participants were expected to read words of a sentence one at a time, and then answer the comprehension questions with a simple "YES" or "NO" response (See Appendix XII, for the experiment screens of an example item).

The first purpose of the self-paced reading task was to measure formulaic sequencing gains by focusing on the final word of critical phrasal verbs. Therefore, in the example in Figure 3.2, "out" is the main focus of the investigation of formulaic sequencing gains. In this SPRT, the words in the sentences were presented one by one; regarding the processing of PVs, subjects should expect the other components when they

read the first word of a phrasal verb, which remarks that lexical priming takes place for words consistently occur together (Hoey, 2005). As previous studies have revealed and examined for formulaic sequences, faster RTs are observed in processing the final words of multiword sequences as a result of the priming effect of initial components (Wray & Perkins, 2000; Wray, 2000, 2002; Underwood et al., 2004; Tremblay et al., 2011).

(A) Jane couldn't <u>figure out</u> what Paul was saying, she didn't UNDERSTAND anything. (an example sentence, never fully screened)

(B) Jane ------- ------ --- ---- ---- --- ------, --- ------ ---------- --------.

(C) ---- ------- figure --- ---- ---- --- ------, --- ------ ---------- --------.

(D) ---- ------- ------ --- ---- ---- --- saying, --- ------ ---------- --------.

(E) ---- ------- ------ --- ---- ---- --- ------, --- didn't ---------- --------.

(F) ---- ------- ------ --- ---- ---- --- ------, --- ------ understand --------.

Was Jane confused? YES

Figure 3.2. *Trail for SPRT*

The second purpose of this task was to analyze semantic association gains by examining semantic associates. The hypothesis was that critical PV in the sentences would act as semantic primes for their semantic associates. The premise with such a hypothesis is that meaning as well as context processed during reading have a priming effect on following semantically related word (McNamara, 2005; Elgort, 2011).

There were 48 sentences and 6 example trials in the task, and it took approximately 20 minutes for each participant to complete the task. Among these items, 32 sentences contained critical PVs and 16 items included filler trails (See Appendix XI). Each of 32 sentences was composed following the pattern explained in Figure 3.2. The filler trails were incorporated just to lighten the burden on participants' shoulder, as a result made the task easier and added variety to target phrasal verb constructions but not included in the statistical analysis. Each filler sentence contained a phrasal verb from high frequency lists put forward by Gardner and Davies (2007), Liu (2011) and Garnier and Schmitt (2015).

While composing sentences, similar to the PV knowledge tests, COCA (Davies, 2008) and BNC databases were utilized to provide participants with appropriate contexts. Additionally, the items developed were re-examined via vocabulary profiler "Compleat Lexical Tutor, v.8.3" at www.lextutor.ca (Cobb, 2007). In the analysis, it was revealed that, excluding the common names, 92.04% of the vocabulary in sentences of SPRT were within the level of most frequent 1.000 or 2.000 words. In a similar vein, the comprehension questions were designed through the same procedure with the aim of keeping the vocabulary level within the proficiency level of participants.

Before starting the task, some instructions about the SPRT were given to the participants. Also, in order to get used to the application, the participants were given 6 practice trials prior to the actual task. During the task, to answer "YES", participants pressed [X] button, labelled as "YES", with their right index finger or for "NO", they pushed [X] button, labelled as "NO" using their left index finger. The number of "YES" and "NO" responses were equal, in that 24 each. To continue with the next trial, subjects pressed the [SPACE] button corresponding to their right thumb. As reading a sentence required 13 to 18 pushes of [SPACE] button, this is a right-hand dominant task. However, participants could use both of their hands interchangeably in accordance with how comfortable they felt.

3.5. Instruction Procedure

In the present section, explicit PV instruction in the light of conceptual metaphor theory is explained in detail.

3.5.1. Selecting the target PVs/particles

The target particles focused in the present study were determined as "OUT, UP, DOWN, BACK" because, according to Gardner and Davies (2007), these are the most frequent words functioning as adverbial particle (AVP) - their frequency is above 75% - that combines with lexical verbs and so account for more than half of the 518,923 phrasal verb occurrences in the 100-million-word British National Corpus (BNC). After deciding on the particles, a pool of target PVs was built up from the frequency lists by Liu (2011) and Garnier and Schmitt (2015). These lists was created based on the criterion that for a PV to be considered among the most frequent ones is 10 tokens per million words (PMWs) in either COCA (Davies, 2008) or the BNC (Liu, 2011; p. 667). Out of 150 most

frequent PVs in those lists, 111 verbs were detected with target particles to be used in this study. As it is crucial to eliminate the PVs presented to participants within their course books, four levels of main course books - *New English File* from Beginner to Intermediate - were examined and PVs within the vocabulary aims of the book were eliminated from the pool built. Thereby, 36 more PVs were excluded from the current list.

Since the participants must not have any knowledge about the target PVs to be taught during treatment beforehand, the remaining 75 phrasal verbs in the list were given to the participants at the very beginning of the study and they were asked to state whether they knew those phrasal verb constructions or not and to write the meaning of the PV either in English or in Turkish if they stated they knew it. Apart from "I know the word." and "I don't know the word." options, another option - which is "I am not sure." - also existed, for the participants who couldn't decide. When all the responses from subjects were analyzed, the target PVs were selected from "I don't know the word." category to ensure that all the PVs were encountered for the first time during the teaching process. Keeping those PVs in mind, for each of the following particles "up, down, out, back", 2 senses - one for the core meaning and the other for a metaphorical orientation - from the book called "Word Power: Phrasal Verbs and Compounds" by Rudzka-Ostyn (2003) were selected and PVs were specified accordingly. As a consequence, a list of 32 target PV was created in order to be taught in the current study, which is illustrated in Table 3.4.

Table 3.4. *Target phrasal verbs examined in the study*

Particles	Senses	PVs	
OUT	Entities moving out of containers	Come out	Set out
		Turn out	Move out
	Non-existence, ignorance, invisibility as containers	Figure out	Point out
		Carry out	Bring out
UP	Upward movement/ position	Come up	Sit up
		Go up	Put up
	Up as an end point/ Completion	Hold up	Wind up
		Blow up	Break up
DOWN	Movement from a higher to a lower place	Go down	Come down
		Get down	Take down
	Decrease in quality, size, value, activity, status…	Break down	Bring down
		Lay down	Settle down
BACK	Return to or stay an earlier location	Put back	Step back
		Get back	Give back
	Return to an earlier state, time, situation	Turn back	Bring back
		Pull back	Come back

3.5.2. Materials used in the treatment process

The whole study lasted for 11 weeks, a session in each week (8 sessions) for treatment as well as a 3-week interval for the delayed posttests. Out of 8 sessions, 6 sessions were carried out as treatment based on explicit PV knowledge presented through conceptual metaphors, focusing on metaphorical orientations of the target particles and 2 sessions were allocated to testing. Each treatment session was devoted to explicit teaching of target phrasal verb constructions in context in the light of the Conceptual Metaphor Theory and took two class hours, 90 minutes. Each particle with the chosen phrasal verbs were concentrated in each session with its deeper meanings. During treatment, subjects were expected to carry out three different types of activities; noticing, retrieval and generative exercises; hence, 4 worksheets for each treatment week is adapted and designed based on activities put forward by Nation (2001), Cortes (2006), Neely & Cortes (2009), Salazar (2014), Lee, (2012), Güzel, (2014), Peters & Pauwels (2015) and Obermeier (2015). 7 types of tasks were designed, one of which was a noticing task; three of which were retrieval activities and three of which was comprised as generative exercises. Each task type is presented in detail as follows.

3.5.2.1. *Noticing activity*

In this exercise, a limited context composed of a few sentences for each target phrasal verb was specified from COCA (Davies, 2008) and BNC for participants to investigate elaborately for their meanings and functions. The sentences were supported with some drawings about each target phrasal verb and teacher tried to elicit what participants understood from each picture through developing image-schemas and with the help of contextual clues given in the sentences, the teacher led the participants for deeper understanding of both the target senses of phrasal verbs and their individual meanings. However, since the meanings and functions of novel phrasal verbs could not always be derived from the context easily, the instructor should lead the participants by asking some questions: *a) What is the meaning of the plain verb? b) Notice the particle and what is the meaning that this particle provides? c) Is there any movement/contact/container relationship?* (Rudzka-Ostyn, 2003; Neely & Cortes, 2009; Salazar, 2014; Uçar, 2017). The instructor should also ensure that once the students express their opinions on the potential meanings of the target phrasal verbs, they must be informed about the proper definition of the structures (White, 2012). This think-aloud

procedure promoted in both Sökmen (1997) and Cooper (1999) originates from Lennon's (1998) suggestion in that idiomatic language should be presented in the form of problem-solving activities as well as Boers and Demecheleer's (2001) proposition that *"hypothesizing can be done individually, but it is probably more fruitful if the problem-solving task is tackled as a joint effort"* (p. 260).

The noticing activity is exemplified as follows (See Appendix XIII for detailed lesson plans):

For the phrasal verbs that uses "up" to express "UP IS AN END POINT", the researcher starts with an example PV; **eat up** and explains that in this sense the action/event (eating up) COMPLETES when what is to be eaten is FINISHED, that means there is an endpoint, which is the <u>finishing of the food</u>. She exemplifies this on a sentence, as well and asks for more PVs with "up" in similar meaning/sense. Then, writing more sentences on the board with the given PVs and illustrating the following picture, she explains the relationship between the specific meaning of each target PV and the orientational metaphor "UP IS AN END POINT".
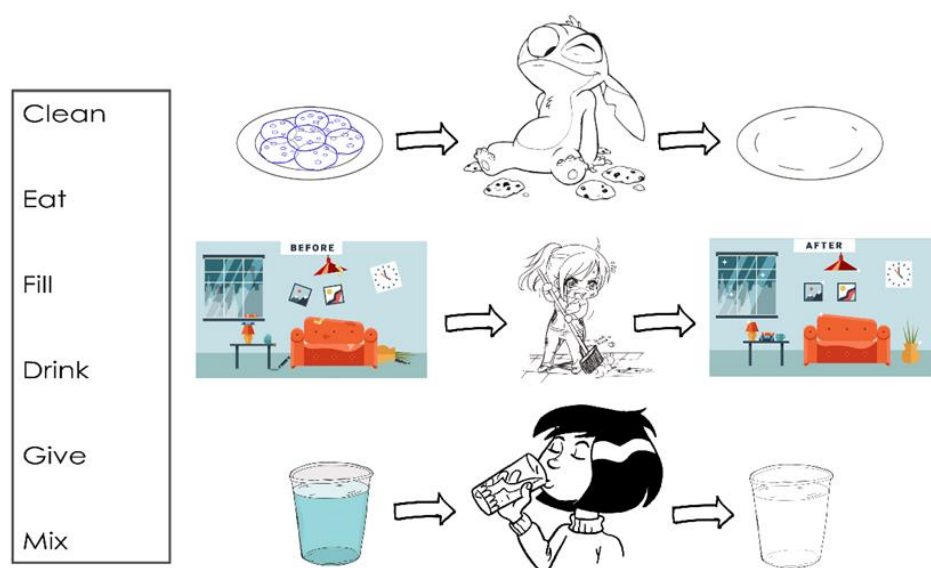
Figure 3.3. *Example image schema*

Moreover, the researcher explains to the students that "up" sometimes express the meaning of arrival to the top (i.e. give up) - the highest point along a vertical path - or at the boundary of a given location. As an example, in the phrasal verb **give up**, up points

to the level at which the idea proves to be <u>unattractive</u>, so is <u>abandoned</u>. This notion can be extended to any abstract limits, which means that an activity/event has come to an end *(having reached the time limit)* (i.e. break up, split up) or has affected the whole object *(has reached the object's boundaries)* (i.e. clean up).

Example PVs: *UP IS AN END POINT*
clean up, eat up, fill up, drink up, give up, split up

1) What a mess! You should <u>clean up</u> your room. I don't want to see any mess around.

2) Who has <u>eaten up</u> the whole cake? I would try a piece.

3) Don't forget to <u>fill up</u> the gas tank in the car, I have used it all.

4) Hurry, we have to leave, <u>drink up</u> your beer; finish it please.

5) I tried many times, and, in the end, I <u>gave up</u> smoking. I don't smoke anymore.

6) My sister has just <u>split up</u> with her boyfriend, that's why she is sad. She says she will never see him again.

3.5.2.2. *Retrieval activities*

Task 1: In this task, subjects were provided with sentences in order to fill in the gaps with the appropriate phrasal verbs (Neely & Cortes, 2009). To present the phrasal verbs in a specific context, the example sentences were selected from COCA (Davies, 2008), the book "Word Power: Phrasal Verbs and Compounds" (Rudzka-Ostyn; 2003) or Longman Phrasal Verbs Dictionary (2000).

Task 2: In the present task, participants were supposed to rephrase the given sentences taken from COCA (Davies, 2008), the book "Word Power: Phrasal Verbs and Compounds" (Rudzka-Ostyn; 2003) or Longman Phrasal Verbs Dictionary (2000) including critical phrasal verbs considering the clue provided in the brackets. (Peters & Pauwels, 2015).

Task 3: This task was developed in order to strengthen the connection between the semantic associates and the target phrasal verbs (Obermeier, 2015). In the task, participants were expected to match the target phrasal verbs with their semantic associates.

3.5.2.3. *Generative activities*

    Task 4: This task was a substitution exercise in which participants were to replace the underlined verb in the sentences with a phrasal verb given in the box above (Salazar, 2014).

    Task 5: In this task, some paragraphs were organized from COCA (Davies, 2008) and BNC with missing phrasal verbs and subjects were supposed to decide the place where the target phrasal verbs fitted best to carry out their meaning (Cortes, 2006).

    Task 6: This task was a free writing practice. As it is difficult to create a context that requires a substantial amount of phrasal verbs in a paragraph (Lee, 2012), subjects were to write some sentences with the target phrasal verbs. No coherent paragraph was needed (Lee, 2012; Güzel, 2014; Peters & Pauwels, 2015).

    When the overall treatment process is concerned, activities concentrating on PVs were composed of 4 sets - a set for each session weekly - in total, each of which includes 7 types of tasks. For every session, lesson plans were prepared and reviewed by two different experienced ELT instructors. After preparation and revisions, one of the lesson plans was implemented in a class with students whose profile was similar to target participant group. In consideration of the feedback received, the tasks and lesson plans were revised and executed in every session (See Appendix XIII for lesson plans).

3.5.2.4. *Revision activities*

    These activities were designed with the purpose of making a revision of the phrasal verbs which were presented in the previous week. According to Schmitt (2007), *Expanding Rehearsal* schedules should be integrated in the teaching process for recycling vocabulary in a principled manner (p. 832-833). Hence, each phrasal verb session was followed with a revision session after a week. In these sessions, target phrasal verbs presented in the previous week were revised through KAHOOT!. KAHOOT! is a free student response system which can help teachers create enjoyable and engaging impromptu quizzes, discussions and surveys (https://create.kahoot.it/). For the game, teachers develop a multiple-choice test composed of fill-in-the-blanks sentences (Neely & Cortes, 2009) and the website gives a game pin for each play to create a class. The students use that pin to enroll in the class. The purpose in the game is to answer the questions correctly as fast as possible. The revision sentences in the game were selected from COCA (Davies, 2008), the book "Word Power: Phrasal Verbs and Compounds"

(Rudzka-Ostyn; 2003) or Longman Phrasal Verbs Dictionary (2000) in order to present the phrasal verbs in a specific context (See Appendix XIV).

3.5.3. Treatment and the procedure of the research

Before the implementation of the treatment, in order to examine whether all the participants were at the same proficiency level and to guarantee the levels of the activities, items and exercises would be in accordance with the proficiency levels of the subjects, a standardized proficiency test, Michigan English Test, was administered to all the participants.

In the following week, in Week 1, the multiple-choice test for examining the receptive phrasal verb knowledge and the C-test for investigating the productive phrasal verb knowledge in a semi-controlled situation were employed to the participants as pretests. Moreover, in order to analyze how fast instructed phrasal verbs were processed, masked repetition priming lexical decision task and self-paced reading task were also carried out as pretests. Following these implementations, the instructional materials specifically designed for the present research were utilized in order to lead the treatment during the instruction process.

In Week 1, before pretests, the procedure was explained to the participants and they got informed about the fact that the focus of the research was teaching phrasal verbs in the light of conceptual metaphor theory, as these structures pose great difficulty to language learners (Lee, 2012; White, 2012). After the implementation of the pretests, as participants might not be familiar with the concept of "metaphor", the term was identified as the figure of speech which constructs analogies and makes connections between entities and ideas (Cameron & Maslen, 2010) and some examples from the mother tongue of participants were given for in depth understanding. Additionally, in order to activate the background knowledge of participants, the connection between this term and target particles selected was clarified by focusing on the basic meanings of those particles (Rudzka-Ostyn, 2003).

After raising the awareness of metaphor and implementation of all pretests in Week 1, the treatment procedure was initiated as illustrated in Table 3.5. The instruction process took 6 consecutive weeks (90-min. sessions in every week) and throughout the 6-week treatment period, the contributions of ontological and orientational metaphors of adverbial particles to the meaning of each PV was the main concern of the instruction.

These 6 treatment weeks were separated into two; in the first 3 weeks two of the target particles, namely UP and DOWN, were focused whereas in the second 3 weeks the other two particles, OUT and BACK, were the main attention of teaching (See Lesson Plans in Appendix XIII).

Table 3.5. *Treatment process*

WEEK 1	Pretests a) Multiple-choice test (Receptive PV knowledge) b) C-test (Productive PV knowledge) c) MRPLDT (Subconscious Lexical Processing) d) SPRT (Formulaic sequencing & Semantic association gains)
WEEK 2	Introduction to the term "metaphor" with basic meanings of particles Presentation of 2 particles **(UP-DOWN)** with the PVs that students know and establishing the form-meaning connection of target particles (from concrete to abstract)
WEEK 3	Presentation of **UP** in the light of 2 senses determined referring to the form-meaning relations <u>Exercises</u> 1) Noticing activity 2) Retrieval activities 3) Generative activities Revision with KAHOOT (UP)
WEEK 4	Presentation of **DOWN** in the light of 2 senses determined referring to the form-meaning relations <u>Exercises</u> 1) Noticing activity 2) Retrieval activities 3) Generative activities Revision with KAHOOT (DOWN)
WEEK 5	Presentation of 2 particles **(OUT-BACK)** with the PVs that students know and establishing the form-meaning connection of target particles (from concrete to abstract)
WEEK 6	Presentation of **BACK** in the light of 2 senses determined referring to the form-meaning relations <u>Exercises</u> 1) Noticing activity 2) Retrieval activities 3) Generative activities Revision with KAHOOT (BACK)
WEEK 7	Presentation of **OUT** in the light of 2 senses determined referring to the form-meaning relations <u>Exercises</u> 1) Noticing activity 2) Retrieval activities 3) Generative activities Overall revision of all 32 PVs
WEEK 8	Posttests a) Multiple-choice test (Receptive PV knowledge) b) C-test (Productive PV knowledge) c) MRPLDT (Subconscious Lexical Processing) d) SPRT (Formulaic sequencing & Semantic association gains)
WEEK 11	Delayed Posttests a) Multiple-choice test (Receptive PV knowledge) b) C-test (Productive PV knowledge) c) MRPLDT (Subconscious Lexical Processing) d) SPRT (Formulaic sequencing & Semantic association gains)

Week 2 started with the presentation of UP and DOWN. The researcher focused on each particle and 4 senses determined (2 senses each), by referring to the phrasal verbs which participants were expected to know (presented in their coursebooks throughout the first semester of academic year), not the target phrasal verbs. Also, in order to concretize the abstract concepts, the researcher used some pictures specifically designed for in depth understanding each target sense. With this brief presentation, it is aimed to establish the form-meaning connections of both UP and DOWN by focusing on not only the concrete but also the abstract orientational metaphors.

UP was presented in Week 3. The session started by referring to the target senses of UP presented in Week 2. The diagrams in Rudzka-Ostyn's (2003) book were shown and the senses "upward" and "endpoint" were reminded. In the noticing process, showing the pictures and some sentences about those pictures, the researcher asked some questions to the participants to elicit the senses of UP such as; *a) What is the meaning of the plain verb? b) Notice the particle and what is the meaning that this particle provides? c) Do you remember the senses we talked about? d) Is there any movement or a change in position?*. It was expected from the subjects to try to guess the meanings of 8 target PVs. When they expressed their guesses, the researcher provided the proper definition of the target PVs with a picture to concretize the abstract/metaphoric meanings of UP. Following that, worksheets with retrieval and generative examples were distributed and activities were completed with the guidance of the researcher.

In Week 4, first of all, 8 PVs with UP presented the week before were revised with the help of online game KAHOOT!. In this game, there were fill-in-the-blanks sentences for participants to remember the target meanings of the PVs and give the correct answer accordingly. Then, the same procedure was conducted with the particle DOWN. The treatment started with the activation of the background knowledge about the senses selected for DOWN, namely "downward" and "decrease". Following that, referring to the diagrams in Rudzka-Ostyn's (2003) book in addition to the example sentences taken from COCA (Davies, 2008) or BNC and resorting to the pictures specifically designed to concretize the abstract/metaphoric meanings of the PVs, the noticing activities were carried out. Afterwards, the retrieval and generative exercises about the particle DOWN were completed. With Week 4, first 3 weeks of the treatment process were over.

The treatment session in Week 5 started with the revision of target PVs with DOWN in KAHOOT! and continued with the general presentation of OUT and BACK. Similar

to the session in Week 2, the researcher focused on each particle and their selected senses. PVs that subjects were expected to know (presented in their coursebooks throughout the first semester), not the target PVs were given as examples. Moreover, so as to concretize the abstract concepts, the researcher utilized some pictures specifically designed for basic clarification of the selected senses of particles. With this brief presentation, it is intended to establish the form-meaning connections of OUT and BACK leading from concrete to abstract.

Week 6 was only allocated for the explanation and teaching of the particle BACK. The researcher started with asking about the target senses of BACK presented the week before. Referring to the diagrams in Rudzka-Ostyn's (2003) book, the senses "entities moving out of containers" and "non-existence, ignorance, invisibility as containers" were evoked. In the noticing process, showing the pictures and some sentences related to those pictures, the researcher asked some questions to guide the participants such as; *a) What is the meaning of the plain verb? b) Notice the particle and what is the meaning that this particle provides? c) Do you remember the senses we talked about? d) Is there any movement?/To where? e) What changes in each sentence?*. Following this process, retrieval and generative examples were completed with the guidance of the researcher.

Week 7, began with the revision of PVs with BACK on KAHOOT!. After that, the senses of OUT "entities moving out of containers" and "non-existence, ignorance, invisibility as containers" were reminded and with the help of the diagrams from Rudzka-Ostyn's (2003) book and the pictures specifically designed, example sentences were analyzed in order to internalize the target PVs with OUT. Finally, retrieval and generative activities were carried out for deeper analysis and understanding of target PVs.

After the treatment sessions, in Week 8, an overall revision of all 32 target PVs was carried out through the online game KAHOOT!. Then, the same 4 tests, namely the multiple-choice test for the analysis of the receptive knowledge of PVs; the C-test for the investigation of productive knowledge in a controlled situation; the MRPLDT for the examination of subconscious lexical recognition and processing and the SPRT for the analysis of formulaic sequencing and semantic association gains were implemented as immediate posttests. Additionally, after a 3-week interval, the same tests were applied to the subjects as delayed posttests in order to evaluate the effect of time on both subjects' retention of the receptive as well as productive PV knowledge and the subconscious formal and semantic lexical gains.

3.6. Data Preparation and Analysis

The collected data was analyzed through 25.0 version of Statistical Package of Social Science (SPSS). All the SPSS tables are presented in Appendix XV.

Prior to the analysis, normality tests were administered to examine whether the scores from the PV knowledge test and RTs from the processing tasks were normally distributed in a bell-shaped curve (Creswell, 2012). According to Tabachnick and Fidell (2013), the data with +1.5 and -1.5 deviation from normality of Skewness and Kurtosis can be accepted as normally distributed. Therefore, both the test scores and the RTs in the present study have met the normality assumptions.

Following that, addressing Research Question 1, receptive and productive PV knowledge tests were scored. In each test every correct answer was given 1 out of 32 points. For the c-test, the spelling and tense mistakes were disregarded in scoring. Also, to reveal any statistically significant differences on achievement and retention of receptive and productive PV knowledge, one-way repeated measures ANOVA analyses were run to compare the mean scores of pretests, posttests and delayed posttests. Moreover, to reveal where the significant difference occurred across three tests, pairwise comparisons with BONFERRONI adjustment were carried out.

As for Research Question 2, in order to test whether the representations of explicitly presented target PVs could be accessed automatically, experimental conditions were created in a way that the primes were presented to the participants too briefly to process consciously in MRPLDT. RTs due to the prime types for formal lexical representations were examined a) within each test (pretest/immediate and delayed posttest) and b) between pretest/immediate posttest and delayed posttest. Prior to the data analysis, all the filler trials and nonsense PVs created with plausible English spellings via the Wuggy Software (Keuleers & Brysbaert, 2010) were removed. Then, the extreme outliers (Obermeier, 2015; p. 132) which were below 300 ms and above 2400 ms were also removed from the dataset. In this sense, 16 trails with RTs below 300 ms, 5 of which were between 0,05 and 0,14 ms, were removed as they were most probably erroneous button presses. Although Baayen (2008) accepts 200 ms as the lowest cutoff point for visual uptake and response execution for single words (p. 242), as PVs are verb + particle combinations and hence more difficult to recognize and process compared to single words, it was determined as 300 ms in the present study as is the case in Bodner and Masson (1997). In a similar vein, 30 trails with RTs above 2400 ms were also removed

since they represent the vagrant observations in the dataset (Obermeier, 2015, p. 148). Setting aside the 5 trails with very limited RTs as they were accepted to be incorrect responses, all the 41 missing values in the dataset were replaced by mean imputations, which is the fact that the missing item scores are imputed with either the item mean for each item or the person mean (Eekhout et al. 2012). For the present analysis, item mean was utilized for mean imputation.

As an insurance to check against the possibility that outlier removal and restructuring the dataset with mean imputation affected the internal reliability of the MRPLDT, two split-halves reliability analyses (Feldt & Charter, 2003) were carried out. Before the outlier trimming, Cronbach's Alpha within the first half of items (α= .794) was calculated to be close to that of the second half (α= .816). The correlation between these two halves was relatively high (r= .825) and it was clear with the Spearman Brown Coefficient (p= .904) that masked repetition priming lexical decision task was an internally reliable task. Using p= .904 for reliability estimate, the Standard Error of Measurement (SEM= 38,51 ms) was calculated with the formula by Brown (1996): SEM = SD$\sqrt{1-r}$. In a similar vein, following the outlier trimming, the split-halves reliability analysis conducted on the remaining 5490 trails revealed that Cronbach's Alpha within the first half of items (α= .811) was about the same as that for the second half (α= .817). The correlation between these two halves was relatively high (r= .838) and it was evident with the Spearman Brown Coefficient (p= .912) that masked repetition priming lexical decision task was an internally reliable task. Using p= .912 for reliability estimate, the Standard Error of Measurement (SEM= 31,90 ms) was calculated. Both of the split-halves analyses indicated that outlier trimming in MRPLDT have not affected the internal reliability of the data.

After these data preparations, first RTs due to the prime types for subconscious lexical recognition and processing were compared within pretest, immediate and delayed posttest. Accordingly, independent samples t-test analyses were run for each test in order to investigate which prime type is more effective in processing of formal lexical representations. Then, to make an overall comparison of the effects of explicit PV instruction on formal lexical processing a one-way repeated measures ANOVA analysis was conducted in repeated test conditions (pretest/immediate posttest/delayed posttest). To examine where the significant difference occurs, pairwise comparisons with BONFERRONI adjustment were carried out.

Regarding Research Question 3, two analyses were carried out with the SPRT. First, formulaic sequencing gains were investigated by comparing the RTs of final words of PVs (particles) in pretest, immediate and delayed posttests. Before data analysis, all the items with 16 filler trials were removed from the dataset. The filler trails had been included in the task just to lighten the burden on participants' shoulder, so made the task easier and added variety to target PVs, but not included in the statistical analysis. After that, as the extreme outliers, 148 trails with RTs below 200 ms were also removed. As mentioned earlier, for single words, at least a 200-ms time interval is required for visual uptake and response execution (Baayen, 2008; p. 242). For MRPLDT, the cutoff point was determined as 300 ms because PVs were verb + particle combinations and they were to be processed as a whole unit. However, since the targets to be examined in the present analysis was particles, which were composed of 3 letters at most, 200 ms as the cutoff point was determined to be appropriate. In addition to these 148 trails, 36 trails with RTs above 2400 ms were also excluded from the dataset (Obermeier, 2015, p. 148). All these 184 missing values in the dataset were replaced by mean imputations (Eekhout et al. 2012).

Similar to MRPLDT, before and after data restructuring, two split-halves reliability analyses were conducted as a safeguard against overly data trimming. The first split-halves analysis revealed that Cronbach's Alpha within the first 16 items (α= .739) was acceptable as it was above .70 but that of the second 16 items (α = .648) was slightly low before outlier trimming. The correlation between these two sets of 16 items in the task was (r= .737) and in terms of the Spearman Brown Coefficient (p= .849) the self-paced reading task was an internally reliable task with respect to the dataset for formulaic sequencing gains. Also, using p= .849 for reliability estimate, the Standard Error of Measurement (SEM= 47,30 ms) was computed with the formula by Brown (1996): SEM = SD$\sqrt{1-r}$. Likewise, the second split-halves reliability analysis indicated that Cronbach's Alpha within the first 16 items (α= .773) was close to that of the second 16 items (α = .814). The correlation between these two sets of 16 items in the task was relatively high (r= .801) and in terms of the Spearman Brown Coefficient (p= .889) the self-paced reading task remained as an internally reliable task after the outlier trimming when the formulaic sequencing gains analysis was concerned. Also, using p= .889 for reliability estimate, the Standard Error of Measurement (SEM= 30,23 ms) was calculated.

The second analysis through SPRT was carried out by comparing RTs of semantic associates in pretest, immediate and delayed posttests. After 16 filler trails were excluded, extreme outliers which were 118 trails with RTs below 200 ms and 31 trails with RTs above 2400 ms were also removed from the dataset. Instead of these 149 observations, mean imputations were carried out (Eekhout et al. 2012). Following that, similar to the procedure above, two split-halves analyses were run in order to confirm the internal reliability after the outlier trimming. The split-halves reliability analysis before the data removal showed that Cronbach's Alpha was slightly low within the first 16 items (α = .653), and for the second half with 16 items, it was much higher (α = .782). The correlation between these two sets of 16 items was slightly high (r = .737). The Spearman-Brown Coefficient, a required adjustment for split-halves analyses, was relatively high for the whole data set (ρ = .849). The Standard Error of Measurement was calculated to be 39,34 ms with the formula by Brown (1996): *SEM = SD$\sqrt{1-r}$*. In a similar manner, the split-halves reliability analysis following the data restructuring put forward that Cronbach's Alpha within the first 16 items signified high internal reliability (α= .827) similar to the second half with 16 items (α = .775). The correlation between these two sets of 16 items in the task was also relatively high (*r*= .788) and with respect to the Spearman Brown Coefficient (*p*= .882), it seems that the self-paced reading task was measuring reliably when the semantic association gains analysis was concerned. In addition, using *p*= .882 for reliability estimate, the Standard Error of Measurement (*SEM*= 32,65 ms) was computed.

After these data preparations, RTs of formulaic sequences and semantic associates collected via SPRT in pretest, immediate posttest and delayed posttest were compared through one-way repeated measures ANOVA analyses. In order to understand what the sources of the differences in the ANOVA analyses were and make comparisons among the RTs in three tests, pairwise comparisons with BONFERRONI adjustment were administered.

CHAPTER 4

4. RESULTS

4.1. Introduction

The current study investigated the effects of explicit PV instruction in the light of conceptual metaphor theory on achievement and retention of receptive and productive PV knowledge as well as subconscious formal recognition and semantic lexical processing gains.

The findings of the quantitative analyses of this study was presented in line with the following research questions in three sections:

Research Question 1: Are there any significant differences between pretest, immediate posttest and delayed posttest scores of the participants receiving explicit phrasal verb instruction through noticing, retrieval and generative activities developed in the light of conceptual metaphor theory on;

      c) achievement and retention of receptive phrasal verb knowledge in Multiple-choice tests?

      d) achievement and retention of productive phrasal verb knowledge under a controlled situation in C-tests?

Research Question 2: Are there any significant differences in response times (RTs) of the participants due to prime types for formal lexical representations in Masked Repetition Priming Lexical Decision Task;

      a) within each test (pre/post/delayed)?

      b) between three tests (pre/post/delayed)?

Research Question 3: Are there any significant differences between pretest, immediate posttest and delayed posttest results of participants' response times (RTs) for;

      c) formulaic sequencing gains in Self-paced Reading Task?

      d) semantic association gains in Self-paced Reading Task?

Regarding the first research question, descriptive statistics and a one-way repeated measures ANOVA was run to compare pretest, immediate posttest and delayed posttest scores in order to investigate whether explicit PV instruction in the light of conceptual metaphor theory had an effect on (a) the receptive and (b) productive PV knowledge in

controlled (multiple-choice test) and semi-controlled (c-test) situations. Moreover, pairwise comparisons with Bonferroni adjustment were administered to bring out where the significance occurred across three tests.

As for the second research question, in order to investigate subconscious lexical recognition processing gains in the masked repetition priming lexical decision task, following a preliminary analysis of descriptive statistics, (a) an independent samples t-test was carried out to make a comparison on whether there was a significant difference between the RTs due to the prime types (identity prime vs. unrelated prime) within each test (pretest, immediate posttest, delayed posttest); (b) a one-way repeated measures ANOVA was run to compare RTs in pretest, immediate posttest and delayed posttest so as to examine whether explicit PV instruction in the light of conceptual metaphor theory had an effect on RTs in the masked repetition priming lexical decision task. Additionally, to come up with where the significance occurred across three tests, pairwise comparisons with Bonferroni adjustment were employed.

For the third research question, the self-paced reading task was designed to scrutinize both formulaic sequencing and semantic association gains. Following the analysis of descriptive statistics, (a) a one-way repeated measures ANOVA was conducted for comparison of RTs in pretest, immediate posttest and delayed posttest, in order to examine the effect of explicit PV instruction in the light of conceptual metaphor theory on the formulaic sequencing gains of PVs; (b) another one-way repeated measures ANOVA was run as an investigation of impact of the explicit PV instruction on semantic association gains of PVs. For both of these one-way repeated measures ANOVA analyses, pairwise comparisons with Bonferroni adjustment were administered.

In the following section, the results of the statistical analyses were presented in terms of the relevant research questions in detail.

4.2. Achievement and Retention of PV Knowledge

The first research question investigated the effects of explicit PV treatment on achievement and retention of receptive and productive PV knowledge through a multiple-choice test and a c-test. As demonstrated in Figure 4.1, findings put forward that an increase was observed on the mean scores of participants from pretests to delayed posttests in terms of the mastery and retention of productive PV knowledge. This indicated that participants showed a remarkable improvement as a result of the explicit

PV instruction through conceptual metaphors in both tests. However, delayed posttest results revealed a slight decrease from the mean scores of the immediate posttests to delayed posttests with respect to the retention of PV knowledge gained.

<figure>

PV Knowledge Tests

Test Scores

Multiple-choice test: Pretest 4,3; Imm. Posttest 21,37; Delayed Posttest 20,18

C-test: Pretest 3,25; Imm. Posttest 26; Delayed Posttest 25,2

Legend: Pretest, Imm. Posttest, Delayed Posttest

</figure>
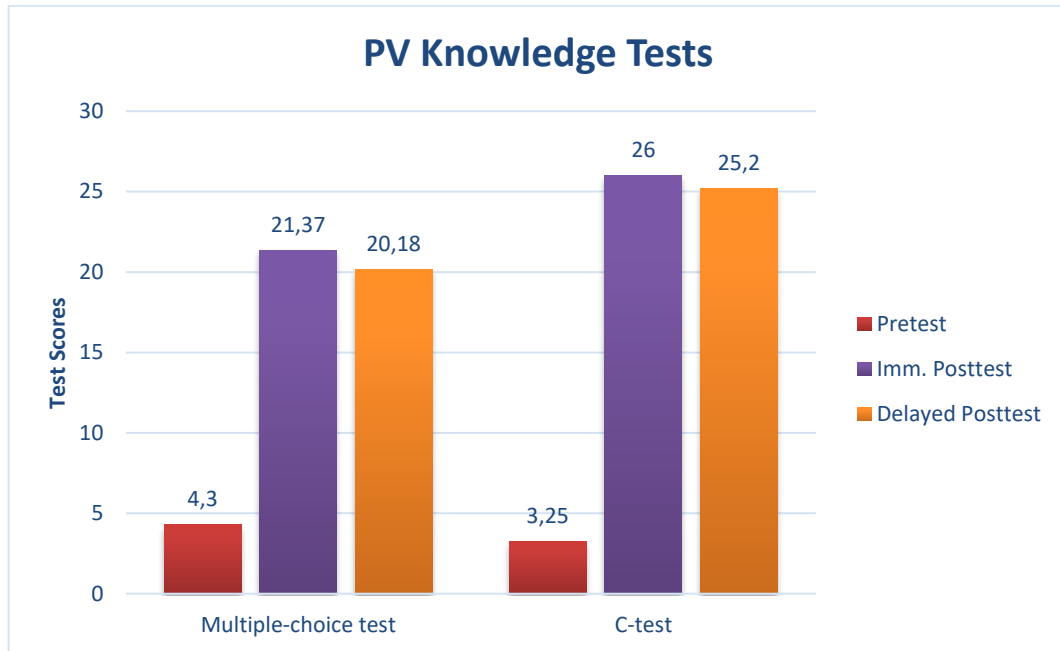
Figure 4.1. *Comparison of pretest, immediate and delayed posttest scores of participants on Multiple-choice test and C-test*

In the following section, the findings of each test are presented separately for in-depth understanding.

4.2.1. Receptive PV knowledge

The first sub-question of the study examined whether explicit PV instruction in the light of conceptual metaphor theory had an effect on achievement and retention of receptive PV knowledge.

As illustrated in Table 4.1, the mean scores on the immediate posttest (M=21,37, SD=4,712) and delayed posttest (M=20,18, SD=6,091) of the participants were much higher than the pretest (M=4,30, SD=2,367) scores with respect to subjects' receptive achievement and retention of PVs in Multiple-choice test administered. This shows that participants indicated an improvement from pretest to immediate posttest as a result of the explicit PV instruction through conceptual metaphors. However, delayed posttest results revealed a slight decrease from the mean scores of the immediate posttest

(*M*=21,37, *SD*=4,712) to delayed posttest (*M*=20,18, *SD*=6,091) with respect to the retention of PV knowledge gained.

To further investigate whether these differences between pretest, immediate posttest and delayed posttest scores of participants were statistically significant or not, a one-way repeated measures ANOVA was employed to the mean scores of the multiple-choice test. Table 4.1 also shows the ANOVA results for the mean scores of the participants.

Table 4.1. *Receptive PV Knowledge*

MC-test	N	Range	Mean	SD	*F*	*p*
Pretest	60	10	4,30	2,367		
Immed. posttest	60	21	21,37	4,712	338,48	**,000***
Delayed posttest	60	22	20,18	6,091		

* The mean difference is significant at the ,001 level.

As illustrated in Table 4.1, the analysis revealed a statistically significant difference (F (2, 58) = 338,48, p<.001, ŋ = .921) across pretest, immediate posttest and delayed posttest in terms of receptive PV knowledge scores in multiple-choice test (Sphericity assumption was not met, so Wilks' Lambda results were reported.). The effect size was calculated to be large (ŋ = .921) (Cohen, 1988), which is explained as approximately 92% of variance in the receptive PV knowledge scores of participants can be attributed to the explicit PV instruction in the light of conceptual metaphor theory (See Appendix XV for detailed SPSS tables).

In order to make comparisons among the three test scores to find out the source of significant difference, pairwise comparisons with Bonferroni adjustment were carried out, which are presented in Table 4.2.

Table 4.2 demonstrates that a statistically significant difference was observed between the pretest (*M*=4,30, *SD*=2,367) and the immediate posttest (*M*=21,37, *SD*=4,712; *p*< .001) as well as the pretest (*M*=4,30, *SD*=2,367) and the delayed posttest (*M*=20,18, *SD*=6,091; *p*<.001) whereas no statistically significant difference was found out between the immediate posttest (*M*=21,37, *SD*=4,712) and the delayed posttest (*M*=20,18, *SD*=6,091; *p*> .05). These findings indicated that explicit PV instruction in the light of conceptual metaphor theory not only had a crucial impact on the increase of receptive PV knowledge, but the treatment also facilitated the retention of receptive PV knowledge three weeks after the instruction.

Table 4.2. *Results of pairwise comparisons between mean scores of the pretest, immediate and delayed posttests (Multiple-Choice Test)*

(I) time	(J) time	Mean Diff. (I-J)	Std. Error	Sig.[a]
Pretest	Immed. p.test	-17,067	,653	,000*
	Delayed p.test	-15,883	,743	,000*
Immed. p.test	Pretest	17,067	,653	,000*
	Delayed p.test	1,183	,488	,055
Delayed p.test	Pretest	15,883	,743	,000*
	Immed. p.test	-1,183	,488	,055

* The mean difference is significant at the ,001 level.
[a] Adjustment for multiple comparisons: Bonferroni.

4.2.3. Productive PV knowledge

The second sub-question investigated whether explicit PV instruction in the light of conceptual metaphor theory had a crucial impact on achievement and retention of productive PV knowledge. Table 4.3 presents the related descriptive statistics.

Table 4.3. *Productive PV knowledge*

C-test	N	Range	Mean	SD	*F*	*p*
Pretest	60	8	3,25	2,229		
Immed. posttest	60	16	26,00	3,888	1144,31	**,000***
Delayed posttest	60	21	25,20	4,418		

* The mean difference is significant at the ,001 level.

Table 4.3 illustrates that mean scores of the immediate posttest (M=26,00, SD=3,888) and delayed posttest (M=25,20, SD=4,418) of the participants were higher than the pretest (M=3,25, SD=2,229) scores with respect to the subjects' productive achievement and retention of PVs in C-test. More specifically, an increase was observed on the mean scores of the participants when the test scores in the pretest and immediate posttest were compared. Also, similar to the multiple-choice test, a slight decrease in the test scores from immediate posttest to delayed posttest was revealed.

To check whether these differences in test scores was significant, a one-way repeated measures ANOVA was conducted to scrutinize whether there was a statistically significant difference between pretest, immediate posttest and delayed posttest scores of participants in terms of the effect of explicit PV instruction on achievement and retention of productive PV knowledge in a semi-controlled situation.

As demonstrated in Table 4.3, the ANOVA analysis revealed a statistically significant difference (F (2, 58) = 1144,31, p<.001, ŋ = .975) across pretest, immediate posttest and delayed posttest with respect to productive PV knowledge scores in C-test (Sphericity assumption was not met, so Wilks' Lambda results were reported.). The effect size was calculated to be large (ŋ = .975) (Cohen, 1988), which is explained as approximately 97% of variance in the productive PV knowledge scores of participants can be attributed to the explicit PV instruction in the light of conceptual metaphor theory (See Appendix XV for detailed SPSS tables).

Additionally, pairwise comparisons with Bonferroni adjustment were conducted in order to make comparisons among the pretest, immediate posttest and delayed posttest scores and reveal where the significant differences occurred across these tests, which are provided in Table 4.4.

Table 4.4. *Results of pairwise comparisons between mean scores of the pretest, immediate and delayed posttests (C-test)*

(I) time	(J) time	Mean Diff. (I-J)	Std. Error	Sig.ᵃ
Pretest	Immed. p.test	-22,750	,479	,000*
	Delayed p.test	-21,950	,540	,000*
Immed. p.test	Pretest	22,750	,479	,000*
	Delayed p.test	,800	,373	,109
Delayed p.test	Pretest	21,950	,540	,000*
	Immed. p.test	-,800	,373	,109

* The mean difference is significant at the ,001 level.
ᵃ Adjustment for multiple comparisons: Bonferroni.

Table 4.4 illustrates a statistically significant difference between the pretest (M=3,25, SD=2,229) and the immediate posttest (M=26,00, SD=3,888; p< .001) in addition to the pretest (M=3,25, SD=2,229) and the delayed posttest (M=25,20, SD=4,418; p<.001) while no statistically significant difference was found out between the immediate posttest (M=26,00, SD=3,888) and the delayed posttest (M=25,20, SD=4,418; p> .05). These findings revealed that explicit PV instruction in the light of conceptual metaphor theory had a statistically significant influence on the increase of productive PV knowledge in a semi-controlled situation. What is more, the retention of semi-controlled productive PV knowledge was also facilitated by the treatment three weeks after the instruction.

4.3.   Response Times in MRPLTD

The findings of the masked repetition priming lexical decision task were examined in order to find out whether explicit PV instruction in the light of conceptual metaphor theory influenced the subconscious lexical recognition processing of PVs. This lexical decision task tested to what extent identity and unrelated primes presented for 100 ms were effective in PV processing before and after the treatment.

Prior to the comparison on RTs, although response accuracy was not among the main concerns of the present experiment, a brief analysis was conducted on response accuracy percentages of MRPLDT as a way of confirmation on whether the instrument was working appropriately, and the processing of target PVs were carried out normally and without confusion and distraction. Table 4.5 illustrates the response accuracies at pretest, immediate posttest and delayed posttest.

Table 4.5. *Percentages (%) of correctly responded trails in MRPLDT*

	Pretest (*n*= 1,920)	Immed. Posttest (*n*= 1,920)	Delayed Posttest (*n*= 1,920)
All trails (*n*= 5,760)	90.5	98.2	97.4
Prime Condition			
Identity (2,880)	91.7	99.1	98.1
Unrelated (2,880)	89.2	97.2	96.7

As Table 4.5 shows, regarding all trails, a gain of approximately 8% in accuracy from pretest to immediate posttest was observed with an increase from 90.5% to 98.2% whereas a slight decrease from 98.2% to 97.4% was revealed in accuracy from immediate posttest to delayed posttest, which is expected as the nature of the delayed posttest requires. In terms of the prime conditions, targets in identity prime condition were consistently more accurate than those in the unrelated prime condition, which indicates that the presence of 100-ms primes affected the processing of target trails not only before but also right after and three weeks after explicit PV instruction in the light of conceptual theory. Apart from that, a similar increase-decrease pattern was observed when the pretest, immediate posttest and delayed posttest percentages were compared in that regarding identity primes, from pretest to immediate posttest, there was an increase of approximately 8% in accuracy percentages from 91.7% to 99.1%, followed by a slight decrease of 1% with delayed posttest. Similarly, for unrelated primes an increase from

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89.2% to 97.2% was found from pretest to immediate posttest which was followed by again a slight decrease from 97.2% to 96.7% from immediate posttest to delayed posttest.

Following the aforementioned response accuracy analysis, incorrectly responded trails were removed from the dataset. These were the responses where participant pressed "YES" for a "NO" trail. The reason why these observations were excluded is that they are considered invalid because they show up as a consequence of distraction or lapses in concentration (Obermeier, 2015; p. 143). Therefore, 270 inaccurate responses in total were eliminated from the dataset and only accurate lexical decisions were taken into consideration in terms of processing.

4.3.1. Analysis of primes types within pretest, immediate and delayed posttests

The present sub-question of the study investigated whether there were any significant differences in RTs due to prime types in masked repetition priming lexical decision task within each pretest, immediate posttest and delayed posttest.

Table 4.6. *Analysis of prime types on MRPLDT within each test*

MRPLDT	N	Range	Mean	SD	*t*	*df*	*p*
Pretest							
Identity prime	60	786,97	776,00	177,74			
Unrelated prime	60	776,36	834,62	179,37	-1,798	118	,075
Immediate posttest							
Identity prime	60	449,60	611,59	99,87			
Unrelated prime	60	570,26	695,36	127,08	-4,014	118	**,000***
Delayed posttest							
Identity prime	60	569,32	600,89	108,80			
Unrelated prime	60	455,42	667,55	106,20	-3,396	118	**,001***

* The mean difference is significant at the ,005 level.

When the pretest of MRPLDT was concerned, as demonstrated in Table 4.6 and Figure 4.2, the mean RT of identity primes (*M*=776,00, *SD*=177,74) was much lower than the mean RT of unrelated primes (*M*=834,62, *SD*=179,37) in the pretest of masked repetition priming lexical decision task. Mainly, the mean RT of targets in identity priming condition was 58,62 ms faster than the mean RT of those in unrelated priming condition.
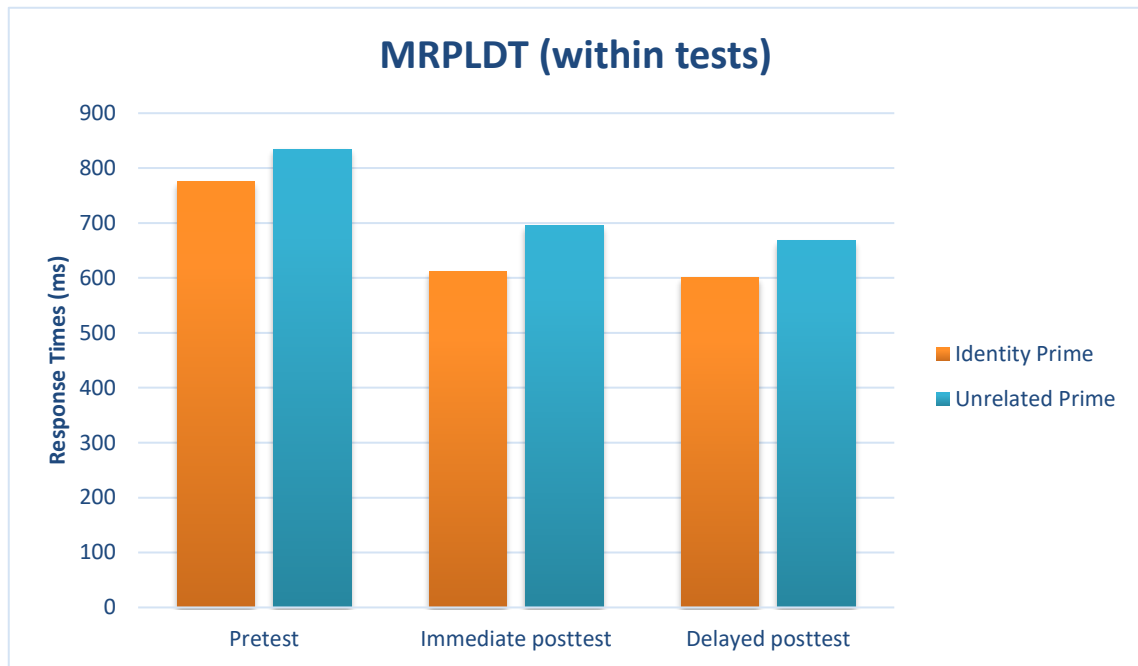
Figure 4.2. *Comparison of RTs of identity and unrelated primes in pretest, immediate and delayed posttests in MRPLDT*

To further examine whether this difference between mean RTs of identity and unrelated primes was statistically significant or not, an independent samples t-test was carried out, also shown in Table 4.6. As presented, the analysis did not reveal a statistically significant difference between means RTs of identity (*M*=776,00, *SD*=177,74) and unrelated primes (*M*=834,62, *SD*=179,37) in pretest, *t*(118)= -1,798, *p*> .05 (two-tailed) although some difference was observed. This shows that prime type did not have any effect on the processing speed when PVs were the ones that participants did not know.

Regarding the immediate posttest of MRPLDT, as displayed in Table 4.6, the mean RT of identity primes (*M*=611,59, *SD*=99,87) was much lower than the mean score of unrelated primes (*M*=695,36, *SD*=127,08) indicating that processing of identity primes was 83,77 ms faster than the processing of targets in unrelated priming condition. Figure 4.2 also presents that some difference was observed between the mean RTs of identity and unrelated primes.

A more detailed analysis was carried out with an independent samples t-test in order to examine whether the difference between mean RTs of identity and unrelated primes was statistically significant. The results of the independent samples t-test, presented in Table 4.6, indicated that there was a statistically significant difference between the mean

RTs of identity (*M*=611,59, *SD*=99,87) and unrelated primes (*M*=695,36, *SD*=127,08), *t*(118)= -4,014, *p*< .005 (two-tailed), ŋ = .739, which reveals that processing of target PVs in terms of formal representations was much more facilitated by identity primes than unrelated primes right after the explicit PV instruction in the light of conceptual theory.

As for the delayed posttest of MRPLDT, Table 4.6 and Figure 4.2 illustrate that the mean RT of identity primes (*M*=600,89, *SD*=108,80) was much lower than the mean RT of unrelated primes (*M*=667,55, *SD*=106,20), which means that processing of targets in identity priming condition was 66,66 ms faster than that of in unrelated priming condition.

In order to understand whether the difference between mean RTs was statistically significant, an independent samples t-test was run. The findings of the independent samples t-test, as illustrated in Table 4.6, revealed that there was a statistically significant difference between the mean RTs of identity (*M*=600,89, *SD*=108,80) and unrelated primes (*M*=667,55, *SD*=106,20), *t*(118)= -3,396, *p*< .005 (two-tailed), ŋ = .625, which means that subconscious formal recognition and processing of target PVs was significantly faster by identity primes than unrelated primes even three weeks after the explicit PV instruction in the light of conceptual theory.

4.3.2 Analysis of formal lexical representations between pretest, immediate and delayed posttests

The present sub-question of the study scrutinized whether there were any significant differences in overall RTs for formal lexical representations in masked repetition priming lexical decision task between pretest, immediate posttest and delayed posttest.

Table 4.7. *Subconscious lexical recognition on MRPLDT*

MRPLDT	N	Range	Mean	SD	*F*	*p*
Pretest	60	751,52	804,79	170,97		
Immediate posttest	60	494,36	653,08	107,54	42,674	,000*
Delayed posttest	60	414,70	634,05	97,22		

* The mean difference is significant at the ,001 level.

As presented in Table 4.7, mean RT of the immediate posttest (*M*=653,08, *SD*=107,54) and delayed posttest (*M*=634,05, *SD*=97,22) of the participants were much lower than the mean RT of the pretest (*M*=804,79, *SD*=170,97) in terms of participants' recognition and processing of formal lexical representations of target PVs in masked

repetition priming lexical decision task. In MRPLDT, as a psycholinguistic experiment, mean RTs in the immediate posttest was 151,71 ms faster than the ones in the pretest. Likewise, a slight difference (19,03 ms) between mean RTs of immediate and delayed posttest was revealed. Differences between the mean RTs of the participants in each test is also illustrated in Figure 4.3.
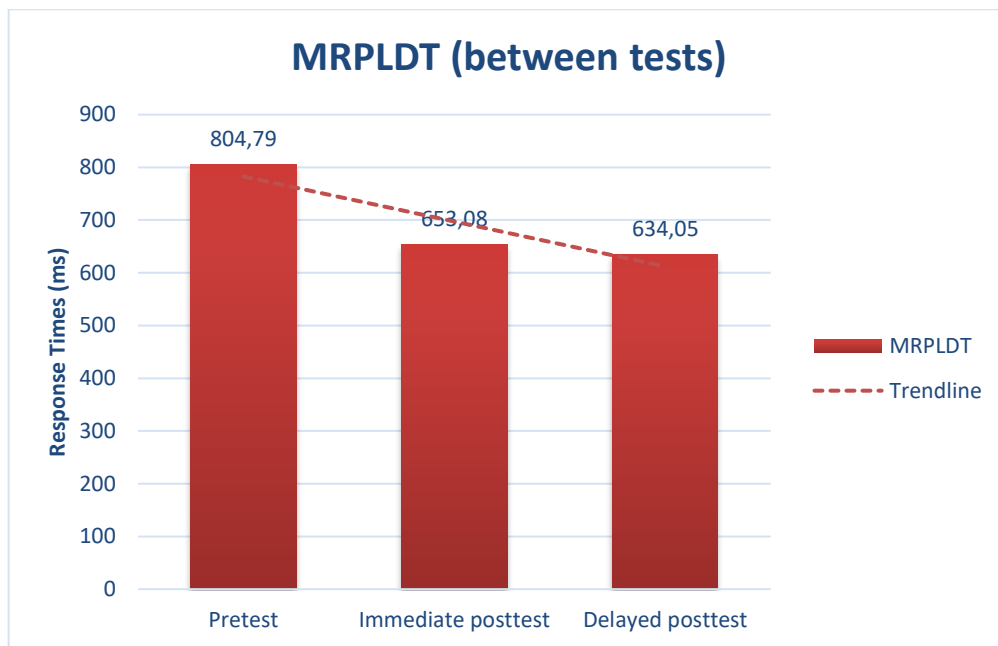
Figure 4.3. *Comparison of pretest, immediate and delayed posttest mean RTs in MRPLDT*

Figure 4.3 demonstrates that participants got faster in formal processing and recognizing target PVs from pretest (M=804,79, SD=170,97) to immediate posttest (M=653,08, SD=107,54) as a result of the explicit PV instruction in the light of conceptual metaphor theory. On the other hand, when the internalization of target PVs three weeks after the treatment was concerned, RTs in delayed posttest (M=634,05, SD=97,22) indicated a just slight decrease from the mean RT of the immediate posttest (M=653,08, SD=107,54), which shows that participants' processing speed did not change much in delayed posttest compared to the speed change between the pretest and the immediate posttest.

A more detailed analysis was carried out with a one-way repeated measures ANOVA in order to investigate whether a statistically significant difference was observed between pretest, immediate posttest and delayed posttest RTs. As demonstrated in Table 4.7, the ANOVA analysis revealed a statistically significant difference (F (2, 58) =

42,674, p<.001, ŋ = .595) across pretest, immediate posttest and delayed posttest with respect to overall RTs in MRPLDT (Sphericity assumption was not met, so Wilks' Lambda results were reported.). The effect size was calculated to be medium (ŋ = .595) (Cohen, 1988), which is explained as approximately 60% of variance in participants' RTs can be attributed to the explicit PV instruction in the light of conceptual metaphor theory (See Appendix XV for detailed SPSS tables).

Furthermore, pairwise comparisons with Bonferroni adjustment were run in order to make comparisons among the RTs in the pretest, immediate posttest and delayed postttest and reveal where the significant differences occurred across these tests, which are provided in Table 4.8.

Table 4.8. *Results of pairwise comparisons between mean RTs of the pretest, immediate and delayed posttests (MRPLDT)*

(I) time	(J) time	Mean Diff. (I-J)	Std. Error	Sig.[a]
Pretest	Immed. p.test	151,710	17,501	,000*
	Delayed p.test	170,744	18,627	,000*
Immed. p.test	Pretest	-151,710	17,501	,000*
	Delayed p.test	19,034	9,972	,184
Delayed p.test	Pretest	-170,744	18,627	,000*
	Immed. p.test	-19,034	9,972	,184

* The mean difference is significant at the ,001 level.
[a] Adjustment for multiple comparisons: Bonferroni.

Table 4.8 demonstrates a statistically significant difference between the pretest (M=804,79, SD=170,97) and immediate posttest (M=653,08, SD=107,54; p< .001) as well as the pretest (M=804,79, SD=170,97) and delayed posttest (M=634,05, SD=97,22; p<.001) whereas no statistically significant difference was brought out between immediate posttest (M=653,08, SD=107,54) and delayed posttest (M=634,05, SD=97,22; p> .05). These findings indicated that explicit PV instruction in the light of conceptual metaphor theory had a statistically significant influence on the processing and recognition speed of participants in terms of formal lexical representations of target PVs in the MRPLDT. When the internalization of target PVs three weeks after the teaching process based on the conceptual metaphor theory was concerned, the findings of the lexical decision task put forward that participants did not get slower in processing and recognition after a three-week interval; as a matter of fact, they speeded up a little bit, which may be a result of test repetition.

4.4. Response times in SPRT

The primary focus of interest with self-paced reading task (SPRT) was whether there were any significant differences between pretest, immediate posttest and delayed posttest results of participants' RTs for formulaic sequencing gains following the explicit PV instruction in the light of conceptual metaphor theory. Another focus of the present investigation through the same task was whether any significant difference between pretest, immediate posttest and delayed posttest results of participants' RTs was observed for semantic association gains. Within this perspective, two analyses were carried out. For the first analysis, formulaic sequencing gains were investigated by making comparisons among RTs of final words of the target PVs. For the analysis of semantic association gains, RTs on semantic associates that were purposely provided in each item in the task were compared and examined. All in all, two datasets from the same SPRT were prepared and utilized for analyses of both formulaic sequencing and semantic association gains. Apart from these, response accuracy of SPRT was also investigated although it was not among the main concerns of the experiment.

Similar to the MRPLDT, a brief analysis was carried out on response accuracy percentages of self-paced reading task as a way of confirmation on whether the instrument was working appropriately, and the processing of target PVs were conducted normally and without confusion and distraction. As mentioned in the methodology section, SPRT was designed with 32 items followed by some comprehension questions to be answered with simple YES or NO responses. The logic behind asking such questions was to keep the participants focused on understanding the contents of what they were reading. According to Obermeier (2015), sentence comprehension in the self-paced reading task was a task-validity level concern, that is to say if the subjects answered the comprehension questions incorrectly, this means that the items in SPRT were difficult (p. 168). Table 4.9 illustrates the percentages of response accuracies at pretest, immediate posttest and delayed posttest.

Table 4.9. *Percentages (%) of correctly responded trails in SPRT*

	Pretest (*n*= 1,920)	Immediate Posttest (*n*= 1,920)	Delayed Posttest (*n*= 1,920)
All trails (*n*= 5,760)	65,9	74,4	72,2

As Table 4.9 shows, participants responded correctly to approximately 66% of the trails in the pretest, which is a low percentage because subjects were not aware of the target PVs in the items as the test was administered before the treatment. With respect to the immediate posttest employed right after the treatment, a gain of approximately 9% in accuracy was observed with an increase from 65,9% in pretest to 74,4% in immediately posttest. As for the delayed posttest administered three weeks after the treatment, a slight decrease from 74,4% in immediate posttest to 72,2% in delayed posttest was revealed in accuracy, which is expected as the nature of the delayed posttest requires.

For the analyses of SPRT, unlike MRPLDT, trails corresponding to incorrect responses were not excluded from the dataset. As the purpose of these comprehension questions was to urge participants to continue focusing on the content, even if they responded incorrectly, it didn't directly affect the processing of target words in the task. Hence, incorrectly responded trails were kept in the dataset to be analyzed.

4.4.1. Formulaic sequencing gains

To examine the impacts of explicit PV instruction through conceptual metaphors on formulaic sequencing gains, RTs for the final word of PVs, which were the particles, were measured and compared in pretest, immediate posttest and delayed posttest in SPRT. The reason why the final word was selected for this analysis is that this design resembles to a priming experiment since the words in the task are read one at a time and reading the verb in a PV will prime the processing of the following particle. Hence, the verbs served as primes whereas the particles served as targets, which leads to the analysis of formulaic sequencing gains through the RTs of particles in SPRT.

Table 4.10. *Formulaic Sequencing Gains on SPRT (FS)*

SPRT – FS	N	Range	Mean	SD	*F*	*p*
Pretest	60	589,53	600,02	144,28		
Immediate posttest	60	457,71	414,73	90,73	109,301	,000*
Delayed posttest	60	302,34	347,98	69,49		

* The mean difference is significant at the ,001 level.

Table 4.10 shows that mean RTs of the immediate posttest (*M*=414,73, *SD*=90,73) and delayed posttest (*M*=347,98, *SD*=69,49) of the participants were much lower than the mean RT of the pretest (*M*=600,02, *SD*=144,28) with respect to participants' processing

of the particles as the final word of the target PVs in the self-paced reading task. In the first subsection of the SPRT, for processing the formulaic sequencing gains, participants got 185,29 ms faster from pretest to immediate posttest following the explicit PV treatment. Likewise, it was clear that their processing accelerated even in the tree-week interval. More specifically, a decrease was observed on the mean RTs of the participants from pretest to immediate posttest and delayed posttest with respect to the processing of target particles in SPRT when the formulaic sequencing gains were concerned. Mean RT differences between each test is also demonstrated in Figure 4.4.
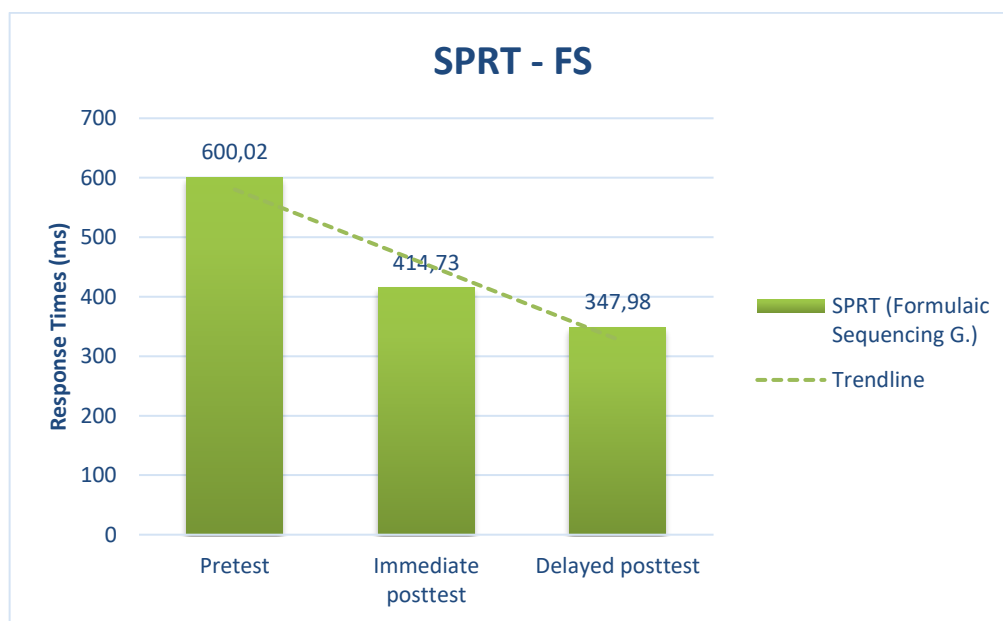
Figure 4.4. *Comparison of pretest, immediate posttest and delayed posttest mean RTs in SPRT – FS*

As can be understood from Figure 4.4, participants' processing speed of the target particles increased from pretest (M=600,02, SD=144,28) to immediate posttest (M=414,73, SD=90,73). What is more, in terms of the RTs in delayed posttest (M=347,98, SD=69,49), a slight increase from the mean RT of the immediate posttest (M=414,73, SD=90,73) in the processing speed was observed, indicating that participants got faster in processing the particles in SPRT, but this speed change was not as high as the one between the pretest and the immediate posttest.

To further investigate whether the speed differences between pretest, immediate posttest and delayed posttest was statistically significant, a one-way repeated measures ANOVA was administered to the mean RTs of the SPRT (See Table 4.10).

As presented in Table 4.10 by the ANOVA analysis, a statistically significant difference was observed across pretest, immediate posttest and delayed posttest (F (2, 58) = 109,310, p<.001, ŋ = .790) with regard to the processing of particles as the final word of the target PVs in SPRT (Sphericity assumption was not met, so Wilks' Lambda results were reported.). The effect size was calculated to be relatively large (ŋ = .790) (Cohen, 1988), which is explained as approximately 80% of variance in participants' RTs in with respect to the formulaic sequencing gains can be attributed to the explicit PV instruction provided in the light of conceptual metaphor theory (See Appendix XV for detailed SPSS tables).

Additionally, in order to understand what the source of the difference in the ANOVA analysis was and make comparisons among the RTs in the pretest, immediate posttest and delayed posttest, pairwise comparisons with Bonferroni adjustment were administered. The results are presented in Table 4.11.

Table 4.11. *Results of pairwise comparisons between mean RTs of the pretest, immediate and delayed posttests (SPRT – FS)*

(I) time	(J) time	Mean Diff. (I-J)	Std. Error	Sig.ᵃ
Pretest	Immed. p.test	185,298	16,708	,000*
	Delayed p.test	252,042	17,333	,000*
Immed. p.test	Pretest	-185,298	16,708	,000*
	Delayed p.test	66,745	8,586	,000*
Delayed p.test	Pretest	-252,042	17,333	,000*
	Immed. p.test	-66,745	8,586	,000*

* The mean difference is significant at the ,001 level.
ᵃ Adjustment for multiple comparisons: Bonferroni.

Table 4.11 shows that there was a statistically significant difference between not only the pretest (*M*=600,02, *SD*=144,28) and the immediate posttest (*M*=414,73, *SD*=90,73; *p*< .001) and the pretest (*M*=600,02, *SD*=144,28) and the delayed posttest (*M*=347,98, *SD*=69,49; *p*<.001), but also between the immediate posttest (*M*=414,73, *SD*=90,73) and delayed posttest (*M*=347,98, *SD*=69,49; *p*<.001), which reveals that explicit PV instruction in the light of conceptual metaphor theory significantly facilitated the processing of target particles in SPRT. Apart from that, the significant difference between the immediate posttest and delayed posttest can be attributed to incidental learning from doing the same task for three times (Obermeier, 2015; p. 141).

4.4.2. Semantic association gains

In order to investigate the effects of the explicit PV instruction in the light of conceptual metaphor theory on semantic association gains, RTs for the semantic associates, purposely presented a few words after the target PVs in each item in SPRT, were compared and analyzed in pretest, immediate posttest and delayed posttest. This structure in the task created a condition similar to the semantic priming in that PVs acted as primes and semantic associates following them in a few words acted as targets in the analysis. By this way, semantic association gains were scrutinized through the RTs of semantic associates in SPRT.

Table 4.12 presents that mean RTs of the immediate posttest (M=429,46, SD=95,07) and delayed posttest (M=354,60, SD=64,91) were much lower than the mean RT of the pretest (M=656,11, SD=169,26) in terms of the participants' processing of semantic associates in SPRT. More specifically, an ongoing decline in mean RTs of the three tests was revealed indicating that participants got faster in processing the target semantic associates from pretest to immediate and delayed posttests.
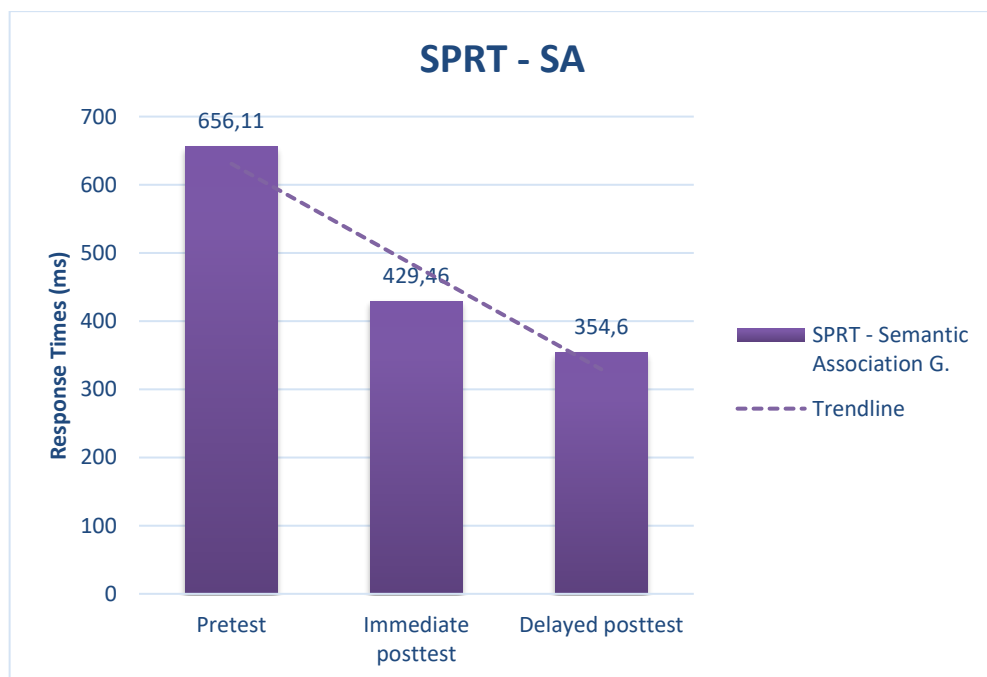
Figure 4.5. *Comparison of pretest, immediate posttest and delayed posttest mean RTs in SPRT – SA*

Figure 4.5 illustrates that participants presented a remarkable improvement in terms of the processing speed of target semantic associates from pretest (M=656,11,

SD=169,26) to immediate posttest (*M*=429,46, *SD*=95,07) due to the explicit PV instruction in the light of conceptual metaphor theory. In a similar vein, they got much faster in processing in the delayed posttest (*M*=354,60, *SD*=64,91) when compared to the immediate posttest (*M*=429,46, *SD*=95,07).

Table 4.12. *Semantic Association Gains on SPRT (SA)*

SPRT – SA	N	Range	Mean	SD	*F*	*p*
Pretest	60	788,49	656,11	169,26		
Immediate posttest	60	458,52	429,46	95,07	101,094	**,000**∗
Delayed posttest	60	340,66	354,60	64,91		

∗. The mean difference is significant at the ,001 level.

As shown in Table 4.12, the ANOVA analysis revealed a statistically significant difference (*F* (2, 58) = 101,094, p<.001, ŋ = .777) across pretest, immediate posttest and delayed posttest with respect to processing speed of semantic associates in SPRT (Sphericity assumption was not met, so Wilks' Lambda results were reported.). The effect size was calculated to be relatively large (ŋ = .777) (Cohen, 1988), which can be clarified as approximately 78% of variance in the processing speed of semantic associates can be attributed to the explicit PV instruction in the light of conceptual metaphor theory (See Appendix XV for detailed SPSS tables).

Furthermore, pairwise comparisons with Bonferroni adjustment were conducted in order to make comparisons among the mean RTs of pretest, immediate posttest and delayed posttest and reveal where the significant differences occurred across these tests, which are provided in Table 4.13.

Table 4.13. *Results of pairwise comparisons between mean RTs of the pretest, immediate and delayed posttests (SPRT – SA)*

| (I) time	(J) time	Mean Diff. (I-J)	Std. Error	Sig.[a]
Pretest	Immed. p.test	226,650	21,309	,000∗
	Delayed p.test	301,512	21,698	,000∗
Immed. p.test	Pretest	-226,650	21,309	,000∗
	Delayed p.test	74,862	10,341	,000∗
Delayed p.test	Pretest	-301,512	21,698	,000∗
	Immed. p.test	-74,862	10,341	,000∗

∗ The mean difference is significant at the ,001 level.
[a] Adjustment for multiple comparisons: Bonferroni.

Table 4.13 presents a statistically significant difference between the pretest (*M*=656,11, *SD*=169,26) and immediate posttest (*M*=429,46, *SD*=95,07; *p*< .001), the pretest (*M*=656,11, *SD*=169,26) and the delayed posttest (*M*=354,60, *SD*=64,91; *p*<.001) and the immediate posttest (*M*=429,46, *SD*=95,07) and delayed posttest (*M*=354,60, *SD*=64,91; *p*<.001). These findings indicated that, similar to the processing of formulaic sequences in SPRT, explicit PV instruction in the light of conceptual metaphor theory significantly facilitated the processing of target semantic associates, as well. Besides, the fact that the difference between immediate and delayed posttests was significant can be attributed to incidental learning as participants became familiar with the self-paced reading procedure and the items in the task from doing the same task for three times (Obermeier, 2015; p. 182).

CHAPTER 5

5. DISCUSSION AND CONCLUSION

5.1. Introduction

In this chapter, first the results of the study are discussed in relation to the previous research in the literature. The discussion is carried out under three main titles in accordance with the themes of the research questions. It starts with the evaluation of achievement and retention of receptive and productive PV knowledge, continues with the insights on formulaic sequencing and semantic processing gains and ends with the considerations on the findings about formulaic sequencing and semantic processing gains.

Following the discussion, the overall findings of the study is summarized prior to a brief description of the study's limitations. Then, suggestions for further research are presented. Finally, the dissertation is concluded with some educational implications in regard to the strong interface issue of explicit lexical knowledge and its conversion as implicit lexical knowledge gains.

5.2. Discussion

5.2.1. Insights on achievement and retention of receptive and productive PV knowledge

As a starting point of the present study, we followed the view that metaphorical orientations of particles in PVs are constructions that might be present in learners' mind, however this does not necessarily mean that they will actively use them in the language learning process (Kovecses & Szabo, 1996). Hence, for them to be activated, language learners need to be explicitly taught about the notion of orientational metaphors before they can fully master the PV constructions. The explicit PV instruction developed in the light of conceptual theory on achievement and retention of the receptive and productive PV knowledge in a controlled situation has been designed and applied in this study. To determine the impacts of this treatment, a multiple-choice test and a c-test was administered as the pretest, immediate and delayed posttests. The findings revealed that explicit instruction of PV through conceptual metaphors had a statistically significant effect not only on the receptive PV achievement, but also on retention of receptive PV knowledge over time. As for the productive aspect, similar results were observed in that the explicit PV instruction significantly influenced both the productive PV achievement and retention even three weeks after the treatment.

In English, although there are many PVs meaning of which are bound to literal senses of the component words, orientational metaphors play the main role in the verb analysis (Valerio, 1998). Therefore, it may be acknowledged that a link between metaphorical concepts and PVs can be established and meanings of PVs can be clarified under the metaphorical concepts provided by orientational metaphors. Within this study, it has been evident that "spatial movement" feature of particles acted as a bridge between core and metaphorical meanings of particles, hence linking the particles to the metaphorical orientations and applying the conceptual metaphor theory to the acquisition of PVs (See Section 2.7.2). In this sense, the instruction has proved to be fruitful for participants in associating the PV meanings to the hidden metaphors of the particles both in short-term and long-term. However, most of the studies in the literature appear to focus on the short-term effects of the conceptual metaphor theory by comparing it to the traditional memorization method. As an example, the study by Nhu and Nguyen (2009) was based on the theory of cognitive linguistics and conceptual metaphors in order to organize PVs within the scope of four particles which were *in, out, up* and *down*. The findings of their study were gained from the performance of the students on the exercises in the worksheets which was given immediately after the 10-minute presentation of metaphors. Similar to Nhu and Nguyen's (2009) study, Yasuda (2010) explored the immediate gains of receptive PV knowledge by carrying out a comparison between mere memorization technique and the method based on conceptualization of metaphors. With the same starting point, Yasuda (2010) explored whether enhancing awareness of orientational metaphors of particles - *down, into, out, up, off* - contributes to the acquisition of PVs by EFL learners. The analysis was conducted on the basis of the scores of the completion test administered just after the introduction of metaphorical orientations of target particles. As another study with the aim of short-term PV knowledge gains based on conceptual metaphors, Lee (2012) conducted a research focusing on particles out, up and over. Participants' PV development were analyzed quantitatively and qualitatively through various tasks including in-class tests and homework assignments. All of these studies only compared the traditional method to the conceptual metaphor theory (between subjects comparison), examined the immediate short-term effects of the treatment and found out that learning PVs can be aided by fostering the awareness of orientational metaphors than by encouraging mere memorization. However, with a pretest/posttest design (within subjects comparison), the present study investigated not only the

immediate short-term but also the long-term PV knowledge gains as a result of the treatment based on the conceptual metaphor theory.

As the other concern of this study was to scrutinize the effect of explicit PV instruction in the light of conceptual metaphor theory on the long-term retention of receptive and productive PV knowledge, the current study revealed some significant contributions of the current PV treatment to not only the effective learning but also the recalling of the PVs. In other words, the recognition of PVs was maintained in mind even three weeks after the treatment. These findings of the study are in line with the results of some other previous studies. As an example, in his study Ganji (2011) compared the effectiveness of translation, sentential contextualization and metaphorical conceptualization in PV learning. His comparison revealed all three techniques facilitated learning equally in terms of target particles - *up, down, off, out*. However, when the retention was concerned, sentential contextualization and metaphorical conceptualization proved to be much more effective than translation. The researcher attributed this result to the limited period of time for the instruction on conceptual metaphors; only 2 hours were allocated to the teaching of four particles mentioned above on the basis of their orientational metaphors. Therefore, the present study extended the treatment period and spent two sessions (90 min.) for each particle. Similarly, another study based on the retention of PVs was carried out by Hu and Lou (2013) to investigate the impact of conceptual metaphor instruction composed of image schemas and lexical network on both short-term and long-term memory retention of older EFL freshmen learners when compared to the traditional translation method. The researchers focused on the senses of target particles - *out, up, off* - on the basis of Rudzka – Ostyn' (2003) book. Regarding the treatment procedure, 7 sessions were carried out with target particles and senses, in which both instruction and practice took place. As can be understood, both the selection of target PVs and treatment process were carefully planned as was the case in the present study. As a result, being congruent with the results of the current study, their findings defended the significant contribution of cognitive instruction to long-term PV retention, compared to the traditional PV instruction.

In addition to these studies, a much recent study on whether conceptual metaphor approach was effective with respect to the achievement and retention of PV knowledge was conducted by Güleryüz Adamhasan (2014) in a Turkish high school as an ESP context. Similar to the study by Hu and Lou (2013), Güleryüz Adamhasan (2014)

designed a study based on different senses of target particles - *up, down, out, in, into, off* - and teaching as well as recycling them during the treatment process. In terms of long-term retention, her analysis underlined the facilitative influence of using conceptual metaphors on the retention of PVs over two weeks. The present study provides a further support to the facilitative results on long-term PV knowledge gains in that the retention period was extended to three weeks and still there was no significant loss in the retention level of the participants.

On the contrary, the findings of the present study contradict with the findings of Yang and Hsieh (2010) who argued against the evidence of conceptual metaphor awareness facilitating memory retention of PVs. Similar to the studies above, these researchers compared the traditional translation method with conceptual metaphor theory in two different participants groups, experimental and control. As for the treatment, the study focused on *off* and *up* as particles in a session and provided explanations either in the form of L1 translations or metaphorical concepts. Following that, a sentence completion task with 12 items was distributed to the participants and the scores taken from this task were analyzed. As mentioned above, first of all the current study is different from Yang and Hsieh's (2010) study in terms of the instructional treatment. In this study, a consistent method based on conceptual metaphor theory was utilized in teaching orientational metaphors of target particles. Also, each particle was exemplified with sentences based on image schemas. With a pretest/posttest design, in this study not only the achievement but also the retention of receptive and productive PV knowledge was investigated. These distinctions in treatment process may appear to explain the Yang and Hsieh's (2010) findings on conceptual metaphor theory not having a fostering effect on PV knowledge retention contrary to the findings of the present study.

Apart from these, productive dimension of vocabulary learning carries great importance as learners could prove their vocabulary knowledge by using it productively (Nation, 2001). Therefore, different from the studies mentioned above, the present study investigated not only the receptive but also the productive PV knowledge gains in terms of both achievement and retention. The findings indicated that teaching PVs based on the metaphorical orientations of particles led to the productive use and long-term persistence of PVs.

Overall, the current research is different from the previous studies as it concentrates not only on receptive but productive PV knowledge gains in terms of both short-term and

long-terms memory load. As a conclusive remark, the results of this study indicating significant gains both in achievement and retention of PVs validate that conceptual metaphor theory have facilitated PV mastery and long-term retention of these structures as it reveals the hidden relationships between conceptual metaphor expressions and PVs (Kövecses, 2002).

In addition to the achievement and retention of both receptive and productive PV knowledge, this study also probed whether participants could reflect their receptive and productive mastery of PVs to their processing speed in terms of subconscious lexical recognition and semantic lexical processing. The findings on whether explicitly presented PVs through orientational metaphors were internalized or not are discussed in the following sections.

5.2.2. Insights on subconscious lexical recognition and processing

As one of the motivations to investigate the subconscious lexical recognition and processing is the fact that according to Ellis (1996), language learning is layered as a process of sequence learning, and within this perspective vocabulary learning requires sequencing the formal and phonological features of the words, and then associating these forms with specific meanings. In this sense, the current study focused on implicit PV knowledge gains as a result of explicit PV instruction. As the first layer of vocabulary learning process requires, the analysis was based on searching evidence for understanding whether explicit PV instruction in the light of conceptual metaphor theory fostered the implicit representations, facilitating subconscious lexical recognition and processing of target PV.

The subconscious lexical recognition and processing of PV constructions was scrutinized in the masked repetition lexical decision task by focusing on the priming condition within pretest, immediate posttest and delayed posttest as well as the overall processing speed before, right after and three weeks after the explicit PV instruction. The analysis was conducted first within each test by comparing the response time in terms of the prime types - identity and unrelated primes -, then a comparison of overall response times was carried out in order to understand the effect of explicit PV instruction in the light of conceptual metaphor theory on the formal lexical recognition and processing of PVs.

As the first analysis due to the prime types, priming condition was the main predictor of the subconscious lexical recognition in that they were shown for only 100 ms, one-tenth of a second and less than half of the time of a normal eye fixation, limiting the possibility of conscious processing of the primes. Normally in a silent reading, at least 225 ms is required for fixation and Rayner (1998) proposes that this time span may not even be adequate for recognition (p. 225). Normal reading is characterized by fixations, eye movements, and regressions; readers constantly reread words as they progress through a text. Such rereading of the primes was not possible in the MRPLDT as they were presented only briefly and then disappeared. Two prime types, identity and unrelated primes, were presented in the MRPLDT and which one facilitates the processing and recognition speed was investigated within each test. The pretest did not reveal any significant difference between two prime types although some difference between mean RTs was observed, indicating that whether they were primed by an identity or unrelated prime did not make any change in processing RTs, which was found to be incongruent with the findings of Obermeier's (2015) research. In this analysis, he explored the subconscious lexical recognition and processing of multiword units similar to lexical bundles and for this investigation, he administered a MRPLDT as a pretest and posttest. The results of his pretest revealed a significant difference between identity and unrelated primes. Obermeier (2015) attributed this finding to the fact that constituent words of each multiword unit had to be within the first 2000 most frequent words of English, which means that participants would know each constituent word no matter the whole unit is a figurative or literal expression. Overall, the fact that the participants were aware of the individual meanings of the constituent words in multiword units seems to have made the formal lexical recognition and processing much easier and thus faster irrespective of the prime type even in the pretest in Obermeier's (2015) study. On the contrary, in our study, when selecting the target PVs, the ones unfamiliar to the participants were selected on purpose. Even if the particles could be familiar, the students probably processed them together and did not give attention to the individual component, the particle. Therefore, the results of the pretest in the present study indicated no significant difference between identity and unrelated primes. When we compare our results with Elgort (2007, 2011) in terms of the effect of prime types at the beginning of research we find similarities since they used pseudowords.

When the comparisons of identity and unrelated primes within each immediate posttest and delayed posttest are concerned, the results of the present study indicated significant differences between two prime types as expected, maintaining the idea that identity primes related to the learnt words accelerate the formal processing and recognition when compared to the unrelated primes, which is in line with the findings of Obermeier (2015) and Elgort (2007, 2011). In Elgort's (2007, 2011) studies, learnt non-words with identity primes were processed much faster than the ones with unrelated primes. Although Elgort's (2007, 2011) studies did not compare the same pseudowords before and after a learning process, she just categorized the non-words as learnt and not-learnt conditions.

Concerning the comparison of overall response times, the analysis of the overall processing speeds of the participants in the present study revealed significant differences between pretest and immediate posttest, emphasizing that explicitly taught PVs in the light of conceptual metaphor theory were transferred through implicit processing mechanisms and thus internalized. Besides, no statistical difference in RTs was observed among immediate posttest and delayed posttest, only 19 ms. As Ellis (2005) explains, explicit teaching serves as an initial register for language mechanisms which are later regulated and integrated into the system as implicit knowledge when followed by subsequent input processing whereas implicit lexical knowledge starts to improve immediately with the former explicit learning task (p. 305). Indeed, the form-meaning connection of vocabulary is established immediately after learners encounter words in context and resort to differing strategies in order to reach the meaning. Within this perspective, in this study, subconscious lexical recognition and processing of PVs was immediately facilitated following the explicit PV instruction through conceptual metaphors and this knowledge was retained throughout three weeks. These findings also support Obermeier (2015) in that he measures the RTs of the learnt and not-learnt multiword units both in pretest and posttest with respect to both priming condition (identity vs. unrelated) and meaning condition (figurative vs. literal). In both of the conditions, RTs for the pretests was much higher than the RTs of the posttest even for the not-learnt multiword units. The facilitated recognition and processing of target multiword units verified their subconscious activation in the lexicon and integration into lexical representational system leading to the implicit knowledge gains.

The results discussed so far revealed the first layer (Ellis, 1996) of PV knowledge acquisition through the analysis of MRPLDT examining subconscious lexical recognition and processing. In the following section, another layer - semantic relations - are discussed with respect to the self-paced reading task delving into formulaic sequencing as well as semantic association gains.

5.2.3. Insights on formulaic sequencing and semantic processing gains

Final concern of the current study was the formulaic sequencing and semantic association gains following the explicit PV treatment. For the analysis, a self-paced reading task was administered as pretest, immediate posttest and delayed posttest and two different datasets were prepared for each analysis. In order to examine formulaic sequencing gains, RTs for the final words of the PVs, which are the particles, were compared whereas for the investigation of semantic association gains RTs for the semantic associates purposely presented in each item in SPRT were analyzed. The findings demonstrated that regarding both the formulaic sequencing and semantic association gains, the treatment resulted in a statistically significant changes among the processing speeds of participants in pretest, immediate posttest and delayed posttest. That is to say, subjects got much faster with each test administration.

For the semantic processing, two different analysis was carried out, one of which focused on the formulaic sequencing gains whereas the other was dwelled upon semantic association gains.

As the first sub-question of the current analysis, whether the target PV were acquired as a chunk or not (formulaic sequencing gains) were scrutinized by comparing RTs of the final words of PVs, which are the particles in the SPRT. The reason why the final words were determined to be investigated in the study is that formulaic sequencing is similar to *the lexical priming* proposed by Hoey (2005, p. 8):

> "We can only account for collocation if we assume that every word is primed for collocational use. As a word is acquired through encounters with it in speech and writing, it becomes cumulatively loaded with the contexts and co-texts in which it is encountered."

The comparison between mean RTs of particles during pretest and immediate posttest revealed a statistically significant difference in the present study. That is to say, participants' processing of particles got faster right after the treatment. This finding is

incongruent with the findings of Obermeier's (2015) study which indicates no significant differences between learnt and not-learnt multiword units between pretest and posttest. This could be due to the choice of words as he also states that the multiword units, which were lexical bundles, were presented one word at a time in the task, the instrument might not have properly measured the gains made in processing the targets as wholes (p. 200). Likewise, with the same measurement concern, Schmitt and Underwood (2004) compared RTs of words in formulaic sequences with the RTs of the same words in non-formulaic contexts and no significant difference was found out. However, to overcome the measurement problem in SPRT, Tremblay et al. (2011) varied the presentation format in their SPRT with word by word, chunk by chunk, and full sentence presentation formats. Regardless of the type of the presentation, all of these formats resulted in significantly faster processing in formulaic contexts, which indicates that SPRT properly measures the vocabulary gains made during processing. As revealed in Tremblay et al.'s (2011) study, word by word presentation of words in SPRT can be accepted as a good indicator of the holistic processing of the formulaic units. As a result, in this study, SPRT was used in order to investigate the holistic processing of PVs and the findings proved that explicit PV teaching proved to be effective in holistic processing of PVs.

Apart from these, when the RTs in the delayed posttest are concerned, decreases in RTs resulted in a significant difference among two posttests, which is in line with the findings of Laufer and Girsai (2008) in that engaging in cognitive processing with formulaic sequences is believed to aid retention. As target PVs were presented explicitly through conceptual metaphors based on the metaphorical orientations of particles in the current study, the facilitative effect of the orientational explanation cannot be disregarded for not only short-term but also long-term vocabulary gains. These findings can indicate that explicit PV instruction has led to the increased processing speed of formulaic sequences after a three-week interval; however, it may also be due to the repeated practice since the participants received the processing task three times as pre/post/delayed posttest (Obermeier, 2015).

Overall, different from the other studies in the literature, the present study centered around an explicit PV instruction process based on the metaphorical orientations of particles and the effect of this teaching on the formulaic sequencing gains of PV knowledge. That is to say, whether PVs are processed holistically has been investigated on the basis of semantic particle teaching in the light of conceptual metaphor theory.

Besides, whether this holistic processing has been short-term or long-term has also been examined and the findings has indicated the facilitative effect of the instruction process on the long-term holistic processing of target PVs.

As for the semantic association gains investigated through the same SPRT by comparing the RTs of semantic associates, the findings confirmed that the treatment significantly activated the meaning representations of the PV as the primes and thus facilitated the processing speed of the semantic associates, which is also not in line with the findings of Obermeier (2015). Following the treatment which was deliberate learning, providing the target multiword units out of context through flashcards and L1 equivalents, he also examined the RTs of semantic associated in the SPRT. However, his study revealed that differences between RTs of learnt multiword units in the pretest and posttest were insignificant. With these findings, it can be asserted that the treatment did not lead to the semantic processing of learnt multiword units. In fact, overall RTs decreased by approximately 100 ms from pretest to posttest for learnt multiword units but this decrease did not prove to be significant. This shows a relatively small effect of deliberate vocabulary learning through flashcards, whereas in the present study, the psychological processes (Nation, 2001) required to acquire a word were followed based on the instructional treatment on the metaphorical orientations of particles in the light of conceptual metaphor theory. The findings of this study revealed that processing of semantic associates from pretest to delayed posttest got faster. What is more, the delayed posttest revealed that the processing speed not increase after the three-week interval, it did get even faster. Overall, it can be asserted that following the treatment based on conceptualization of particles, target PVs have been semantically internalized and retained. Furthermore, these findings in this study are congruent with the results of Elgort's (2007, 2011) study in that she used pseudowords as objects of the treatment ensuring no prior knowledge was attained before her experiments. As a result, positive semantic priming effects were found when target word processing was fostered by prior presentation of primes with related meanings, which is a fairly robust facilitation effect reflecting the features of lexical knowledge in which semantically affined vocabulary are interlinked (McRae & Boisvert, 1998).

As an overall conclusion, the present study has provided support to both the short-term and long-term effects of the conceptual metaphor theory-based PV instruction. Besides, the findings could be considered with respect to the interface debate in the field

of SLA. The results of the study have revealed positive effects of explicit PV teaching on not only explicit receptive and productive PV knowledge gains but also implicit PV knowledge gains through both knowledge tests and psycholinguistic performance data. Hence, it can be stated that an interaction exists between explicit and implicit knowledge types. As Ellis (2005) puts forward, *"On the whole, the learning, representation, and processing of language is part of the same dynamic network system."* (p. 341).

5.3. Conclusion
5.3.1. Summary of the study

The current research set out in order to explore the interface between explicit PV knowledge and implicit PV knowledge gains. With this purpose, this study investigated the impact of explicit phrasal verb instruction in the light of conceptual metaphor theory on not only the achievement and retention of the receptive and productive phrasal verb knowledge but also the recognition as well as formal, formulaic and semantic processing, leading to the internalization, of the phrasal verb structures. It is a within group pretest/posttest design experimental research. 60 participants at the proficiency level of A2 (determined through MET) took part in the study. The analysis was carried out in terms of three sets of data collected through the pretest, immediate posttest and delayed posttest. First of all, the instruction process was specified based on the book "Word Power: Phrasal Verbs and Compounds" by Rudzka-Ostyn (2003). After the most frequently used adverbial particles were determined, target phrasal verbs were selected from the book above, paying attention to the senses, one of which was the core whereas the other was the metaphorical sense. The instruction process focus on these senses of particles and lesson plans were developed accordingly. Following the teaching process, some worksheets with some noticing, retrieval and generative activities (Nation 2001; Rudzka-Ostyn, 2003; Cortes, 2006; Lee, 2012; Neely & Cortes, 2009; Salazar, 2014; Obermeier, 2015; Peters & Pauwels, 2015) were designed in order to provide participants with proper context for mastery of the target PVs. The treatment lasted for 8 weeks; before the treatment, right after and three weeks after it was finished the tests were administered as the pretest, immediate posttest and delayed posttest.

Regarding the first research question on the achievement and retention of the receptive and productive PV knowledge, a multiple-choice test for investigating receptive PV knowledge and a c-test for examining productive PV knowledge were employed. The

study found out that explicit PV instruction provided through conceptual metaphors significantly influenced the achievement and retention of both receptive PV knowledge measured via a multiple-choice test and productive PV knowledge evaluated through a c-test.

As a further analysis on PV knowledge, a masked repetition lexical decision task was administered to the participants before, right after and three weeks after the treatment in order to scrutinize the subconscious formal lexical recognition and processing of PV knowledge. The analysis was conducted first within each test by comparing the response times in terms of the prime types - identity and unrelated primes -, then a comparison of overall response times was carried out. First analysis revealed that as participants were not aware of the PVs before the treatment, prime type did not result in any significant difference in the pretest. However, in the immediate and delayed posttests, the results provided a significant difference between identity and unrelated primes with respect to the response times, indicating that target PVs primed by identity primes were processed significantly much faster than those primed by unrelated primes following the teaching process. According to the second analysis on the comparison of overall response times in three tests, the significant difference between pretest and immediate posttest indicated that explicit PV knowledge in the light of conceptual metaphor theory strongly affected subjects' recognition and processing speed. On the other hand, the insignificant differences between immediate and delayed posttests revealed that PVs presented explicitly to the participants were acquired and retained in the mind, proving that explicit declarative PV knowledge in terms of formal representations has been proceduralized through conceptual metaphors and as a result become automatized and internalized as implicit knowledge gains.

The final research question was dwelled upon both formulaic sequencing and semantic association gains following the explicit PV treatment. For the analysis, a self-paced reading task was administered as pretest, immediate and delayed posttests and two different datasets were prepared for each analysis. For the analysis of formulaic sequencing gains, RTs of final word of the PVs were compared in pretest, immediate and delayed posttests and the findings confirmed that conceptual metaphor theory significantly affected the PV acquisition in that the target PV construction were stored, processed and internalized holistically. Likewise, the analysis on semantic association gains indicated that internalization and automatization of PVs with regards to semantic

processing was facilitated by the cognitive instruction through conceptual metaphors. Compared to MRPLDT, the results of SPRT was different in that the processing speed among all three tests were proved to be statistically significant. This means that not only the explicit PV instruction facilitated the processing of both formulaic sequences and semantic associates, but also the participants came up with some incidental learning as they became familiar with the task procedure and items in the task from doing the same task for three times.

Consequently, the current study attempted to investigate the interface between explicit PV knowledge presented in the light of conceptual metaphor theory and implicit PV knowledge gains. By analyzing not only the achievement and retention of receptive and productive PV knowledge but also the processing of target PV constructions with respect to subconscious formal lexical recognition and processing, formulaic sequencing and semantic association gains, it has been verified that strong interface is observed between explicit and implicit knowledge when the lexical aspect, especially PV constructions, of language learning is concerned. To make it more specific, when declarative lexical knowledge is presented meaningfully and contextually, through productive practice it becomes automatized and internalized as is the case in this study.

5.3.2. Implications

A highly common criticism about phrasal verb instruction in the literature (Darwin & Gray, 1999; Gardner & Davies, 2007; Tyler & Evans, 2004) has been the traditional application that is the way of presenting the target structures in lists with their L1 equivalents or in reading texts/listening scripts and urging learners to remember, in other words memorize, these verbs themselves since they appeared to be completely random and complex (Cornell, 1985; Side, 1990). With the difficulties phrasal verbs pose for non-native learners because of their unpredictable, random and complex nature (Lee, 2012; White, 2012), it has become evident that learners avoid using these structures in production (Liao & Fukuya, 2004; Kayael, 2007; Barekat & Baniasady, 2014; Güleryüz Adamhasan, 2014; Saltık, 2014; El-Dakhs, 2016). Due to this problem of avoidance, the question of how to teach phrasal verbs effectively has become a matter of debate in the field of language teaching. Studies showed that phrasal verbs are not acquired in a natural way (Coady, 1997). Therefore, explicit teaching of phrasal verbs has been one of the core solutions to these problems in order to facilitate learners' phrasal verb acquisition

(Nattinger & DeCarrico, 1992; Lewis, 1997). It is also obvious that phrasal verbs are multiword constructions consisting of a verb followed by an adverbial particle (Biber, Johansson, Leech, Conrad & Finegan, 1999), which gathers the attention rather than the main verb in interpretation (Richards & Schmidt, 2010, p. 436). That is to say, it seems crucial for learners to be aware of the importance of particles so that they can get rid of the difficulties they face while learning phrasal verb constructions.

In the current study, orientational metaphors of particles are utilized in order to ease the learning of these structures as they serve as pervasive everyday thoughts, being a part of conventional language and thus playing a central role in organizing the human conceptual system (Lakoff & Johnson, 1980; p. 3). When language learners realize the associations between orientational metaphors and peoples' physical and cultural experiences, it becomes much meaningful for them to explore the semantic networks phrasal verbs represents. Therefore, it is a key issue to raise learners' awareness about conceptual metaphors and awaken them about the bridge between these metaphors and particles so that they are able to create their own strategies in dealing with phrasal verb constructions. To succeed in this, explicit instruction on phrasal verb constructions is required with a basis of conceptual metaphors.

This explicit instruction is also necessary as conceptual metaphors include abstract meanings. At first, learners might have some difficulties in understanding the metaphorical meanings of particles, however with contextual experiences accompanied by productive practices, it becomes much easier for them to embody these abstract meanings and visualize them. Therefore, metaphorical orientations of particles in phrasal verbs should be provided in such meaningful contexts that learners' cognitive load of phrasal verbs will be less demanding.

The final pedagogical implication of this research emphasizes that in the class materials and textbooks, language exercises and activities should be designed grouping phrasal verbs centered on the orientational meanings of particles, not the main verbs. Generally, phrasal verbs are presented to the language learners by groups of a main verbs followed by different particles in web diagrams (Carter & McCarthy, 2006). This kind of representation leads the way to rote memorization as it provides limited contextual clues for in-depth understanding. However, when the phrasal verbs are presented to the learners in groups with respect to the metaphoric senses of particles, they are able to make associations easily and understand the logic behind these hidden relations. Another point

to mention is that material developers and curriculum writers should include more image schemas and visuals to the textbooks in addition to the previously mentioned PV presentation as it is expected that these pictures provide in-depth aid for strengthening the associations between orientational metaphors and particles.

Apart from these, the current study has attempted to shed light on whether explicitly presented declarative knowledge is automatized and internalized as implicit knowledge, which is addressed as the interface of the knowledge types (Gass & Selinker, 2008). Discussion on this hypothesis appears to continue in the field of second language acquisition; however, they generally refer to high level constructions and abstract rules, emphasizing the process of grammar acquisition (Ellis, 2005; Sorace, 2011). In line with this premise, the present study has shed light on the interface position between explicit instruction and implicit knowledge with respect to the phrasal verb acquisition. Different aspects of vocabulary acquisition such as subconscious lexical recognition and processing, formulaic sequencing and semantic associating gains have been investigated in order to explain the interface position in terms of lexical dimension. All in all, different measurements have been utilized for proving the strong interface position, therefore, as a methodological implication, it could be stated that multiple measurements, at least for the evaluation of different aspects of lexical acquisition, should be implemented in order to make reliable descriptions.

5.3.3. Limitations of the study

The findings of the current study consequently implied that explicitly presented PV in the light of conceptual metaphor theory strongly influenced not only the achievement and retention of receptive and productive phrasal verbs, but also the processing speeds of participants in terms of subconscious lexical recognition, formulaic sequencing and semantic association gains, validating the strong interface position with respect to the lexical acquisition. In an attempt to gain new perspectives on this interface position, the study employed multi-test approach with a relatively large population. The present study, however, involves some limitations like most of the empirical studies.

The first limitation was that because of the time constraints, the delayed posttest was administered three weeks after the instruction. If another delayed posttest was applied after a period of a few months, it would be more informative about the long-term effects of the treatment.

Furthermore, for the sampling of this study, first of all, the proficiency level was determined as elementary via a standardized proficiency test - Michigan English Test and participants were selected accordingly for the foci group of this study. However, if the participants were selected among higher proficiency level students, the analysis might provide different results in terms of their needs at their specific area as reported in Elgort (2007, 2011).

Lastly, it should be stated that the findings are limited to the elementary level prep school students in Kütahya Dumlupınar University, and thus cannot be generalized to the prep school students at other universities and other students at primary and secondary education. At this point, some of the results should be interpreted considering these limitations and some of the conclusions should be confirmed with future studies.

5.3.4. Suggestions for further research

Although three research questions concerning the explicit PV knowledge in the light of conceptual metaphor theory and its impacts on implicit PV knowledge gains were investigated in the current study, there are still many areas to explore related to the interface issue.

First of all, in this study a cognitive linguistic approach focusing on meaning-enhanced awareness of orientational metaphors have been utilized as an explicit teaching technique for acquisition of phrasal verbs. Application of this complementary technique may be also helpful in acquisition of not only phrasal verbs but also other multiword sequences such as compound nouns like *income, intake, output, downfall* etc. or idioms, collocations and lexical bundles in which contributions of particles to the holistic meanings cannot be disregarded.

Second, the study with the same design can be replicated with a different profile of participant group such as subjects from different proficiency levels or different types of schools. Also, the replication of the same study can be carried out with a focus of different particles and by this way the impact of conceptual metaphor theory may be deeply analyzed.

Third, regarding the production of phrasal verbs, a totally uncontrolled writing task can be used in future studies to elicit learners' productive PV knowledge. Furthermore, as mentioned in the limitations section, another delayed posttest can be administered after

a period of a few months in order to investigate whether explicitly presented PV have become a part of fluent productive PV knowledge.

Fourth, the analysis of recognition and processing in the present study was carried out only through visual stimuli. Therefore, it will be interesting to examine the impacts of explicit teaching on implicit knowledge gains responding to auditory stimuli.

Finally, with qualitative research methods, the quantitative data could be enriched and new perspectives on the relationship between explicit lexical instruction and implicit lexical knowledge gains could be investigated. Also, in order to investigate the cognitive process during the priming tasks, think-aloud protocols could be utilized to understand what is happening in learners' minds. In addition, the longitudinal case studies on the interface hypothesis in terms of lexical aspect of language learning could provide insights about the nature of automatization and internalization of lexis as well as their developmental processes.

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APPENDICES

Appendix I

G*POWER SOFTWARE (Faul et. al, 2009)

Appendix II

ETHICS COMMITTEE APPROVAL

| Evrak Kayıt Tarihi: 14.02.2018 | Protokol No: 19083 | | Tarih: 26.02.2018 |

ANADOLU ÜNİVERSİTESİ
SOSYAL VE BEŞERÎ BİLİMLER BİLİMSEL ARAŞTIRMA VE YAYIN ETİĞİ KURULU
KARAR BELGESİ

ÇALIŞMANIN TÜRÜ:	BAP Projesi-Doktora Tez Çalışması
KONU:	Eğitim Bilimleri
BAŞLIK:	Implicit Phrasal Verb Knowledge Gains Through Conceptual Approach: A Case of University Prep School Sudents (Kavramsal Eğretileme Kuramı Işığında Öğretilen Öbek Eylemlerin İçselleştirilerek Kazanımı: Üniversite Hazırlık Sınıfı Öğrencileri Örneği)
PROJE/TEZ YÜRÜTÜCÜSÜ:	Prof. Dr. İlknur KEÇİK
TEZ YAZARI:	Dilşah KALAY
ALT KOMİSYON GÖRÜŞÜ:	-
KARAR:	Olumlu

Prof.Dr. Coşkun BAYRAK
(Başkan-Eğitim Fak.)

Prof.Dr. T. Volkan YÜZER
(Başkan Yardımcısı-Açıköğretim Fak.)

Prof.Dr. Esra CEYHAN
(Eğitim Fak.)

Prof.Dr. Münevver ÇAKI
(Güzel Sanatlar Fak.)

Prof.Dr. M. Erkan ÜYÜMEZ
(İkt. ve İdari Bil. Fak.)

Prof.Dr. Handan DEVECİ
(Eğitim Fak.)

Prof.Dr. Emel ŞIKLAR
(İkt. ve İdari Bil. Fak.)

Appendix III

FORMAL LETTER OF PERMISSION

T. C.
DUMLUPINAR ÜNİVERSİTESİ REKTÖRLÜĞÜ
Yabancı Diller Yüksekokulu Müdürlüğü

Sayı : 34940314-605.01-
Konu : Veri Toplama (Okt. Dilşah KALAY)

Sayın Okt. Dilşah KALAY

İlgi : 01/03/2018 tarihli ve 23959666-605.01-10992 sayılı yazı.

İlgi yazıya istinaden, Yüksekokulumuzda görev yapmakta olan, Anadolu Üniversitesi Eğitim Bilimleri Enstitüsü Yabancı Diller Anabilim Dalı İngiliz Dili Eğitimi Bölümü bütünleşik doktora öğrencisi Okt. Dilşah KALAY'ın tez çalışmasını yapabilmesi için, öbek eylemlerin Kavramsal Eğretileme Kuramı ışığında açık kelime öğretimi tekniği kullanılarak öğretilmesi yoluyla hem kısa hem de uzun süreli anlamlı bir öğrenme sağlanıp sağlanamayacağının sorgulanması ve sözcük öbeklerinin içselleştirilip içselleştirilmediğinin araştırılması amacıyla, Yüksekokulumuz Hazırlık Sınıfı-Elementary seviyesi öğrencilerinden veri toplaması Müdürlüğümüzce uygun görülmüştür.

Bilgilerinizi ve gereğini rica ederim.

e-imza
Prof. Dr. Kaan ERARSLAN
Yüksekokul Müdürü

EK :
İlgi Yazı (94 sayfa)

VOLUNTARY PARTICIPATION FORM

Bu çalışma, "Kavramsal Eğretileme Kuramı ışığında Öğretilen Öbek Eylemlerin İçselleştirilerek Kazanımı: Üniversite Hazırlık Sınıfı Öğrencileri Örneği" başlıklı bir araştırma çalışması olup, öbek eylemlerin Kavramsal Eğretileme Kuramı ışığında açık kelime öğretimi tekniği kullanılarak öğretilmesi yoluyla hem kısa hem de uzun süreli anlamlı bir öğrenme sağlanıp sağlanamayacağının sorgulanması ve sözcük öbeklerinin içselleştirilip içselleştirilmediğinin araştırılması amaçlarını taşımaktadır. Çalışma, **Okt. Dilşah KALAY** tarafından araştırmacının kendi sınıflarında yürütülecektir ve sonuçları ile öbek eylem öğretimi için sistematik bir öğretim yöntemi ortaya konacak ve bu tekniğin öbek eylemlerin hem kısa hem de uzun süreli öğretiminde ve içselleştirilmesinde ne kadar etkili olacağı somut bir şekilde gösterilecektir.

- Bu çalışmaya katılımınız gönüllülük esasına dayanmaktadır.

- Çalışmanın amacı doğrultusunda, 11 haftalık bir süreçte Kavramsal Eğretileme Kuramı ışığında açık kelime öğretimi tekniği kullanılarak bir öbek eylem eğitimi gerçekleştirilecek ve bu eğitimin sonunda hem bilgisayarlı ortamda hem de geleneksel yöntemlerle geliştirilen testler uygulanarak sizden veriler toplanacaktır.

- İsminizi yazmak ya da kimliğinizi açığa çıkaracak bir bilgi vermek zorunda değilsiniz/araştırmada katılımcıların isimleri gizli tutulacaktır.

- Araştırma kapsamında toplanan veriler, sadece bilimsel amaçlar doğrultusunda kullanılacak, araştırmanın amacı dışında ya da bir başka araştırmada kullanılmayacak ve gerekmesi halinde, sizin (yazılı) izniniz olmadan başkalarıyla paylaşılmayacaktır.

- İstemeniz halinde sizden toplanan verileri inceleme hakkınız bulunmaktadır.

- Sizden toplanan veriler çevrimiçi/yazılı çıktı olarak dosyalanacak, korunacak ve araştırma bitiminde arşivlenecek veya imha edilecektir.

- Veri toplama sürecinde/süreçlerinde size rahatsızlık verebilecek herhangi bir soru/talep olmayacaktır. Yine de katılımınız sırasında herhangi bir sebepten rahatsızlık hissederseniz çalışmadan istediğiniz zamanda ayrılabileceksiniz. Çalışmadan ayrılmanız durumunda sizden toplanan veriler çalışmadan çıkarılacak ve imha edilecektir.

Gönüllü katılım formunu okumak ve değerlendirmek üzere ayırdığınız zaman için teşekkür ederim. Çalışma hakkındaki sorularınızı Kütahya Dumlupınar Üniversitesi Yabancı Diller Yüksekokulu'ndan **Okt. Dilşah KALAY**'a yöneltebilirsiniz.

Araştırmacı Adı: Okt. Dilşah KALAY

Tez Danışmanı: Prof. Dr. İlknur KEÇİK

Adres: Dumlupınar Üniversitesi
Yabancı Diller Yüksekokulu
Yabancı Diller Bölüm Bşk.
Hazırlık Birimi, B Blok – No:
B104   Merkez/Kütahya
İş Tel: +90 (274) 265 2031 / 1682

Cep Tel: +90 (555) 204 2773

Bu çalışmaya tamamen kendi rızamla, istediğim takdirde çalışmadan ayrılabileceğimi bilerek verdiğim bilgilerin bilimsel amaçlarla kullanılmasını kabul ediyorum.
(Lütfen bu formu doldurup imzaladıktan sonra veri toplayan kişiye veriniz.)

Katılımcı Ad ve Soyadı:

İmza:

Tarih:

MULTIPLE-CHOICE TEST

Dear Students,

Read the following extracts and then circle the answer choice that fits best in the blank space in the extract. If you do not know the answer, please do not try to guess; instead circle option "e) I don't know.".

1. There was a problem with the ceiling; it looked like it might _____ at any moment.
    a) **come down**
    b) break down
    c) settle down
    d) take down
    e) I don't know.

2. Fortunately, the moon _____ shortly after darkness fell, and Retch and I had no trouble walking down the road.
    a) put up
    b) winded up
    c) held up
    d) **came up**
    e) I don't know.

3. In library, you should _____ any book you use in alphabetical order as it was before.
    a) pull back
    b) **put back**
    c) get back
    d) come back
    e) I don't know.

4. The students were _____ in their seats and waiting for the teacher silently.
    a) putting up
    b) breaking up
    c) blowing up
    d) **sitting up**
    e) I don't know.

5. The man showed me his pocketknife and I _____, bumping the table.
    a) put back
    b) came back
    c) **stepped back**
    d) pulled back
    e) I don't know.

6. You should really wash dark clothes separately, in case the color _____.
    a) **comes out**
    b) sets out
    c) brings out
    d) turns out
    e) I don't know.

7. The burglar put his hand over my mouth; then he went through my jewel case and he _____ my closets and my drawers.
    a) carried out
    b) **turned out**
    c) set out
    d) pointed out
    e) I don't know.

8. Tomorrow Pope Francis _____ on his highly anticipated trip to Cuba and then to the United States.
    a) brings out
    b) points out
    c) **sets out**
    d) moves out
    e) I don't know.

9. The man who was ordered to kill Snow White _____ becoming her protector instead.
   a) sits up
   b) blows up
   c) winds up
   d) breaks up
   e) I don't know.

10. Last September, on our 17th anniversary and a month after my husband _____, I took off my wedding ring and put it in the box.
   a) pointed out
   b) carried out
   c) moved out
   d) turned out
   e) I don't know.

11. When Jack saw his friend Grant _____ a tent in his new backyard because his house was sold fast, he wanted to offer a help.
   a) coming up
   b) sitting up
   c) putting up
   d) blowing up
   e) I don't know.

12. We want to _____ the washing machine that we bought last month because it has been broken down.
   a) give back
   b) turn back
   c) put back
   d) pull back
   e) I don't know.

13. They _____ the curtains and cleaned the carpet and the windows and walls.
   a) laid down
   b) took down
   c) settled down
   d) came down
   e) I don't know.

14. After Mike had a big dinner finally at midnight, the color began to _____ to his bloodless cheeks.
   a) step back
   b) come back
   c) pull back
   d) give back
   e) I don't know.

15. When we arrived, shortly after the sun _____, there were still a few shops open and some people walking around.
   a) broke down
   b) take down
   c) went down
   d) brought down
   e) I don't know.

16. The students, in teams of 4 or 5, _____ their activity while focusing intensely on their own behaviors.
   a) carry out
   b) point out
   c) figure out
   d) move out
   e) I don't know.

17. The FBI said John Davis Manning used a demand note to _____ Washington Financial Bank in Washington.
   a) come up
   b) hold up
   c) put up
   d) wind up
   e) I don't know.

18. After one more attempt by Dick Bass - who was _____ by the heavy storm on Mount Everest-the expedition was over.
   a) given back
   b) brought back
   c) come back
   d) turned back
   e) I don't know.

19. Ryan accidentally bumped a table and made a glass on the table break and it fell into a bunch of pieces and I immediately _____ on the floor and helped him clean up the mess.
    a) got down
    b) settled down
    c) took down
    d) broke down
    e) I don't know.

20. Our neighbors upstairs were having a party last night and my father _____ there and tell them to stop that noise.
    a) sat up
    b) went up
    c) broke up
    d) held up
    e) I don't know.

21. My boyfriend and I are a good couple; communicative, caring and romantic, but moments of crisis _____ the worst in us.
    a) point out
    b) set out
    c) figure out
    d) bring out
    e) I don't know.

22. On my first day as a high school teacher at the New School of Arts and Sciences, the principal _____ that my classroom walls had been painted a soothing blue over the summer.
    a) pointed out
    b) moved out
    c) set out
    d) figured out
    e) I don't know.

23. According to most people in Turkey, the death penalty should be _____ when the child abuse is concerned.
    a) given back
    b) brought back
    c) pulled back
    d) come back
    e) I don't know.

24. If you want to _____ the government with your game of chicken, there should be no mistake that the responsibility lies fully on your shoulders.
    a) settle down
    b) come down
    c) bring down
    d) lay down
    e) I don't know.

25. Clear guidelines have been _____ by the government for religious teaching in school.
    a) laid down
    b) broke down
    c) came down
    d) brought down
    e) I don't know.

26. Instead of enjoying the ease of knowing how each year would play out, I was struggling to _____ what I would be teaching the next day and when I would have time to even think about writing.
    a) figure out
    b) move out
    c) carry out
    d) turn out
    e) I don't know.

27. **K:** Justin Bieber decided to go ahead and take the paternity test on Friday.

G: Really? I remember the woman said she _____ from asking him to take the paternity test, didn't she?
    a) gave back
    b) came back
    c) pulled back
    d) brought back
    e) I don't know.

28. After a few hours the party _____, as some of the picnickers announced that they had to go to a Latin dance class.
    a) put up
    b) broke up
    c) held up
    d) went up
    e) I don't know.

29. I was interested in writing about fantasy, but writing this book made me very depressed. I became confused and actually _____ emotionally.
    a) broke down
    b) took down
    c) laid down
    d) brought down
    e) I don't know.

30. I don't know about weddings, but I always thought it'd be nice to _____, move out to Colorado, have a bunch of kids, and live happily ever after.
    a) settle down
    b) take down
    c) break down
    d) come down
    e) I don't know.

31. Alice wondered how far the man could be pushed before he _____ and slapped her in the face.
    a) came up
    b) put up
    c) blew up
    d) held up
    e) I don't know.

32. Click the arrow to the right of the Forward button, and then select from the list to _____ to a previously visited page.
    a) give back
    b) put back
    c) bring back
    d) get back
    e) I don't know.

C-TEST

Dear Students,

Each extract below includes words with a missing part. Read the contexts and then fill in the blanks with the missing part of the words by considering their synonyms given in brackets at the end of the extracts.

1. I was looking for my yellow sweater which was a birthday present from by mother. When I found it, I discovered it had a coffee stain. I washed the sweater, but the dirty mark didn't **c_____ o_____**. *(come out)*

    (to disappear after cleaning)

2. As a nature photographer, I usually have to get up before the sun **c_____ u_____** in order to photograph the sunrise. A great place to do that is from the top of Mount Evans. *(comes up)*

    (to move up in the sky)

3. Maria opens her player, takes the CD out and gives it to Juan. Then, she goes into her bag and takes out more CDs. She gives him all but one, which she **p_____ b_____** in her bag. *(puts back)*

    (to place something where it was before)

4. On a sunny but cold August day, I woke up in Field, British Columbia, the 150-person town that houses Yoho park headquarters plus one hotel, one restaurant, one post office, and one elementary school, and I **s_____ o_____** by car for the nearby Yoho Valley. *(set out)*

    (to start a journey)

5. As I feel a panic attack coming on at the beginning, I **s_____ u_____** and remind myself to breathe, knowing that it will pass. *(sit up)*

    (to make your back straighter while sitting)

6. The police unlocked the door to Mrs. Gate's room and **s_____ b_____**, then the woman and the man together entered the murder room. *(stepped back)*

    (to move backwards)

7. The afternoon rains had started, drumming like cavalry on the metal roof. The wet season began in late April and the rain **c_____ d_____** on schedule -- two to five, every afternoon. *(came down)*

    (to fall from a higher position)

8. The captain walks out to greet Owen and said that he had to ask him to **t_____ o_____** his pockets. Owen smiles as he hands over his pocket watch and wallet. They walk along a hall with iron fence. *(turn out)*

    (to empty a container)

9. We are going out tonight, so what you should do is to **g_____ u_____** those stairs, turn left, go in your bedroom, and get ready for the party. *(go up)*

   (to walk/move up to a higher place; to climb)

10. When we **g_____ b_____** inside the house from our walk, Clem took my hand at the bottom of the stairs and looked right into my eyes. No one had ever looked at me like that, not even Charlie. *(got back)*

    (to return)

11. 16 - 17 months ago, we went into the streets to protest against our president. We said we wanted to **b_____ d___** the president. The regime shot at us, tortured us, and no one came to our rescue except some brave guys. *(bring down)*

    (to remove a ruler or government)

12. After Tommy was born, the marriage gradually came apart and the Elizabeth accepted responsibility for this. Her career and her art always came first, and her relationship with her husband could not survive that, so he said she had to make the choice, and she decided to **m_____ o_____**. *(move out)*

    (to stop living in a place)

13. Hugh got hit by a truck a couple of years ago and the whole town came to his funeral. Also, the city council voted to **p_____ u_____** a statue to him. *(put up)*

    (to build)

14. The man and his wife divorced in 1987. He says they **g_____ b_____** their rings in a church ceremony and agreed to share in the raising of their daughters, now 21 and 25. A few months later, his wife remarried, and he met the man who is now his partner. He says he remains close to his ex-wife and his daughters.

    (gave back)

    (to return smt to the person who owns it)

15. All right, now what about this living room? We need some life in this room. First of all, put in some flowers, lighten it up. Put the coats in the closet and **t_____ d_____** the pictures. *(take down)*

    (to remove smt that is fixed to a wall)

16. When we were finished reading the book, we used our graphic organizer to fill out the beginning, middle and end of the book. I modeled my thinking for my students, while I was trying to **f_____ o_____** what happened in the beginning of the story. *(figure out)*

    (to understand)

17. I went to Shanghai a few times, but Judy refused to see me. I heard that she had fallen on hard times and I tried to send her some money and necessities, but she always returned my packages unopened. On the day of her death, my mental state had **b_____ d_____** so completely that I didn't even remember to collect her body. *(broken down)*

    (to become emotional/mentally lost)

18. The fishermen should carry life jackets in their boats because those jackets will be useful if their boat **g_____ d_____**. *(goes down)*

(to sink)

19. Brian, mentally disabled boy, had used a toy pistol to **h_____ u_____** a store. When he showed the stolen money to his parents, they returned it to the store and apologized. *(hold up)*

(to rob at gunpoint)

20. The next stop was another camp, where refugees permitted to stay in Switzerland were kept for a few weeks. The woman who had shared our adventure was **t_____ b_____** at the border like many others; but she tried again a few weeks later and that time she succeeded. *(turned back)*

(to return smo in the direction they come from)

21. It is important to **p_____ o_____** that this study will attempt to compare differences in achievement between the two groups of lower performing tutors, not between the tutors and their tutees. *(point out)*

(to talk about or mention)

22. The couple has been together for a while, but they tried to keep it as a secret, because they didn't want it interfering with their romance. But now, they are appearing everywhere together. What a beautiful couple they make. Just think if they **w_____ u_____** getting married and have kids? *(wind up)*

(to end/to finish)

23. Henry was a successful football player in a big team. However, after he had a car accident 2 years ago, none of the treatments and therapies were able to **b_____ b_____** his ability to run fast. *(bring back)*

(to restore)

24. After dinner, a bottle of champagne and dessert, Brad went on to say more about how we were perfect for each other and he had never felt this way about another person. He **g_____ d_____** on his knee, asking me to marry him. *(got down)*

(to move your body close to the ground)

25. I like to see my students get better, and I like to see them improve in whatever they're doing, whether it is school work or sports, so I like seeing improvement. I like seeing them commit to something and **c_____ o_____** that commitment, and again, I think that is an important value that extends beyond sports as well. *(carrying out)*

(to do smt planned/organized)

26. The top issue in our personal relationship is communication. I'm not a talker. If an issue comes up between my boyfriend and me, I keep everything inside until I **b_____ u___**, crying and yelling. *(blow up)*

(to suddenly become very angry)

27. Dennis's most bitter disappointment came when the music entrepreneur Phil Spector **p**_____ **b**_____ from financing a screenplay he had written, called *The Last Movie* about Hollywood's exploitation and destruction of South American Indians. *(pulled back)*

(to decide not to do)

28. The man loved his wife, he really did, and he hated the situation he was in. Tomorrow or the day after, regardless of how it turned out, he was going to have a meeting with his wife and **l**_____ **d**_____ some new rules. Family was family, and it was time that his wife realized that. *(lay down)*

(to officially establish rules)

29. There was something deeply helpless and vulnerable about her. She had those eyes that would melt you. She **b**_____ **o**_____ the protective feelings in friends, especially male friends. Probably, every man that she was with would want to help her immediately. *(brought out)*

(to reveal some good/bad feelings)

30. There was an atmosphere of panic and confusion in the room. Jane just knew something had gone wrong. The meeting **b**_____ **u**_____ as we silently went back to our offices and locked our doors. Tom followed me, and we talked aimlessly for a while. *(broke up)*

(to end)

31. All Lucy's loveliness had **c**_____ **b**_____ to her in death. She looked so beautiful with her wavy hair and smooth skin that I could not believe my eyes that I was looking at a dead body. *(come back)*

(to start to happen or be present again)

32. When she graduated from college two decades ago, Jenny had traditional expectations about money and marriage. She believed she'd soon fall in love, **s**_____ **d**_____, and once she got married, turn over managing the family's finances to her husband. *(settle down)*

(to adopt a calm, quiet lifestyle)

MC TEST ITEM ANALYSIS

NO	p	q	SD	ID	IV
Item 1	0,38	0,63	0,487	0,609	0,23
Item 2	0,86	0,14	0,347	0,304	0,12
Item 3	0,89	0,11	0,318	0,348	0,10
Item 4	0,96	0,04	0,191	0,087	0,04
Item 5	0,71	0,29	0,455	0,652	0,20
Item 6	0,91	0,09	0,284	0,217	0,08
Item 7	0,60	0,40	0,493	0,609	0,24
Item 8	0,63	0,38	0,487	0,565	0,23
Item 9	0,60	0,40	0,493	0,391	0,24
Item 10	0,29	0,71	0,455	0,478	0,20
Item 11	0,75	0,25	0,436	0,478	0,19
Item 12	0,84	0,16	0,371	0,348	0,14
Item 13	0,73	0,28	0,449	0,565	0,20
Item 14	0,63	0,38	0,487	0,609	0,23
Item 15	0,75	0,25	0,436	0,391	0,19
Item 16	0,46	0,54	0,502	0,609	0,25
Item 17	0,79	0,21	0,412	0,043	0,17
Item 18	0,35	0,65	0,480	0,261	0,23
Item 19	0,61	0,39	0,490	0,696	0,24
Item 20	0,79	0,21	0,412	0,435	0,17
Item 21	0,46	0,54	0,502	0,522	0,25
Item 22	0,55	0,45	0,501	0,565	0,25
Item 23	0,18	0,83	0,382	0,043	0,14
Item 24	0,69	0,31	0,466	0,435	0,21
Item 25	0,75	0,25	0,436	0,304	0,19
Item 26	0,59	0,41	0,495	0,261	0,24
Item 27	0,23	0,78	0,420	0,13	0,17
Item 28	0,79	0,21	0,412	0,478	0,17
Item 29	0,63	0,38	0,487	0,435	0,23
Item 30	0,80	0,20	0,403	0,391	0,16
Item 31	0,75	0,25	0,436	0,391	0,19
Item 32	0,59	0,41	0,495	0,261	0,24
s²	29,10				
KR20	**0,814**				

C-TEST ITEM ANALYSIS

NO	p	q	SD	ID	IV
Item 1	0,90	0,10	0,302	0,125	0,09
Item 2	0,98	0,03	0,157	-0,083	0,02
Item 3	0,83	0,18	0,382	0,167	0,14
Item 4	0,83	0,18	0,382	0,417	0,14
Item 5	0,83	0,18	0,382	0,292	0,14
Item 6	0,46	0,54	0,502	0,417	0,25
Item 7	0,98	0,03	0,157	0,000	0,02
Item 8	0,46	0,54	0,502	0,500	0,25
Item 9	0,94	0,06	0,244	0,125	0,06
Item 10	0,51	0,49	0,503	0,417	0,25
Item 11	0,86	0,14	0,347	0,250	0,12
Item 12	1,00	0,00	0,000	-0,083	0,00
Item 13	0,93	0,08	0,265	0,083	0,07
Item 14	0,63	0,38	0,487	0,500	0,23
Item 15	0,83	0,18	0,382	0,208	0,14
Item 16	0,91	0,09	0,284	0,125	0,08
Item 17	0,58	0,43	0,497	0,375	0,24
Item 18	0,68	0,33	0,471	0,375	0,22
Item 19	0,95	0,05	0,219	0,042	0,05
Item 20	0,69	0,31	0,466	0,208	0,21
Item 21	0,69	0,31	0,466	0,542	0,21
Item 22	0,90	0,10	0,302	0,000	0,09
Item 23	0,81	0,19	0,393	0,292	0,15
Item 24	0,69	0,31	0,466	0,417	0,21
Item 25	0,54	0,46	0,502	0,458	0,25
Item 26	0,73	0,28	0,449	0,542	0,20
Item 27	0,73	0,28	0,449	0,333	0,20
Item 28	0,96	0,04	0,191	-0,083	0,04
Item 29	0,83	0,18	0,382	0,292	0,14
Item 30	0,73	0,28	0,449	0,542	0,20
Item 31	0,98	0,03	0,157	-0,083	0,02
Item 32	0,95	0,05	0,219	0,042	0,05
s²	17,94				
KR20	**0,772**				

MRPLDT "YES" RESPONSES

CRITICAL (INTACT) PHRASAL VERBS (32 PVs)

PVs with Identity Primes			PVs with Unrelated Primes		
Masks	**Primes**	**Target PVs**	**Masks**	**Primes**	**Target PVs**
#### ###	come out	COME OUT	#### ###	call off	TURN OUT
### ###	set out	SET OUT	#### ###	show off	MOVE OUT
###### ###	figure out	FIGURE OUT	##### ###	slice off	CARRY OUT
##### ###	bring out	BRING OUT	##### ###	close off	POINT OUT
#### ##	come up	COME UP	### ##	pop in	SIT UP
## ##	go up	GO UP	### ##	get on	PUT UP
#### ##	hold up	HOLD UP	#### ##	turn in	BLOW UP
#### ##	wind up	WIND UP	##### ##	stand by	BREAK UP
### ####	put back	PUT BACK	### ####	cut into	GET BACK
#### ####	give back	GIVE BACK	#### ####	wipe away	STEP BACK
#### ####	turn back	TURN BACK	#### ####	take over	PULL BACK
##### ####	bring back	BRING BACK	#### ####	send away	COME BACK
## ####	go down	GO DOWN	### ####	dip into	GET DOWN
#### ####	come down	COME DOWN	#### ####	bump into	TAKE DOWN
##### ####	break down	BREAK DOWN	###### ####	invite over	SETTLE DOWN
### ####	lay down	LAY DOWN	##### ####	throw away	BRING DOWN

INTACT FILLERS (16 PVs)

PVs with Identity Primes			PVs with Unrelated Primes		
Masks	**Primes**	**Intact Fillers**	**Masks**	**Primes**	**Intact Fillers**
##### ##	stand up	STAND UP	#### ##	give in	SHUT UP
#### ##	wake up	WAKE UP	##### ##	blame on	CLEAN UP
## ###	go out	GO OUT	##### ###	block off	THROW OUT
##### ###	check out	CHECK OUT	#### ###	keep off	FILL OUT
##### ####	close down	CLOSE DOWN	### ####	fly away	SIT DOWN
#### ####	slow down	SLOW DOWN	##### ####	break into	WRITE DOWN
## ####	go back	GO BACK	#### ####	roll over	LOOK BACK
### ####	sit back	SIT BACK	#### ####	grow into	MOVE BACK

MRPLDT "NO" RESPONSES

NONSENSE PHRASAL VERBS (48 PVs)

PVs with Identity Primes			PVs with Unrelated Primes		
Masks	**Primes**	**Target PVs**	**Masks**	**Primes**	**Target PVs**
#### ###	cate out	CATE OUT	#### ###	hars off	TEFT OUT
### ###	ren out	REN OUT	#### ###	shug off	HORE OUT
###### ###	tacute out	TACUTE OUT	##### ###	gride off	RENDY OUT
##### ###	grint out	GRINT OUT	##### ###	grase off	PINNS OUT
#### ##	cate up	CATE UP	### ##	lod in	TET UP
## ##	ra up	RA UP	### ##	dat on	HET UP
#### ##	molt up	MOLT UP	#### ##	teft in	PROG UP
#### ##	dile up	DILE UP	##### ##	craws by	FLEEK UP
### ####	het back	HET BACK	### ####	wat into	DAT BACK
#### ####	gubs back	GUBS BACK	#### ####	dile away	STIN BACK
#### ####	teft back	TEFT BACK	#### ####	rane over	PAGS BACK
##### ####	grint back	GRINT BACK	#### ####	tews away	CATE BACK
## ####	ra down	RA DOWN	### ####	hin into	DAT DOWN
#### ####	cate down	CATE DOWN	#### ####	babs into	RANE DOWN
##### ####	fleek down	FLEEK DOWN	###### ####	unband over	ROBBLE DOWN
### ####	har down	HAR DOWN	##### ####	thrug away	GRINT DOWN
##### ##	craws up	CRAWS UP	#### ##	gubs in	CRAT UP
#### ##	fane up	FANE UP	##### ##	prace on	CREEN UP
## ###	ra out	RA OUT	##### ###	blans off	THRUG OUT
##### ###	shick out	SHICK OUT	#### ###	veed off	RINE OUT
##### ####	grase down	GRASE DOWN	### ####	tre away	TET DOWN
#### ####	slar down	SLAR DOWN	##### ####	fleek into	WRESS DOWN
## ####	ra back	RA BACK	#### ####	rens over	MOOF BACK
### ####	tet back	TET BACK	#### ####	spaw into	RONE BACK

Appendix IX

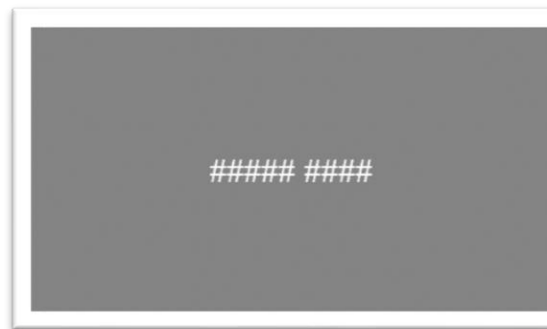## SCREENS IN MRPLDT (Example Trial)

START SCREEN
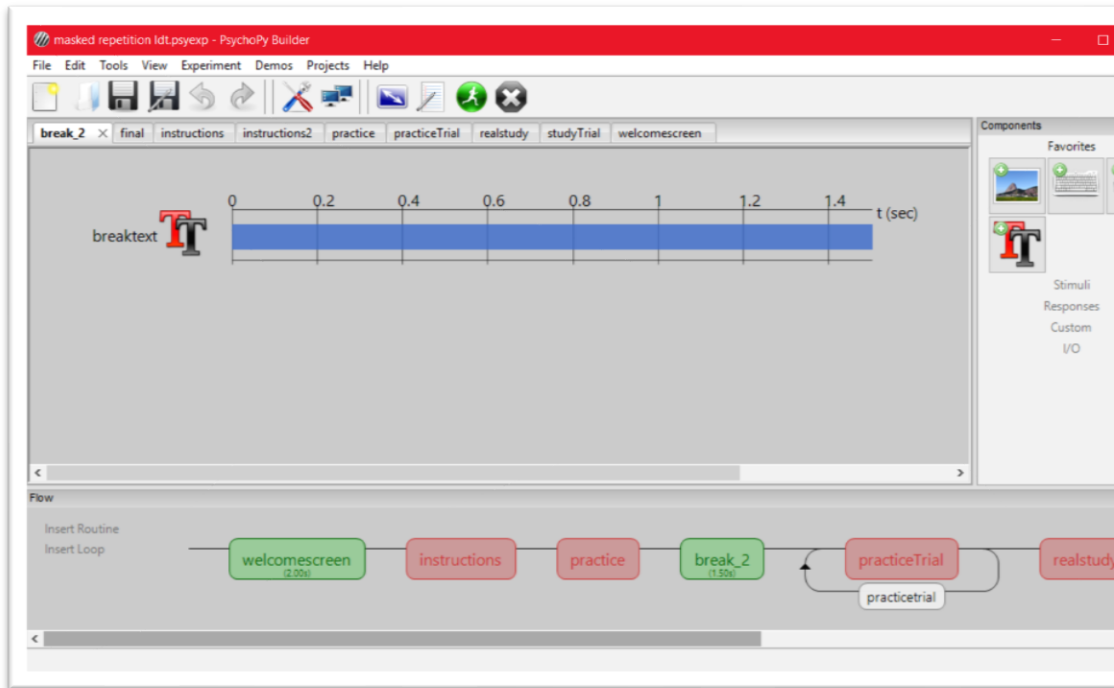
SCREEN 1 (preparation screen)

SCREEN 2 (522 ms)

#####

SCREEN 3 (100 ms)

clash over

SCREEN 4 (until resp. or 2500 ms)

FIGHT BACK

Appendix X

KEYBOARD

SELF-PACED READING TASK

CRITICAL (INTACT) PHRASAL VERBS (32 ITEMS)

1. The bloodstain didn't <u>come out</u> of my dress, it didn't **DISAPPEAR**.
     Is the bloodstain seen? *YES*

2. The mountain climbers <u>set out</u> very early, they **STARTED** climbing before breakfast.
     Did the climbers begin their journey in the afternoon? *NO*

3. The teacher told us to <u>turn out</u> our pockets, she wanted us to **EMPTY** them.
     Did the students show their pockets? *YES*

4. When the family <u>moved out</u>, they **LEFT** their home and found a new one.
     Did the family find another house to live? *YES*

5. Jane couldn't <u>figure out</u> what Paul was saying, she didn't **UNDERSTAND** anything.
     Was Jane confused? *YES*

6. Tim <u>pointed out</u> the dangers of driving alone to his daughter, he **TOLD** her everything in detail.
     Did Tim give every detail about driving alone to his daughter? *YES*

7. Doctors will <u>carry out</u> a research which they will **CONDUCT** on cancer patients.
     Will doctors do a research on diabetic patients? *NO*

8. Playing with kids <u>brings out</u> the best in people, it **REVEALS** affection and joy.
     Is it bad to play with children? *NO*

9. The sun doesn't <u>come up</u> in the west, it **RISES** in the east.
     Do we see the sun in the west in the morning? *NO*

10. You won't have backaches if you <u>sit up</u> and **STRAIGHTEN** your back.
     Is keeping your back straight dangerous? *NO*

11. Oliver <u>went up</u> on the roof, he **CLIMBED** there to clean the snow.
     Was there snow on the roof? *YES*

12. They planned to <u>put up</u> a statue to the president, they will **BUILD** it next year.
     Will they build the statue for the professor? *NO*

13. Masked men <u>held up</u> a security van in İstanbul yesterday, they **ROBBED** the van and stole all the money.
     Was all the money stolen? *YES*

14. Because of the accident, John <u>wound up</u> in hospital; he **ENDED** in a sickbed.
     Was John injured in the accident? *YES*

15. I heard your father <u>blew up</u> at you, I think he **EXPLODED** because of the exam results.

> Was your father calm about exam results? *NO*

16. The party <u>broke up</u> at midnight, it already **DISBANDED** at 00:30 a.m.

> Did the party finish very early? *NO*

17. It was difficult to <u>put back</u> the bird in its cage, we couldn't **PLACE** it.

> Is the bird in the cage? *NO*

18. Please <u>step back</u> from the injured woman, **DISTANCE** yourself from her.

> Should people move away from the injured woman? *YES*

19. The soldier was ready to <u>get back</u> to his family, he wanted to **RETURN** home.

> Did the soldier miss his family? *YES*

20. Cindy was in dept lately, but she promised to <u>give back</u> the money she borrowed; she'll **REPAY** it.

> Will Cindy pay the money? *YES*

21. The drivers had to <u>turn back</u> because of the road construction, they had to **REVERSE** their cars.

> Could the drivers go on driving? *NO*

22. The photographs <u>brought back</u> many pleasant memories, I **REMEMBERED** my childhood years.

> Did photos help me to remember? *YES*

23. The sponsors <u>pulled back</u> from financing the project; they **WITHDREW** from investing.

> Will the sponsors give money for the project? *NO*

24. The cough will <u>come back</u> if Lilly doesn't take his medicine; it will **RECUR**.

> Did Lilly become sick? *YES*

25. If you heard on the news a plane <u>went down</u>, it means the plane **CRASHED**.

> Was there an airplane accident on the news? *YES*

26. The wind was shaking the car and the snow was <u>coming down</u>; it was **DROPPING** like needles.

> Was the weather sunny? *NO*

27. We <u>got down,</u> so the police wouldn't see us; we **KNELT** and waited them to go.

> Did we stand up while waiting? *NO*

28. As the house was sold, we have to <u>take down </u>the "*FOR SALE*" sign; I'll **REMOVE** it now.

> Is the house still for sale? *NO*

29. James <u>broke down</u> after years of worries and sadness; he **COLLAPSED** and never recovered again.

       Did James get better in the end? *NO*

30. The scandal <u>brought down</u> the president, resulting in the **FALL** of the government.

       Did the government collapsed because of the president? *YES*

31. Good eating habits are <u>laid down</u> in childhood; parents should **ESTABLISH** those habits very early.

       Should parents focus on their kids' eating habits when they are young? *YES*

32. Anthony isn't ready to <u>settle down</u>, get married and **STABILIZE** his life.

       Is Anthony married? *NO*

FILLER SENTENCES (16 ITEMS)

1. The babysitter said that Rachel was an energetic child and difficult to look after.

       Was it difficult to babysit Rachel? *YES*

2. The driver stopped at a gas station and filled up before running out of gas.

       Was the gas tank in the car full? *NO*

3. When I got out of the car, I saw that we had run over a rabbit?

       Was the rabbit alive? *NO*

4. Bella tried to phone Jasper all afternoon, but she just couldn't get through.

       Could Bella talk to Jasper on phone? *NO*

5. Write down the address and the telephone number before you forget it.

       Do I have the address now? *YES*

6. The police warn the motorists to slow down and take extra care.

       Do the police ask motorbikers to ride slowly? *YES*

7. The teacher passed out the test booklets and started the exam.

       Did the exam start after getting the test booklets? *YES*

8. I haven't been able to stop smoking but at least I'm trying hard to cut down.

       Did I stop smoking? *NO*

9. Andrea can't get into this dress any more, it's far too small.

       Is it easy for Andrea to wear that dress? *NO*

10. When my sister heard the bad news, she burst into tears.

       Did she become sad after hearing the news? *YES*

11. Harry more or less lives on pasta, but amazingly, he doesn't put on weight.

       Is Harry a fat person? *NO*

12. I don't want this huge desk here; it takes up too much space.
Is the desk very big? *YES*

13. There is a sign in the park saying, "Keep off the grass!".
Can people walk on the grass? *NO*

14. Leo has trouble getting up early, so he is always late.
Can Leo wake up early? *NO*

15. Emma said that the children were getting on very well at school.
Have the children become friends? *YES*

16. Brian takes after her father with his appearance.
Does Brian look like his father? *YES*

SCREENS IN SPRT (Example Item)

START SCREEN
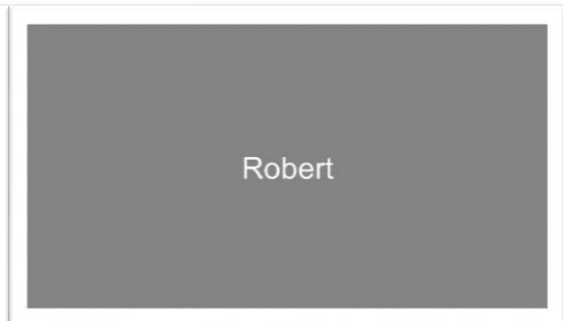

SCREEN 1 (preparation screen)   **SCREEN 2**

SCREEN 3   **SCREEN 4**

CONT' – SCREENS IN SPRT

SCREEN 5   **SCREEN 6**

clean   up

SCREEN 7   **SCREEN 8**

the   mess

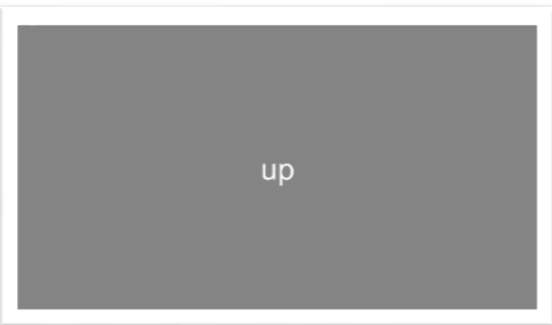**SCREEN 9**   **SCREEN 10**

after   the
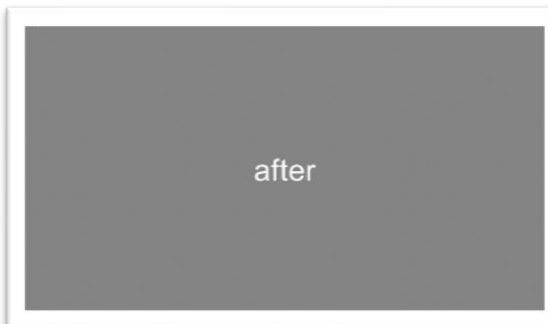
SCREEN 11   **SCREEN 12** (Question screen)

party.   Does Sophia have to clean up
                                                            the mess after party?

LESSON PLANS AND EXERCISES IN THE TREATMENT PROCESS

Phrasal verbs with "UP"

Procedure: As the students have got informed about the concept "metaphor", the researcher has decided to focus just on the particle "UP" by giving examples of phrasal verbs. These example PVs are the ones that students are expected to know (presented in their coursebooks throughout the first semester), not the target PVs. Also, in order to concretize the abstract concepts, the researcher uses some pictures for in depth understanding.

1. *Position at a higher place/moving up to a higher one (Rudzka – Ostyn, 2003) Dynamic: Upward movement/Upward position (Holme, 2004)*

The researcher asks the students what "up" means. Focusing on the sense "UPWARD" she first explained "UPWARD MOVEMENT" by showing the first diagram among the following (Rudzka – Ostyn; 2003, p. 75).

UPWARD MOVEMENT　　　　　　　　**UPWARD POSITION**
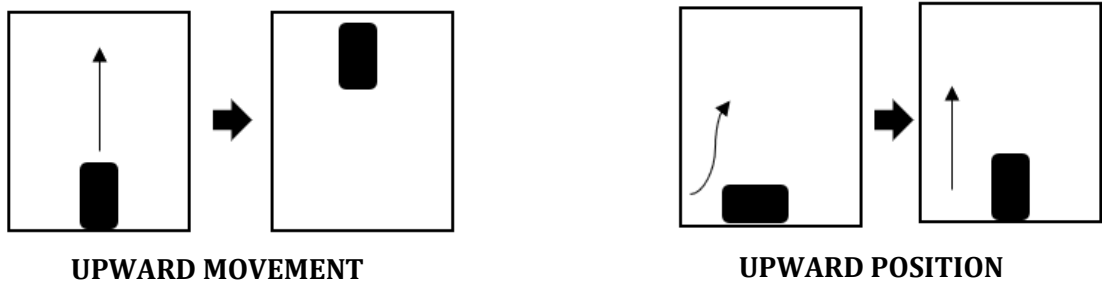
Then, she brainstorms for the phrasal verbs that uses "up" to express "UPWARD MOVEMENT" ("up" as a physical dynamic). She draws a mind map on the board, writes "up" in it and asks students to give examples of phrasal verbs with "up" expressing "UPWARD MOVEMENT".
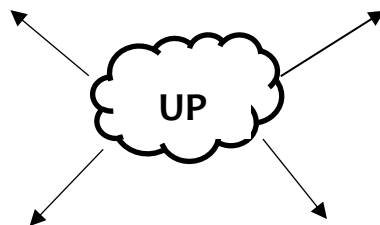
Following that, the researcher writes some sentences on the board with the given PVs, shows the following picture to the students and explains the relationship between the specific meaning of each target PV and the orientational metaphor "UPWARD MOVEMENT" (Holme, 2004).

T: What is the girl with the flowers doing in this picture? Collecting flowers?

S: …

T: Picking "up" flowers? What is the meaning of "up" here?

S: …

T: Movement? Where is she moving to?

S: …

T: What about the mountains? What do people do on the mountains?

S: …

T: Is the same with the ladder? Do people climb "up" the ladder? Is there any other phrasal verb we can use with the ladder/stairs?
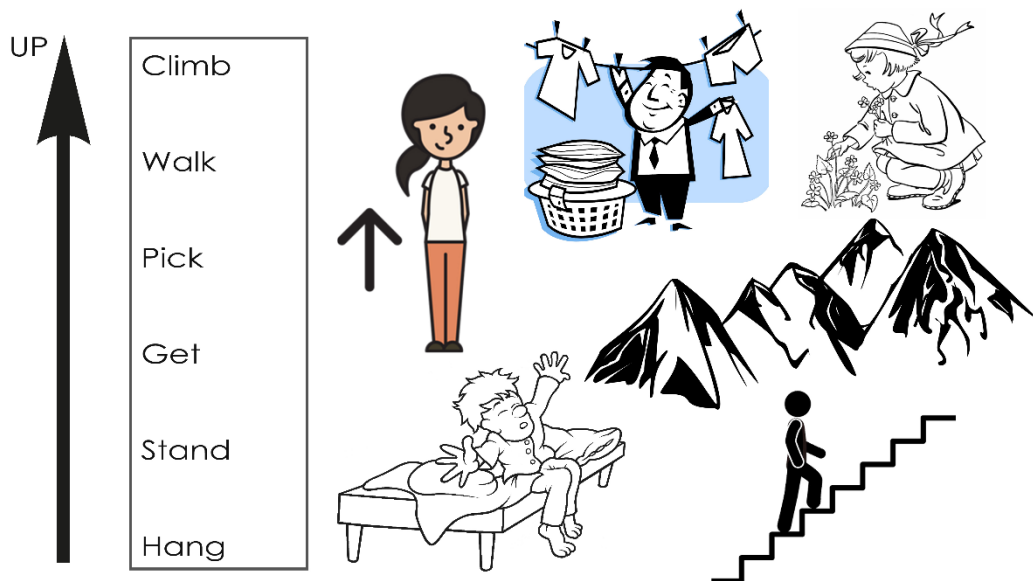
S: …

T: Walk "up".

Example PVs: *UPWARD MOVEMENT*
climb up, walk up, pick up

1) The thief <u>climbed up</u> the ladder in the backyard and got into the apartment.

2) Sally will have to <u>walk up</u> the stairs by herself because the elevator was broken.

3) My son <u>picked up</u> some flowers for me; they were lovely, and I put them in a vase.

In addition, the researcher states that spatially "up" means motion from a lower to a higher place. However, "up" may also refer to situations where there is no real change of place only the position of the object mentioned is higher than others (i.e. stand up, sit up) or it changes from a horizontal to a vertical position (i.e. get up, put up) (Rudzka – Ostyn, 2003; p. 76) as it is mentioned as 'UPWARD POSITION' in Holme (2004). As an example, the researcher states that there is a picture on the wall, it is "up" on the wall. Also, to give another example, the researcher squats down and then rises slowly saying

'I am rising up, so I am standing … - up (from the students).' Similarly, under the mind map of "UPWARD POSITION" on the board, she tries to elicit some more PVs expressing this sense and then she writes some sentences with those verbs and explains the relation between the orientational meaning of "up" and the specific meaning of the PVs given.

> **T:** What do you think the woman is doing in the first picture?
> **S:** …
> **T:** Standing UP? Is there any movement or change of position here?
> **S:** …
> **T:** Change of position. All right, what about the man sitting in the bed? What is he doing? Is he moving out of the bed or is he changing only his position?
> **S:** …
> **T:** Let's have a look at the man with the clothes. What is he doing?
> **S:** …
> **T:** Hanging "up". Is he moving up or changing an object's position?
> **S:** …
> **T:** Hanging the clothes "up".

> **Example PVs:** *UPWARD POSITION*
> get up, stand up, hang up

1) Time to sleep, Children, you will <u>get up</u> early tomorrow!

2) As a sign of respect, we all <u>stood up</u> when the president entered.

3) Tom opened the closet to <u>hang up</u> his coat.

2. *Covering an area completely/reaching the highest limit (Rudzka – Ostyn, 2003)*
   Up as an end point/Completion (Holme, 2004)

In order to move the class on to some more difficult meanings of "up", the researcher explains that "up" can also express "UP IS AN END POINT" (Holme, 2004) and shows students the diagrams expressing the sense of "Covering an area completely/reaching the highest limit" in Rudzka – Ostyn (2003; p. 86).

UP IS AN END POINT (COMPLETION/FINISH)

Following that, the researcher brainstorms for the phrasal verbs that uses "up" to express "UP IS AN END POINT". On a mind map, she elicits some phrasal verbs with this metaphorical orientation.
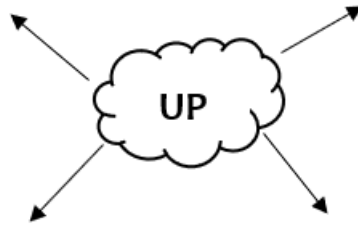
The researcher starts with an example PV; **eat up** and explains that in this sense the action/event (eating up) COMPLETES when what is to be eaten is FINISHED, that means there is an endpoint, which is the finishing of the food. She exemplifies this on a sentence, as well and asks for more PVs with "up" in similar meaning/sense. Then, writing more sentences on the board with the given PVs and illustrating the following picture, she explains the relationship between the specific meaning of each target PV and the orientational metaphor "UP IS AN END POINT".
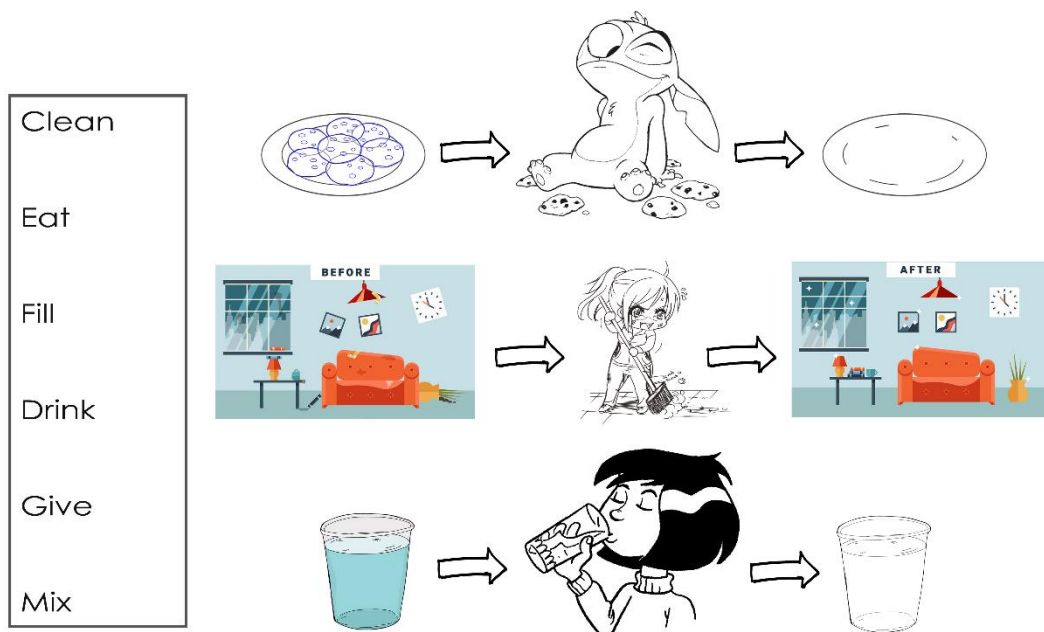
T: What is on the plate in the first picture?

S: …

T: Cookies, yes. What do you think has happened to those cookies?

S: …

T: The rabbit finished them. Did it finish all of them? What is the endpoint of the cookies?

S: …

T: Yes, the rabbit has eaten all the cookies. What about the second picture, what do you see in the first room, what happened to the room?

S: …

T: What is the girl doing there?

S: …

T: Cleaning yes, did she clean the whole room? Is the whole room clean now?

S: …

T: What is this room's endpoint? The walls?

S: …

T: What about the final picture? What happened to the water in the glass?

S: …

T: Yes, the girl has drunk "up" the water in the glass?

Moreover, the researcher explains to the students that "up" sometimes express the meaning of arrival to the top (i.e. give up) - the highest point along a vertical path - or at the boundary of a given location. As an example, in the phrasal verb **give up**, up points to the level at which the idea proves to be unattractive, so is abandoned. This notion can be extended to any abstract limits, which means that an activity/event has come to an end (having reached the time limit) (i.e. break up, split up) or has affected the whole object (has reached the object's boundaries) (i.e. clean up).

> **Example PVs:** *UP IS AN END POINT*
> clean up, eat up, fill up, drink up, give up, mix up, split up

7) What a mess! You should <u>clean up</u> your room. I don't want to see any mess around.

8) Who has <u>eaten up</u> the whole cake? I would try a piece.

9) Don't forget to <u>fill up</u> the gas tank in the car, I have used it all.

10) Hurry, we have to leave, <u>drink up</u> your beer; finish it please.

11) I tried many times, and, in the end, I <u>gave up</u> smoking. I don't smoke anymore.

12) My sister has just <u>split up</u> with her boyfriend, that's why she is sad. She says she will never see him again.

Phrasal verbs with "DOWN"

Procedure: The second particle that the researcher has decided to focus on is "DOWN" as it is the opposite of "UP". She presents some PVs with "down" which are the ones that students are expected to know (presented in their coursebooks), not the target PVs above. Also, in order to concretize the abstract concepts, the researcher uses some pictures for in depth understanding.

1. *Movement from a higher to a lower place (Rudzka – Ostyn, 2003)*

The researcher asks the students what the dictionary meaning of "down" is and shows them the diagrams expressing the sense of "MOVEMENT FROM A HIGHER TO A LOWER PLACE" in Rudzka – Ostyn (2003) (p. 104).
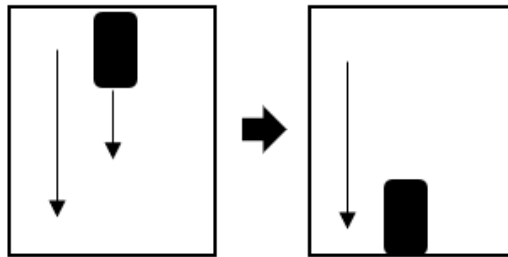
DOWNWARD MOVEMENT

After that, the researcher brainstorms for the phrasal verbs that uses "down" to express "DOWNWARD MOVEMENT". She draws a mind map on the board, writes "down" in it and asks students to give examples of phrasal verbs with "down" expressing "DOWNWARD MOVEMENT".
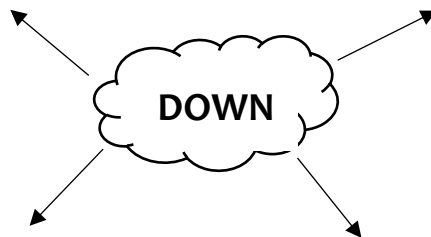
Following that, the researcher explains that "down" shows either an object is displaced or moved from a higher to a lower position (i.e. sit down, kneel down, get down). However, sometimes there is no change in place, but the position of the object is changed from vertical to horizontal (i.e. cut down).

Then, researcher writes some sentences on the board with the given PVs, shows the following picture to the students and explains the relationship between the specific meaning of each target PV and the orientational metaphor of "DOWNWARD MOVEMENT" (Rudzka – Ostyn, 2003).

T: What happened to the man with glasses?

S: …

T: He fell down. What about to the tree? What is the man doing with the tree? Is the tree coming down?

S: …

T: The man is cutting down the tree? Is this a movement? What kind of movement is it, upward or downward?

S: …

T: What about the man behind the closet, what is he doing? Hiding?

S: …

T: Why do you think he is hiding? What can a man do to hide himself?

S: …

T: Moving down? Kneeling "down"?

S: …

T: The last picture is a gun. What can people do with a gun?

S: …

T: Kill people? Shot? Shot "down"? You can shoot down a person with a gun.
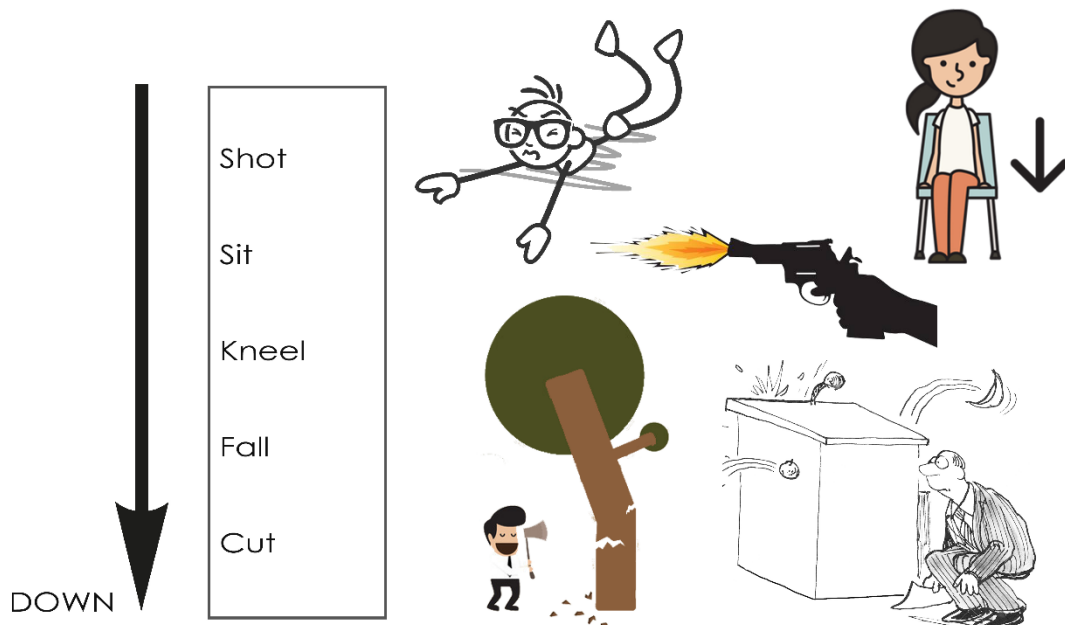
Example PVs: *DOWNWARD MOVEMENT*
sit down, kneel down, fall down, shot down

1) I am really tired, I want to <u>sit down</u> on the grass to rest.

2) While playing Hide and Seek, Tom <u>kneeled down</u> and hide behind the couch.

3) With the arrival of winter, the leaves on the trees <u>fall down</u>.

4) The police <u>shot down</u> one of the thieves in the chase. Although it wasn't a serious injury, the thief was taken to the hospital.

2. *Decrease in intensity, quality, quantity, size, degree, value, activity, status, strength (Rudzka – Ostyn, 2003)*

In order to go on with a more abstract meaning of "down", the researcher explains that "down" can also express "DECREASE" and shows students the following diagrams expressing the sense of "DECREASE IN INTENSITY, QUALITY, QUANTITY, SIZE, DEGREE, VALUE, ACTIVITY, STATUS, STRENGTH" in Rudzka – Ostyn (2003).
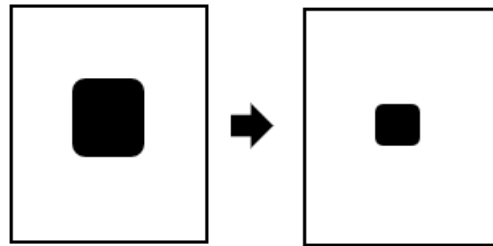
DECREASE

Later, the researcher draws a mind map on the board, elicits some PVs from students with the sense of "DECREASE" and explains that although spatial and literal uses of "down" indicate an object moving from a higher to a lower position. However, "down" can also reveal changes in space that is associated with volume, tempeature, weight, price, emotions, social status, power, relations and similar abstract domains (i.e. calm down, shut down, slim down). Such metaphorical assosiations generally expresses *decrease in intensity* and *value* (Rudzka – Ostyn, 2003; p. 107).

Following that, the researcher writes some sentences on the board with the given PVs, shows the following picture to the students and explains the relationship between the specific meaning of each target PV and the orientational metaphor "DOWNWARD MOVEMENT" (Rudzka – Ostyn, 2003).

T: What happened to the first lady in the first picture? What do you think about her weight? How much does she weigh?
S: …
T: What about in the second picture? She lost weight. Her weight decreased.
S: …
T: Yes, she slimmed "down" to, approximately 60 kilos.
S: …

T: What about the girl, what is she doing?
S: …
T: Doing a yoga? Why do people do yoga?
S: …
T: What happens to the phone in the picture?
S: …
T: Close "down" or shut "down". What decreases there to shut down? Energy?
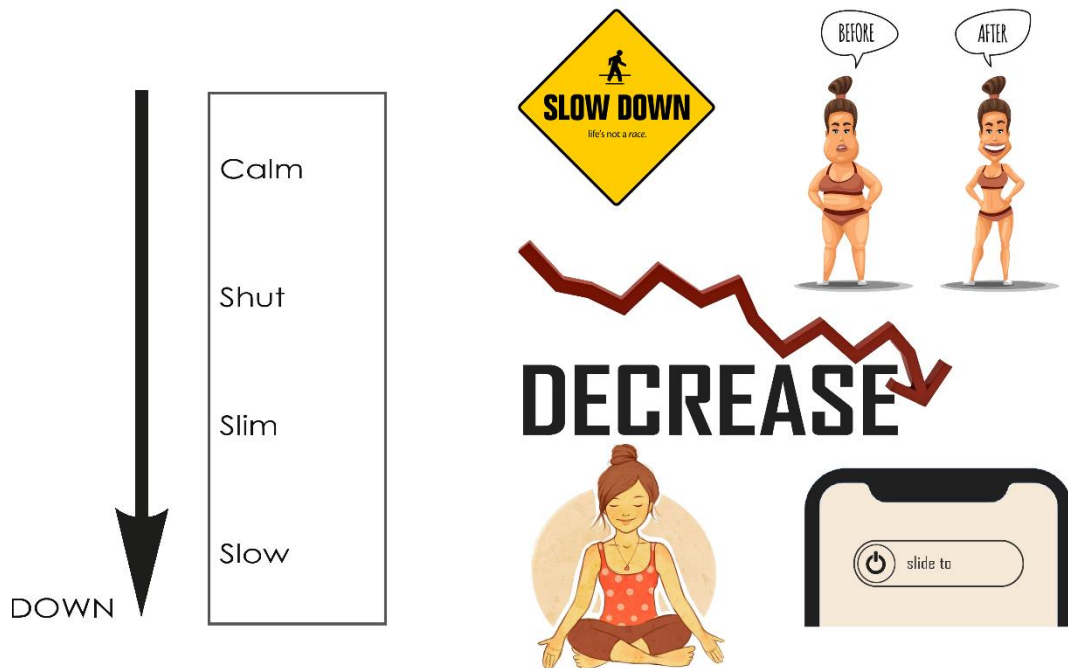
Example PVs: *DECREASE*
calm down, shut down, slim down, slow down

1) Don't panic, please <u>calm down</u> and take a deep breath. You are going to pass the exam.

2) All the factories are <u>shutting down</u> because of the financial crisis. They cannot pay the wages of the workers.

3) Now I'm 60 kg, so I am on a diet, and planning to <u>slim down</u> to 50 kilos.

4) You are driving so fast; please <u>slow down</u>, I am afraid of having a car crash.

UP

Conceptual Metaphor	PV	Meaning	Example
Movement / UPWARD / Position	Come up	to move from a lower to a higher position	We got up early to watch the sun come up behind the mountains.
	Go up	to walk/move up to a higher place; to climb	We can go up a couple of floors, go to the roof top and wait for a helicopter to come.
	Put up	to raise something or put it in a higher position; to build something such as a building, wall, or a statue	The couple decided to put up their tent and wait for the dawn.
	Sit up	to make your back straighter when you are sitting	Tim was so weakened by his illness, he couldn't even sit up.
UP IS AN ENDPOINT	Blow up	to suddenly become very angry and start shouting	Soon after our wedding, Jack started to blow up over the slightest thing.
	Hold up	to stop a vehicle or go into a bank, shop etc. with a gun or other weapon and demand money from people	Stealing money by computer is far easier than holding up a bank.
	Break up	If a meeting, party or a union (i.e. marriage) etc. breaks up, it ends.	After a few hours the party broke up, as some of the people wanted to go back home.
	Wind up	to get into a particular situation or place at the end of a long series of events and without wanting or intending to	If this bad situation continues, some doctors could wind up losing their jobs.

1. *Position at a higher place/moving up to a higher one (Rudzka – Ostyn, 2003)*
    Dynamic: Upward movement/Upward position. (Holme, 2004)

First, the researcher asks the students whether they remember the senses of "up" that they have learnt the week before. She draws a table on the board by eliciting the senses of "up" and demonstrates/reminds each sense.

UP

UPWARD ←   → END POINT

- Upward Movement
- Upward Position
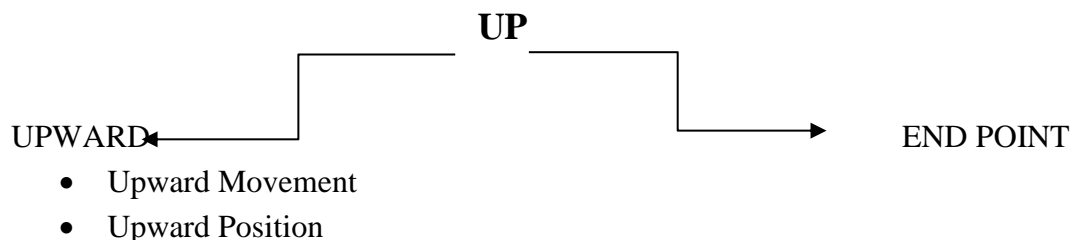
Then, focusing on the first sense "UPWARD", she shows the following diagram to the students and asks for some phrasal verbs that have been presented the week before in each category and tries to elicit some example sentences with these verbs.

UPWARD MOVEMENT
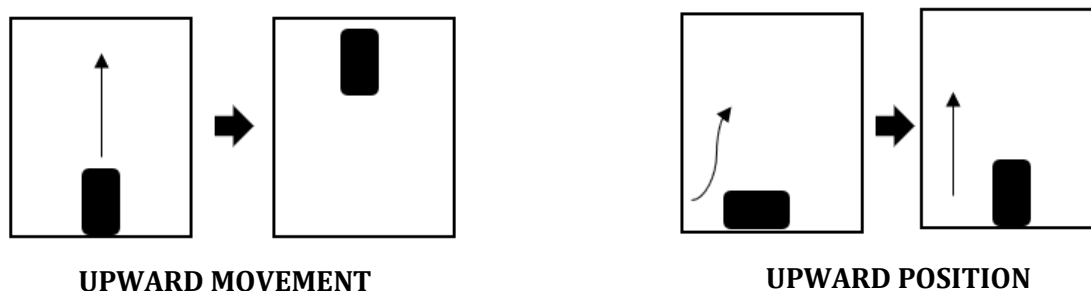
UPWARD POSITION

Noticing Activity: (Nation, 2001)

The researcher shows some sentences with the target phrasal verbs to the students and asks them to try to categorize these verbs in either "UPWARD MOVEMENT" or "UPWARD POSITION" sense. At this point, the researcher asks some questions to guide the students such as; *a) What is the meaning of the plain verb? b) Notice the particle and what is the meaning that this particle provides? c) Do you remember the senses we talked about? d) Is there any movement or a change in position?* The students can also try to guess the meanings of the target phrasal verbs. The important thing is that when they express their opinions about the meanings, the researcher should provide the proper definition of the target phrasal verb. Also, she illustrates the following picture to concretize the abstract/metaphoric meanings of the phrasal verbs.

UPWARD MOVEMENT	UPWARD POSITION
Go up	Put up
Come up	Sit up

T: What is happening to the flower in the pot in the picture? Is there any flower in the first pot? What about in the last pot?

S: …

T: The flower is coming "up". Is the flower moving or changing its position?

S: …

T: It is moving – upward movement. What do you think about the age of the baby in the picture? 3 months?

S: …

T: What is he doing in the picture? Sitting "up"? Can a 3-month old baby sit by himself? When can a baby sit up on his own? When he becomes 6-month old, he can sit "up" by himself. Is this action a movement or is he changing his position?

S: …

T: Upward position. What is the man doing with the tent? Building? Putting "up" the tent? Is this a movement or change of position?

S: …

T: What is the boy doing in the last picture? Climbing "up"? Moving "up"? He is going up the tree, this is a movement, isn't it?

S: …

Sentences:
1. We got up early to watch the sun <u>come up</u> behind the mountains.
2. We can <u>go up</u> a couple of floors, go to the roof top and wait for a helicopter to come.
3. The couple decided to <u>put up</u> their tent and make a fire to stay the night on the mountain.
4. Tim was so weakened by his illness, he couldn't even <u>sit up</u>.

2. *Covering an area completely/reaching the highest limit (Rudzka – Ostyn, 2003)*
   Up as an end point/Completion (Holme, 2004)

To continue with the second sense "UP IS AN END POINT", the researcher turns back to the table on the board and shows the following diagram to the students to remind them this sense.
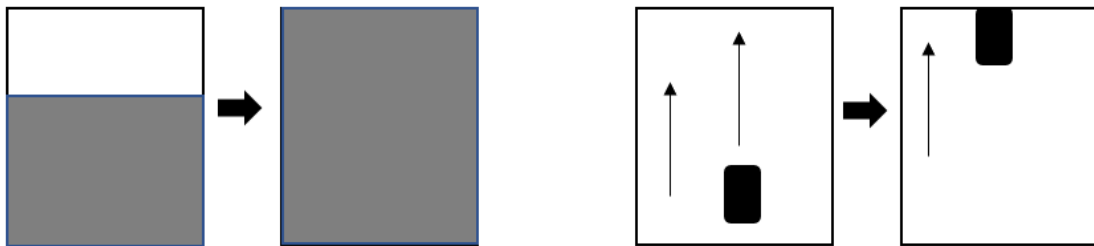
UP IS AN END POINT (COMPLETION/FINISH)

Noticing Activity: (Nation, 2001)

Referring to the phrasal verbs that the students have known, the researcher presents the target phrasal verbs in sentences and elicits what the students understand from each sentence. Herein, the researcher asks similar questions to guide the students such as; *a) What is the meaning of the plain verb? b) Notice the particle and what is the meaning that this particle provides? c) Do you remember the senses we talked about? d) Is there any movement or a change in position?* The students can guess the meanings of the target phrasal verbs, but when they make a guess about the definitions, the researcher should provide the proper definition of the target phrasal verb. Following that, she shows the following picture in order to make the abstract/metaphoric meanings much clearer.

UP IS AN END POINT
Blow up
Hold up
Break up
Wind up

T: What is the man doing in the first picture? Robbing a bank?
S: …
T: Is he a bank robber? What is the endpoint to rob a bank? How can you rob a bank?
S: …
T: So, is he holding "up" the bank? Stopping everyone and taking all the money from the bank.
S: …
T: Where else can people hold up? Stores, shopping centers, banks, buses…
S: …

T: What are the children doing in the second picture? Running? Going out? Where are they? At school?

S: …

T: What is the endpoint there? What has finished? The end of the school? Are the students going home?

S: …

T: The school has broken "up", the students are going home. What do you see in the third picture, a couple? Are they together or alone?

S: …

T: They are connected? What do you see on the signs there? Future? What does that mean? Will they be together in the future? What will their end be?

S: …

T: Whatever happens, they will wind "up" being together in the future.

S: …

T: What happened to the boy in the last picture? He is angry. How angry is he? Very or a little? Can he be angrier?

S: …

T: He is at the top point to be angry, so he is blowing "up".
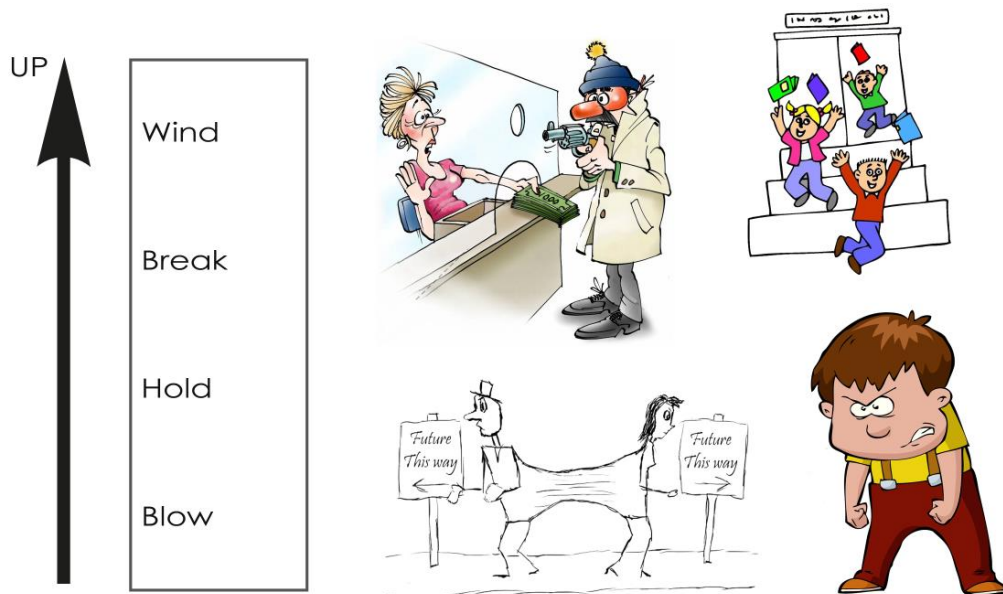
Sentences:

1. Soon after our wedding, Jack started to <u>blow up</u> over the slightest thing. He gets angry about everything.
2. Stealing money by computer is far easier than <u>holding up</u> a bank.
3. After a few hours the party <u>broke up</u>, as some of the people wanted to go back home.
4. If this bad situation continues, some doctors could <u>wind up</u> losing their jobs.

Exercises – UP

Retrieval Activities:

Task 1. *In each of the following sentences, a phrasal verb is missing. Using the context of the sentence, decide which phrasal verb should go in each blank. Choose among the following phrasal verbs. (Neely & Cortes, 2009)*

> come up – break up – go up – put up – wind up – hold up – sit up – blow up

1. The flowers are just beginning to _____ because of the spring. *(come up)*
2. The officials in the kindergarten _____ a fence taller than the biggest kid in school, in order to keep the dogs out. *(put up)*
3. As the news comes on TV, Ken gets ready; he _____ in his chair and starts watching. *(sits up)*
4. My friends and I are planning to _____ to Mount Everest with all our supplies and have a camp there for a few days. *(go up)*
5. Are people going to go out and _____ a jewellery store just because they see violence on the movie screen? *(hold up)*
6. One of the guys tried to bribe a police officer and _____ in jail. *(wound up)*
7. Normally, Jack is a calm man, but why did he _____ like that? I am surprised. *(blow up)*
8. Simon went to live in London when his marriage _____, and only saw his children at weekends. *(broke up)*

Task 2. *Rephrase the sentences containing phrasal verbs using the clues in brackets. (Peters & Pauwels, 2015)*

1. There was a cave at the top of the mountain and the teenagers used to climb there after school, if the day was clear. **(to go up)**
   _____.
2. Helen got on the wrong train and ended up somewhere just outside Newcastle. **(to wind up)**
   _____.
3. Ten people were injured in the fighting, which was eventually disbanded by security guards. **(to break up)**
   _____.
4. I am always sleepy in the morning, but I try hard to straighten my back when the teacher is watching. **(to sit up)**
   _____.

5. After dark and the half-moon rises, I sneak back to our house as if I was one of those crazies myself. **(to come up)**

   _____.

6. Fraser was charged with another robbery, this time for robbing a cab driver at gunpoint. **(to hold up)**

   _____.

7. Her father doesn't want Jill to have friends and I wonder if he is going to build walls around her to keep her away from us. **(to put up)**

   _____.

8. What a mess! Your mother will explode when she sees what you have done. **(to blow up)**

   _____.

Task 3. *Match the phrasal verbs with the synonymous words given on the right.*

a) Sit up   ____ Disband

b) Blow up   ____ End

c) Go up   ____ Build

d) Hold up   ____ Rise

e) Put up   ____ Rob

f) Break up   ____ Straighten

g) Come up   ____ Climb

h) Wind up   ____ Explode

Generative Activities:

Task 4. *Replace the underlined verbs in the sentences below with a similar phrasal verb from the box. (Salazar, 2014) (SUBSTITUTION TASK)*

> hold up – put up – go up – blow up – wind up – come up –
> break up – sit up

1. The moon and stars <u>rose</u> in the darkening waters of the bay below her window, and Jane watched it all night. *(came up)*
2. We came together to have a meeting about the program of the new TV show; however, the meeting <u>disbanded</u> at 8 o'clock in the evening and we still hadn't reached an agreement about the program. *(broke up)*
3. After the earthquake in 1999, new apartment buildings were <u>built</u> around Kocaeli and Düzce because of the urgent need for shelter. *(put up)*

4. You are always a quiet and calm person; it must be really difficult for you to <u>get angry/explode</u>. *(blow up)*

5. After getting paralyzed, Math had to learn to use his upper body to be able to <u>straighten his back</u>. *(sit up)*

6. While climbing up the mountain, we took several wrong turns and <u>ended up</u> in a village by mistake. *(wound up)*

7. There is a problem with the TV because of the antenna, so Dad is planning to <u>climb up</u> the roof and fix it, where is the ladder? *(go up)*

8. I heard on the news that a gang <u>robbed</u> a bus, approximately 50 passengers, near a village on the way to Afyon. *(held up)*

<u>Task 5.</u> *In each of the following paragraphs, a phrasal verb has been deleted. Using the context of the paragraph, please rewrite the paragraph and add the phrasal verbs where you think they fit best to convey the corresponding meaning. (Cortes, 2006)*

1. There was a man called Hugh, living on the streets in our town. He was the son of a respected local physician but because of his mental illness, he was living on the streets. As a funny man, Hugh was always engaging drivers and pedestrians on the streets in conversation. Unfortunately, he got hit by a truck a few years ago. The whole town came for his funeral and the city council voted to *(put up)* a statue to him, and I gave some money for his statue.

2. There was some news on TV about a robbery in Ankara. In this robbery, four men and a woman *(held up)* a store and one of them shot the shop assistant. She was taken to the hospital because she got severely injured and the police were able to catch three of the men and the woman but one of the men was able to escape. They are searching for the robber everywhere.

3. Tamara continues picking into the skin of her pastries, contorting her face into the sorts of unsubtle and hackneyed expressions that bad actresses use when playing vixens. "Do you know who has a lovely figure?" she asks, and when she does, Lynette *(blows up)*; "Why don't you go get a job or something and leave people the hell alone.".

4. Once a year, my sister forces me to go on a family holiday. I never want such a holiday and go against that idea, but it never works. I can't stand the beach so the only thing I can do is to *(go up)* a mountain, which makes me only slightly less grumpy. I really like height; I enjoy eating chips and salsa at higher than 3,000 feet. Therefore, if I have to go for a vacation with my family, I prefer to climb up the highest mountains and have a camp there for a few days.

5. Farmers believe that singing to the plants is much like photosynthesis, that the songs energize the plants. When you first plant your seeds, you should take very good care of them; and when the plants *(come up)*, you should sing to the plants, and they will start to dance in rhythm to the song.

6. The little boy woke up in a new room. It must be his room because it was his bed and all the furniture belonged to him. However, the design of the room was different; the walls were in different color, there was no curtain on the window… He felt lonely and *(sat up)* on his bed for a while, holding his teddy bear on his arms.

7. After not seeing each other for 20 years, there were lots of things to talk and gossip, so the cousins slept late that night and *(wound up)* taking the afternoon ferry to Adalar. They had a fresh breakfast and then walked in the forest. They even rode a bicycle, which they hadn't done for years.

8. Music bands are groups of people, so when bands *(break up)*, it's almost like a marriage falling apart. It's hard for the bands, the fans, the club owners. Separations are rarely easy, but they almost always result in another band or two on the scene.

Task 6. *Use the target phrasal verbs in a meaningful sentence (Peters & Pauwels, 2015)*

> break up – go up – come up – wind up – hold up – blow up – sit up – put up

1. _____.

2. _____.

3. _____.

4. _____.

5. _____.

6. _____.

7. _____.

8. _____.

DOWN

| Conceptual Metaphor	PV	Meaning	Example
DOWNWARD MOVEMENT	Go down	to move from a higher to a lower position	Hurry up; fireworks are starting as soon as the sun goes down.
	Come down	to fall down from a higher position to a lower one, often to the ground	Soon the wind was shaking the car, and the snow was coming down like millions of nasty needles.
	Get down	to move your body so that you are close to the ground	Americans will make you get down on your knees and beg for mercy.
	Take down	to remove smt that is fixed to a higher place	They took down the curtains and cleaned the carpet and the windows and walls.
DECREASE In Value In Activity	Break down	to become emotional /mentally lost because of the pressure on you; to collapse physically and mentally	After years of worries and hard work, he broke down and never recovered again.
	Bring down	to remove a ruler, a government, a leader (smo) from their position of power	The Watergate scandal caused a political crisis and finally brought down President Nixon.
	Lay down	to officially establish a rule or way of doing smt, or say officially what someone should do	The teachers got together to lay down the regulations for the school.
	Settle down	to start living a quiet, calm life in a fixed place (after a lot of exciting, nervous wandering)	I could actually have a house somewhere and have some friends, so it would be nice to settle down a little bit.

1. *Movement from a higher to a lower place (Rudzka – Ostyn, 2003)*

First, the researcher asks the students whether they remember the senses of "down" that they have learnt two weeks before. She draws a table on the board by eliciting the senses of "down" and demonstrates/reminds each sense.

DOWN

DOWNWARD   DECREASE

- Downward Movement

  - Decrease in Activity
  - Decrease in Value

Then, focusing on the first sense "DOWNWARD", she shows the following diagram to the students and asks for some phrasal verbs that have been presented two weeks before in each category and tries to elicit some example sentences with these verbs.
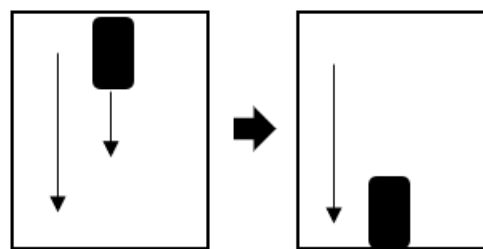
DOWNWARD MOVEMENT

Noticing Activity: (Nation, 2001)
The researcher shows some sentences with the target phrasal verbs to the students and asks them to try to guess the meanings of these phrasal verbs. At this point, the researcher asks some questions to guide the students such as; *a) What is the meaning of the plain verb? b) Notice the particle and what is the meaning that this particle provides? c) Do you remember the senses we talked about? d) Is there any movement in the meaning?* The important thing is that when they express their opinions about the meanings, the researcher should provide the proper definition of the target phrasal verb. Also, she illustrates the following picture to concretize the abstract/metaphoric meanings of the phrasal verbs.

DOWNWARD MOVEMENT
Go down
Come down
Get down
Take down

T: What is the man doing in the first picture?

S: …

T: The man is squatting/kneeling. He is getting "down". It is a downward movement – getting down. What is the second man doing?

S: …

T: He is changing the lamp, to change a lamp what do you do first? Taking "down" the lamp? (showing), downward movement.

S: …

T: What is happening to the ship in the third picture? The ship is sinking; it is going "down". Moving downwards again.

S: …

T: In the last picture, what do you see?

S: …

T: Rain, yes. How does the rain move? Does it move downwards? Does the rain come "down"? In the picture, the rain is coming "down".

Sentences:

1. The cellar is downstairs. Could you <u>go down</u> to the cellar and bring us up a few bottles of beer?
2. It is cold outside, and we stand at the window on a Saturday morning watching the sleet <u>come down</u>, congratulating ourselves for not having to go outside.
3. Jane's husband is dead, and she visits his graveyard every week. Filled with grief, she <u>gets down</u> and prays at the grave of her husband.
4. I am too short to be able to reach out for those portraits on the wall. Can you please help me to <u>take down</u> one of them?

2. *Decrease in intensity, quality, quantity, size, degree, value, activity, status, strength (Rudzka – Ostyn, 2003)*

To continue with the second sense "DECREASE", the researcher turns back to the table on the board and shows the following diagram to the students to remind them this sense.
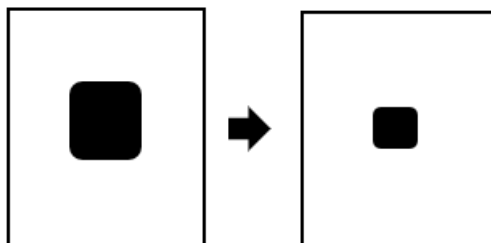
DECREASE

Noticing Activity: (Nation, 2001)

Referring to the phrasal verbs that the students have known, the researcher presents the target phrasal verbs in sentences and elicits what the students understand from each sentence. Also, she leads students to try to categorize these phrasal verbs in either "DECREASE IN VALUE" or "DECREASE IN ACTIVITY" sense. Herein, the researcher asks similar questions to guide the students such as; *a) What is the meaning of the plain verb? b) Notice the particle and what is the meaning that this particle provides? c) Do you remember the senses we talked about? d) Is there any change in the meaning of PVs in terms of value or activity?* The students can guess the meanings of the target phrasal verbs, but when they make a guess about the definitions, the researcher should provide the proper definition of the target phrasal verb. Following that, she shows the following picture in order to make the abstract/metaphoric meanings much clearer.

DECREASE IN VALUE	DECREASE IN ACTIVITY
Break down	Lay down
Bring down	Settle down

T: What is happening to the man in the first picture?
S: …
T: He is trembling, why do you think he is trembling? How does he feel? Does he feel bad? Is he crying? Is he breaking "down"?
S: …
T: What is changing/decreasing? His wellbeing is decreasing, he is not good now. What do you see in the second picture?
S: …

T: A mother and a son. What are they doing? What is the meaning of the red sign around them? Does that sign mean there are some rules? Who establishes the rules in a family? Parents or children? In the picture mother lays "down" some rules for her son (decrease in activity – limited activity with rules).

S: …

T: What is happening in the third picture? A man is fired. What if the man fired is the boss? Can a boss be fired? Can the workers fire a boss? The fall of his being the boss? The workers can bring "down" the boss (decrease in value).

S: …

T: What do you see in the last picture series? A man getting married, he has a family, but in the beginning, he is drinking, he seems to have lived fast. But it was in the past, now he has a wife and family, maybe a perfect job, which means he has settled "down" with a family (decrease in activity; living fast).

Sentences:

1. When her husband died, Elizabeth <u>broke down</u> completely and had to be looked after by her son, which was a very sad situation.
2. There are some rumors about the manager and if these rumors are accurate, this scandal may <u>bring down</u> the manager, so we may need another manager to replace him.
3. In this house, my parents <u>laid down</u> some rules for our health; such as going to bed before 9 o'clock, not eating junk food and not watching TV more than an hour a day.
4. I am a very active person. As I like travelling and being with my friends, I am planning to go on a trip for six months before <u>settling down</u> with a career after finishing university.

Exercises – DOWN

Retrieval Activities:

<u>Task 1.</u> *In each of the following sentences, a phrasal verb is missing. Using the context of the sentence, decide which phrasal verb should go in the each blank. Choose among the following phrasal verbs. (Neely & Cortes, 2009)*

> come down – lay down – take down – bring down – settle down
> – get down – break down – go down

1. The Titanic _____ in 1912 in mid-Atlantic. *(went down)*
2. After living fast when he was a teenager, Jack _____ with his new wife in a small town near London. *(settled down)*
3. Tomorrow is an important day for teachers because the government is going to _____ procedures for negotiating teachers' pay. *(lay down)*
4. Friday was the cleaning day for our house. Every Friday morning, my grandmother used to _____ and wash the tile floor in the entry hall and then start cleaning the other rooms. *(get down)*
5. There are some crazy people who are _____ street signs in the city, which results in many car accidents. I don't understand what their problem is. *(taking down)*
6. Because it was his first interview experience, Larry got nervous, _____ and cried twice during the interview. *(broke down)*
7. This war was very risky for the country because a defeat in the war could _____ the government. *(bring down)*
8. The news was about a fire in a dormitory. The fire started on the 10th floor and by the time the firefighters arrived, the fire had already _____ to the ground floor. *(come down)*

<u>Task 2.</u> *Rephrase the sentences containing phrasal verbs using the clues in brackets. (Peters & Pauwels, 2015)*

1. I don't want a boyfriend for now. I don't feel ready to stabilize my life and commit myself to a relationship yet. **(to settle down)**
_____.

2. Christmas has already passed, so can you please remove the Christmas lights from the windows? **(to take down)**
_____.

3. We heard a sudden noise and when we went upstairs we saw that the ceiling had dropped with a terrific crash. **(to come down)**
_____.

4. I wish my mother had disciplined me more. I wish she established some rules, and told me this is what you can do, this is what you can't do. I needed that discipline. **(to lay down)**

   _____.

5. The news was about the scandal about Clinton that resulted in the fall of his presidency. **(to bring down)**

   _____.

6. Christians pray kneeling beside their bed, keeping their hands together and begging God for mercy. **(to get down)**

   _____.

7. If people are under stress, it is much easier for them to collapse both physiologically and psychologically. **(to break down)**

   _____.

8. I heard on the news that a plane from UAE crashed and 11 women died in the plane crash. **(to go down)**

   _____.

Task 3. *Match the phrasal verbs with the synonymous words given on the right.*

a) Break down   ____ Stabilize

b) Get down   ____ Fall

c) Settle down   ____ Collapse

d) Take down   ____ Kneel

e) Go down   ____ Remove

f) Bring down   ____ Establish

g) Come down   ____ Drop

h) Lay down   ____ Crash

Generative Activities:

Task 4. *Replace the underlined verbs in the sentences below with a similar phrasal verb from the box. (Salazar, 2014) (SUBSTITUTION TASK)*

> lay down – break down – come down – settle down – get down
>   – bring down – go down – take down

1. In our company, all my coworkers have always complained about the irresponsibility of our boss, which has resulted in his <u>fall</u> from that position. *(bringing down)*

2. As a teacher, I always <u>establish</u> some ground rules for the latecomers in the early classes. *(lay down)*

3. Alice and Peter are planning to <u>stabilize</u> their lives and buying a house together. They are getting married in June. *(settle down)*

4. Big companies look for people who will not <u>collapse</u> under stress because they make those people work under difficult conditions. *(break down)*

5. At home, the person who <u>removes</u> the curtains to clean is always me, but nobody knows how much I hate it. *(takes down)*

6. When I was a child, while playing Hide and Seek, I used to think the best place to hide is <u>kneeling</u> behind the sofa. *(getting down)*

7. Last weekend, while we were fishing with my father, our small boat began to <u>crash</u>, and we found ourselves in the river. *(go down)*

8. In winter, my favorite hobby is to watch the snow <u>dropping</u> with a cup of coffee in my hand. *(coming down)*

Task 5. *In each of the following paragraphs, a phrasal verb has been deleted. Using the context of the paragraph, please rewrite the paragraph and add the phrasal verbs where you think it fits best to convey the corresponding meaning. (Cortes, 2006)*

1. There was something important about which my mother wanted to talk to my sister and me. She lit another cigarette on the stove, *(took down)* three cups from the cupboard and poured us coffee. Then, she told us that she had a boyfriend and he wanted to marry her.

2. I am going to tell you how my husband proposed to me. It was my birthday, and we were on holiday in Madrid. While we were going around, I got lost. While looking for him, I felt I wouldn't be able to find him again. I didn't know what to do, at that moment somebody touched my shoulder and when I turned back he was there; he had *(got down)* on one knee, with a ring in his hands. I was surprised and relieved at the same time.

3. At the weekend, we decided to have a barbecue in the backyard with my family. However, while we were getting ready, it started getting really bad outside, and everyone had to come in because of the hail *(coming down)* and we were just kind of looking out the window.

4. My father had a continuous headache for a while when we went to a neurologist. The doctor analyzed the medical examinations and told us that there is a possibility for my father to have a brain tumor. When I heard this I *(broke down)* in tears. I became so sad, but I had to get strong for my father.

5. While talking to the journalists, Tarkan *(laid down)* a ground rule; He would talk only if they promised not to ask any questions about his new wife and unborn baby. They can ask anything about his career but not his family.

6. There are many strange stories about Titanic. As an example, according to Dyson, one of the survivors of Titanic, the ship *(went down)* in the middle of a storm and only he survived. He claims he was carried to shore by mermaids.

7. My mother always tells me that all my friends have married and ended up being a parent; I am not getting any younger, so it is time I should *(settle down)* and begin to raise a family.

8. Scandals generally have political effects. When a scandal about a president gets around, everybody thinks that it is going to *(bring down)* not only the president but also the government. Also, it is going to damage the president's party permanently, as well.

Task 6. *Use the target phrasal verbs in a meaningful sentence (Peters & Pauwels, 2015)*

> come down – lay down – take down – bring down – settle down – get down – break down – go down

1. _____.

2. _____.

3. _____.

4. _____.

5. _____.

6. _____.

7. _____.

8. _____.

Procedure: As the students have got informed about the concept "metaphor", the researcher has decided to focus just on the particle "OUT" by giving examples of phrasal verbs. These example PVs are the ones that students are expected to know (presented in their coursebooks throughout the first semester), not the target PVs. Also, in order to concretize the abstract concepts, the researcher uses some pictures for in depth understanding.

1. *Entities moving out of containers (Rudzka – Ostyn, 2003)*

The researcher asks the students what "out" means. Focusing on the sense "ENTITIES MOVING OUT OF CONTAINERS" she explains that "out" is spatially composed of both the concept of a container and an object which moves out of that container. The container may be whatever that surrounds the given object, which is the entity/trajector, moving out. It may be exemplified as an enclosure, a building, a pot, a nest, a tunnel, a cover or any enclosed area (Güleryüz Adamhasan; 2014, p. 84). The researcher, then, categorizes the target phrasal verbs into two, namely "BUILDING AS A CONTAINER" and "ENCLOSURE AS A CONTAINER", and explains each category by referring to the following diagram (Rudzka – Ostyn; 2003, p. 14).
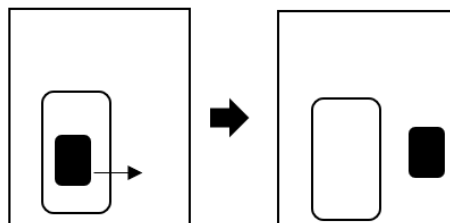
ENTITIES MOVING OUT OF CONTAINERS

The researcher brainstorms for the phrasal verbs that uses "out" to express "BUILDING AS A CONTAINER". She draws a mind map on the board, writes "out" in it and asks students to give examples of phrasal verbs with "out" revealing "BUILDING AS A CONTAINER".
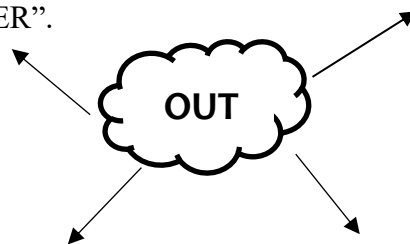
Following that, the researcher writes some sentences on the board with the given PVs, shows the following picture to the students and explains the relationship between

the specific meaning of each target PV and the orientational metaphor "BUILDING AS A CONTAINER" (Porto Requejo & Pena Diaz; 2008, p. 116).

T: What is the man in the middle of the picture doing? Where is he? Inside or outside? Is he naked? Why is it so?

S: …

T: Does he have any keys in his hands? What is he trying to do then?

S: …

T: He is out of his flat, he might forget his keys at home, so he is locked "out". What about the airport? If somebody leaves the airport, he flies "out" of the airport.

S: …

T: What is the man doing in the last picture? Running? Why?

S: …

T: Is he running because of the fire? To where? Outside? So, he is running "out" of the building.

S: …

Example PVs: *BUILDING AS A CONTAINER*
Stay out, lock out, run out, fly out

1) Our cat usually <u>stays out</u> at night. It doesn't like being at home when it is dark.

2) Oh no! My keys are in the room! I think I'm <u>locked out</u> now.

3) When the fire started, students immediately <u>ran out</u> of the dormitory.

4) The businessman will <u>fly out</u> of Heathrow Airport.

In addition to the "BUILDING AS A CONTAINER" meaning, the researcher states that spatially "out" means moving out of the closest surface or landmark, which can be evaluated as "ENCLOSURE AS A CONTAINER". As an example, the researcher states that in the sentence "Our daughter is rapidly growing out of her clothes.", *clothes* are the cover of the body and *the daughter* is the entity/trajector, so the clothes are getting smaller because the baby is growing. Following this explanation, under the mind map of "ENCLOSURE AS A CONTAINER" on the board, the researcher tries to elicit some more PVs expressing this sense and then she writes some sentences with those verbs and explains the relation between the orientational meaning of "out" and the specific meaning of the PVs given.

T: What are the men doing in the first picture? Where are they? Is there any plane around? What happened? What did they do?
S: …
T: They climbed "out" of the plane. Is plane a building? No, so it is different from building, but it is an entity surrounding. What about the man on the window, what is he doing?
S: …
T: He is looking "out" of the window. Is window a building? No, but you can look out of the window, can't you?
S: …
T: What is the man doing? He has some money on his mouth. Why is it so? What about his hands? In his pocket? What is he trying to do?
S: …
T: He is taking "out some money from his pocket.

Example PVs: *ENCLOSURE AS A CONTAINER*
take out, look out, climb out, jump out

1) Tim looks out of the window all day long because he has nothing to do.

2) The crew helped the survivors to climb out of the rescue boats.

3) The police stopped our car and told the driver to take out his driving license.

4) The accident happened as Jack jumped out of the train while it was still moving.

2. Non-existence, ignorance, invisibility as containers (Rudzka – Ostyn, 2003)

In order to move the class on to some more difficult meanings of "out", the researcher explains that "out" can also express "NON-EXISTENCE, IGNORANCE, INVISIBILITY AS CONTAINERS" (Rudzka – Ostyn, 2003). The abstract states of *non-existence* or of *being unknown/invisible/silent* etc. can also be identified as containers, thus to express an object moving out of these states, the particle "out" can be used.
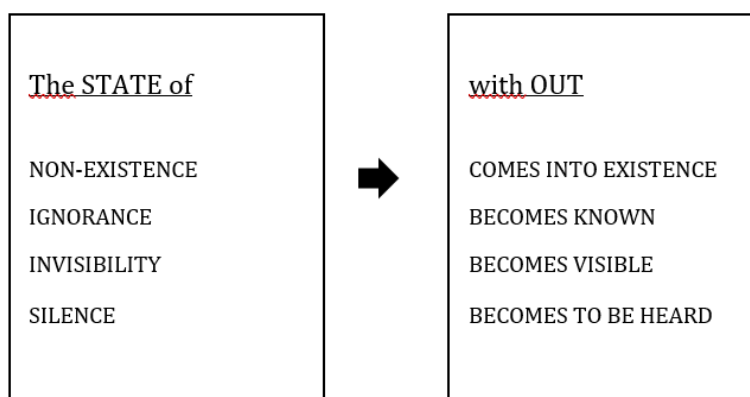
The STATE of		with OUT
NON-EXISTENCE	→	COMES INTO EXISTENCE
IGNORANCE		BECOMES KNOWN
INVISIBILITY		BECOMES VISIBLE
SILENCE		BECOMES TO BE HEARD

NON-EXISTENCE, IGNORANCE, INVISIBILITY AS CONTAINERS

The researcher brainstorms for the phrasal verbs that uses "out" to express "NON-EXISTENCE, IGNORANCE, INVISIBILITY AS CONTAINERS". On a mind map, she elicits some phrasal verbs with this metaphorical orientation.

OUT
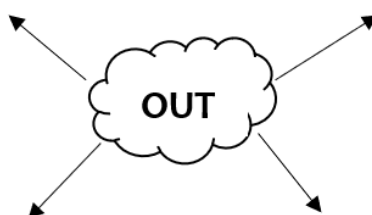
The researcher, then, writing more sentences on the board with the given PVs, explains the relationship between the specific meaning of each target PV and the orientational metaphor "NON-EXISTENCE, IGNORANCE, INVISIBILITY AS CONTAINERS". As an example, something inside a container is hidden, so being hidden is being unknown. Hence, when something is discovered, as exemplified in the phrasal verb 'find out', it is revealed and "Revealed is out" (Porto Requejo & Pena Diaz; 2008, p. 119).

Example PVs: *NON-EXISTENCE, IGNORANCE, INVISIBILITY AS CONTAIN.*
give out, fill out, find out

1) You have to <u>fill out</u> these documents to apply for this job. *(writing - visible)*

2) The authorities finally <u>gave out</u> the details about the explosion in Ankara. *(spoken words - heard, spread around)*

3) At the end of the survey, we have <u>found out</u> that women like gossiping more than men do. *(results of experiment - existing)*

Phrasal verbs with "BACK"

**Procedure:** The final particle that the researcher has decided to focus on is "BACK". She presents some PVs with "back" which are the ones that students are expected to know (presented in their coursebooks), not the target PVs above. Also, in order to concretize the abstract concepts, the researcher uses some pictures for in depth understanding.

1. *Return to or stay an earlier location (Rudzka – Ostyn, 2003)*

The researcher asks the students what the dictionary meaning of "back" is and shows them the diagram expressing the sense of "RETURN TO OR STAY AN EARLIER LOCATION" in Rudzka – Ostyn (2003; p. 104). The important point to underline in this sense is 'the location'. Returning should be carried out to the previous place where the person has been before (Rundell, 2005).
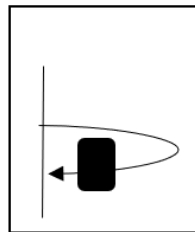
RETURN TO OR STAY AN EARLIER LOCATION

After that, the researcher brainstorms for the phrasal verbs that uses "back" to express "RETURN TO OR STAY AN EARLIER LOCATION". She draws a mind map on the board, writes "back" in it and asks students to give examples of phrasal verbs with "back" expressing this sense.
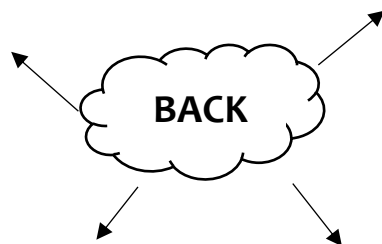
Then, researcher writes some sentences on the board with the given PVs, shows the following picture to the students and explains the relationship between the specific meaning of each target PV and the orientational metaphor of "RETURN TO OR STAY AN EARLIER LOCATION" (Rudzka – Ostyn, 2003).

T: What is the boy doing in the first picture? Where is he walking to? Home or school? Is he going "back" home?
S: …

T: What about the children in the second picture, what are they doing? What does "Back to School" mean? Are the going "back" to school? Are they coming "back"?
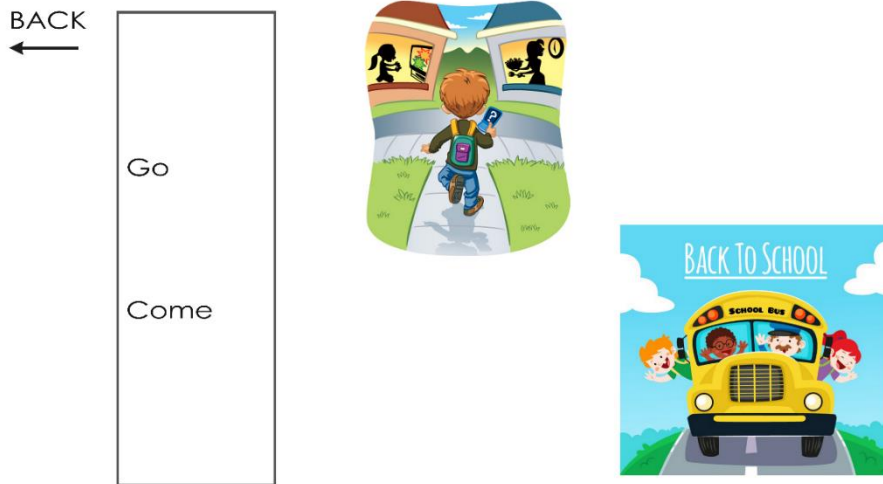
Example PVs: *RETURN TO OR STAY AN EARLIER LOCATION*
come back, go back

1) I will <u>come back</u> as early as possible, please wait for me at home.

2) Chris, <u>go back</u> to your bed and try to sleep now; it is 1 a.m and you will wake up early tomorrow for school.

2. *Return to an earlier state, time, situation (Rudzka – Ostyn, 2003)*

In order to go on with a more abstract meaning of "back", the researcher explains that "back " is frequntly used in situations in which the given object and/or location are more abstract. This abstraction - state, time or situation – is processed as though it were a physical space, which reveals that the characteristics of space are extended to abstract domains (Rudzka – Ostyn; 2003, p. 174). As an example, in the sentence "John hopes to <u>win back</u> his girlfriends heart with a huge teddy bear.", his girlfriend normally loves John but because he did something wrong, there is a problem; hence, he tries to break the ice between them with a present, teddy bear. Then, he will be able to win "back" his girlfriends heart.
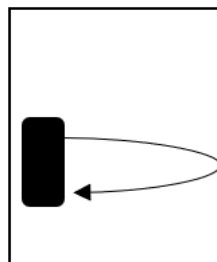
RETURN TO AN EARLIER STATE, TIME, SITUATION

Later, the researcher draws a mind map on the board, elicits some PVs from students with the sense of "RETURN TO AN EARLIER STATE, TIME, SITUATION" and explains on each example PV that the action of returning takes place not to a previous place but to a previous time, situation or state.

Following that, the researcher writes some sentences on the board with the given PVs, and explains the relationship between the specific meaning of each target PV and the orientational metaphor "RETURN TO AN EARLIER STATE, TIME, SITUATION" (Rudzka – Ostyn, 2003).

T: What do you understand from the first sentence? What is the relationship between reading a book and youth? Does the speaker remember something about his past, so what is the meaning of 'think back'? Returning to an earlier state…
S: …
T: In the second sentence, why isn't responding to elders polite? Answer "back", responding because of an argument…
S: …
T: What does the third sentence tell us? What does 'pay' mean? What about pay "back"? Refunding, returning to a previous state…
S: …
T: What does 'hit back' mean in the last sentence? Who has hit first? The other man, so you hit "back", meaning respond by your fist (hitting)…
S: …

Example PVs: *RETURN TO AN EARLIER STATE, TIME, SITUATION*
think back, answer back, hit back

1) While reading this book, I <u>thought back</u> of my youth. (returning to an earlier state/time)
2) It is very impolite to <u>answer back</u> to a teacher/ a parent. (responding because of an argument - situation)
3) Be careful, if somebody hits you, you should <u>hit back</u>. (responding as a result of being hit - situation)

BACK

Conceptual Metaphor	PV	Meaning	Example
RETURN TO OR STAY AN EARLIER LOCATION	Put back	to put something in the place where it was before	Yet this is a tiger that, once unleashed, is difficult to put back in its cage.
	Step back	to move backwards so that you are a short distance away from smo or smt	Seamus pushed the car door open, forcing Greg to step back.
	Get back	to return to a place after going somewhere else	I'm ready to get back home to my family.
	Give back	to give something back to the person who owns it or who gave it to you	He offered to let me out of our engagement without having to give back the ring.
RETURN TO AN EARLIER STATE, TIME, SITUATION	Turn back	to make smo stop when they are travelling and go back in the direction they came from, especially because it is impossible or dangerous for them to continue	Without a visa, immigrants will be turned back by the border guards.
	Bring back	to make a feeling, quality, situation and state in the past begin to exist again	Hearing that song always brought back sweet memories of a certain night in Santa Cruz.
	Pull back	to decide not to do or become involved in smt	In Singapore share prices fell, as foreign investors pulled back after several days of gains.
	Come back	to start to happen or be present again	If the tissue isn't solely on the uterus or ovaries, the disease will come back.

1. *Return to or Stay an Earlier Location (Rudzka – Ostyn, 2003)*

First, the researcher asks the students whether they remember the senses of "back" that they have learnt the week before. She draws a table on the board by eliciting the senses of "back" and demonstrates/reminds each sense.

BACK

RETURN

TO OR STAY AN
EARLIER LOCATION

RETURN

TO AN EARLIER STATE,
TIME, SITUATION
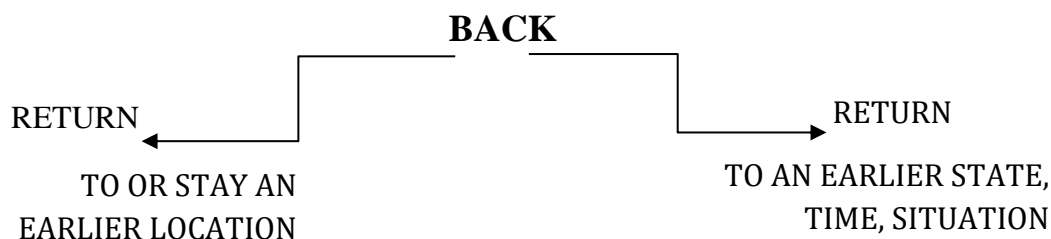
Then, focusing on the first sense "RETURN TO OR STAY AN EARLIER LOCATION", she shows the following diagram to the students and asks for some phrasal verbs that have been presented the week before in each category and tries to elicit some example sentences with these verbs.
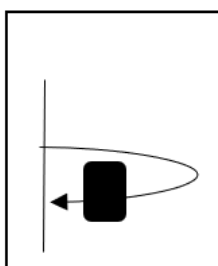
RETURN TO OR STAY AN EARLIER LOCATION

Noticing Activity: (Nation, 2001)
The researcher shows some sentences with the target phrasal verbs to the students and asks them to try to guess the meanings of these phrasal verbs. At this point, the researcher asks some questions to guide the students such as; ***a)*** *What is the meaning of the plain verb?* ***b)*** *Notice the particle and what is the meaning that this particle provides?* ***c)*** *Do you remember the senses we talked about?* ***d)*** *Is there any change in terms of the location/place or state/time/situation?* The important thing is that when they express their opinions about the meanings, the researcher should provide the proper definition of the target phrasal verb. Also, she illustrates the following picture to concretize the abstract/metaphoric meanings of the phrasal verbs.

RETURN TO OR STAY AN EARLIER LOCATION
Put back
Step back
Get back
Give back
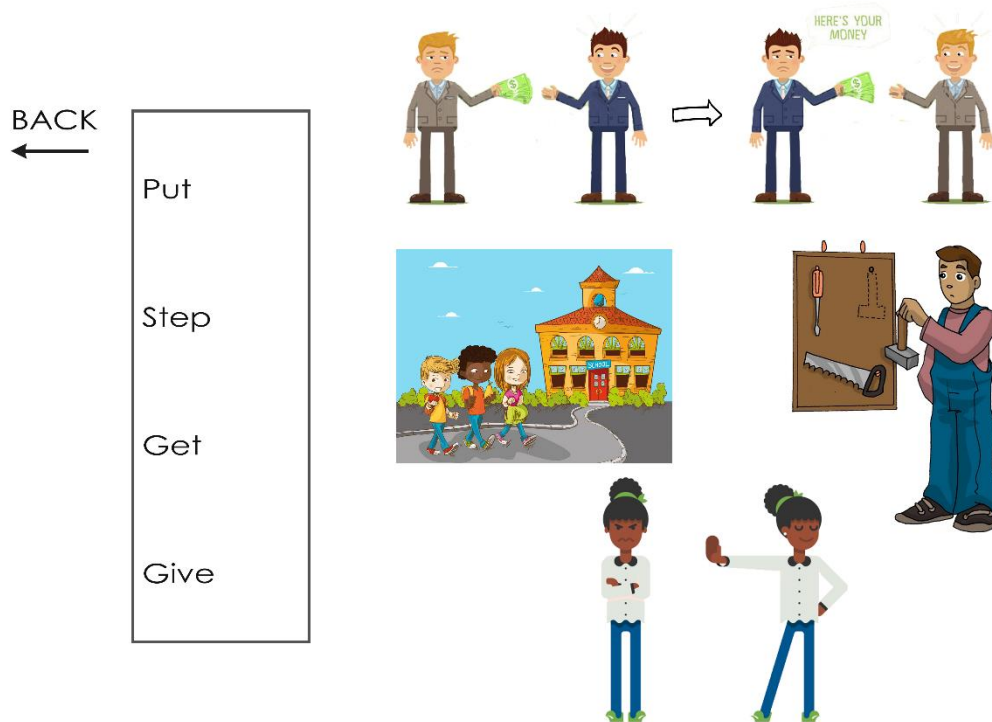
T: What is the blond man doing in the first picture? He is giving/lending some money to the other man. What about in the second picture? The man is giving "back" the money that he has borrowed.

S: …

T: Where are the students in the second picture going? To school? Going "back" to school? They are getting "back" to school.

S: …

T: In the third picture, what is the repairman doing? What is he holding? Hammer… The hammer has a place on the board, so it seems that he is putting the hammer "back" in its place.

S: …

T: What about the last picture, what is the girl saying to the other girl? Don't come or maybe step "back"? She says 'Step "back", please!'

Sentences:

1. Jane, can you please <u>put back</u> the clean dishes in the cabinet when you have washed them.
2. <u>Step back</u> behind the yellow line while waiting for the underground to come, it is a rule!
3. My curious neighbors asked me when we returned from Paris, and I told them that we <u>got back</u> from our trip yesterday.
4. The man refused to <u>give back</u> the knife he used for killing his wife.

2. *Return to an earlier state, time, situation (Rudzka – Ostyn, 2003)*

To continue with the second sense "RETURN TO AN EARLIER STATE, TIME, SITUATION", the researcher turns back to the table on the board and shows the following diagram to the students to remind them this sense.
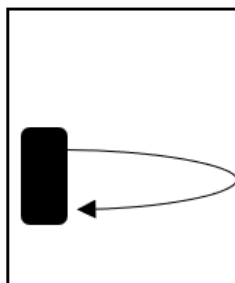
RETURN TO AN EARLIER STATE, TIME, SITUATION

Noticing Activity: (Nation, 2001)
Referring to the phrasal verbs that the students have known with example sentences from them, the researcher presents the target phrasal verbs in sentences and elicits what the students understand from each sentence. Herein, the researcher asks similar questions to guide the students such as; *a) What is the meaning of the plain verb? b) Notice the particle and what is the meaning that this particle provides? c) Do you remember the senses we talked about? d) Is there any change in terms of the location/place or state/time/situation?* The students can guess the meanings of the target phrasal verbs, but when they make a guess about the definitions, the researcher should provide the proper definition of the target phrasal verb. With these explanations, the researcher's main purpose is to make the abstract/metaphoric meanings much clearer.

RETURN TO OR STAY AN EARLIER LOCATION
Turn back
Bring back
Pull back
Come back

T: What do you understand from the first sentence? The people on the ship started their voyage but when they saw the weather was not good enough to go on, they decided to turn "back" to their earlier state or position. What did you understand from the phrasal verb 'turn back'?
S: …
T: In the second sentence, what does feeling lonely do? What is the meaning of bring "back", then? Thinking about the past? Is there any other phrasal verb like 'bring back'? Think back…

S: …

T: What does the third sentence tell us? Why won't the sponsors give any money for the movie? Then, what is the meaning of pull "back"? Give up? Are the sponsors returning to an earlier state?

S: …

T: What does 'come back' mean in the last sentence? It may mean starting to be present again. How does confidence 'come back'? With higher grade on exams… So, the speaker is getting more and more confident again, the confidence is coming "back"…

S: …

Sentences:

1. The weather became so bad during their voyage that the ship had to <u>turn back.</u> *(returning to the previous state)*
2. Sensing the smell of bread has always <u>brought back</u> my childhood years. *(returning to an earlier state/time)*
3. The sponsors <u>pulled back</u> from financing the movie because of the scandal about the director, so they won't give any money for this work. *(returning to an earlier state)*
4. After getting higher grades in the exams, my confidence is starting to <u>come back</u> slowly. *(returning to an earlier state)*

Exercises – BACK

Retrieval Activities:

<u>Task 1.</u> *In each of the following sentences, a phrasal verb is missing. Using the context of the sentence, decide which phrasal verb should go in the each blank. Choose among the following phrasal verbs. (Neely & Cortes, 2009)*

<div style="border:1px solid black; padding:10px;">

get back – step back – turn back – bring back – pull back –
give back – come back – put back

</div>

1. The baby boy carefully _____ the vase on the table when his mother told him to leave it. *(put back)*
2. After the party last night, we went to eat soup, so we _____ home really late. *(got back)*
3. Hearing the song "Akdeniz Akşamları" always _____ sweet memories of a certain night on a beach. *(brings back)*
4. Police attempted to _____ protesters marching towards President's office. *(turn back)*
5. When you shout in a cave, it generally _____ the sound of your voice. *(gives back)*
6. Seeing the painting of Mona Lisa in Paris, I _____ and took a photo of the famous artwork. *(stepped back)*
7. There is a financial crisis all around Turkey, and all the companies are _____ because of the poor economy. *(pulling back)*
8. Apparently, the styles of the '80s and '90s are _____ with large jeans and short tops. *(coming back)*

<u>Task 2.</u> *Rephrase the sentences containing phrasal verbs using the clues in brackets. (Peters & Pauwels, 2015)*

1. A gunman ordered the receptionist to distance himself from the drawer as he took the money. **(to step back)**
   _____.
2. There were demonstrations on the road and it was closed by the police, so we had to reverse our car to get rid of the crowd. **(to turn back)**
   _____.
3. I had an accident and broke my leg. I have no problem with my leg now but whenever I go running, the pain recurs. **(to come back)**
   _____.
4. The government is repaying nine million pounds to Oxford City Council, after making a mistake in the housing budget. **(to give back)**
   _____.

5. With this TV program, people will remember their excitement about heavyweight boxing. **(to bring back)**

   _____.

6. I am lost now, and I am trying to find out how I can return to the hotel. **(to get back)**

   _____.

7. After some rumors about Çiftlikbank, some of the investors have withdrawn from investing. **(to pull back)**

   _____.

8. When the daily cleaning finishes, I want everything placed where it was. **(to put back)**

   _____.

Task 3. *Match the phrasal verbs with the synonymous words given on the right.*

a) Pull back   ____ Return

b) Get back   ____ Remember

c) Give back   ____ Distance

d) Turn back   ____ Place

e) Step back   ____ Recur

f) Bring back   ____ Withdraw

g) Come back   ____ Repay

h) Put back   ____ Reverse

Generative Activities:

Task 4. *Replace the underlined verbs in the sentences below with a similar phrasal verb from the box. (Salazar, 2014) (SUBSTITUTION TASK)*

> step back – turn back – come back – pull back – get back –
> bring back – give back – put back

1. Our first goal at Royalty Airlines is to <u>make people remember</u> the style and the charm of the art of flying. *(bring back)*

2. The artist <u>distanced himself</u> and admired the painting when he'd finished. *(stepped back)*

3. When I came back to Turkey from Italy, I was like a fish <u>placed back</u> in the water; relieved and happy again. *(put back)*

4. Can you <u>reverse the car</u> for me please, this is a blind street and I have never tried it myself? *(turn back)*

5. In Singapore share prices fell as foreign investors <u>withdrew from funding</u> after several days of gains. *(pulled back)*

6. It'll take us ten minutes to get to the shopping mall and five minutes to <u>return</u>. *(get back)*

7. Mehmet Aydın feels very sorry for having cheated people, and he is promising to <u>repay</u> the money that he had no right to take. *(give back)*

8. Although the doctor said my back looked fine and I didn't need any physical therapy, the pain continued to <u>recur</u> at night. *(come back)*

<u>Task 5.</u> *In each of the following paragraphs, a phrasal verb has been deleted. Using the context of the paragraph, please rewrite the paragraph and add the phrasal verbs where you think it fits best to convey the corresponding meaning. (Cortes, 2006)*

1. In melanoma, a type of cancer, early reports suggest that it's been able to increase the time before the disease *(comes back)*. This's important because there is an 80 percent chance that the disease will return within five years.

2. When they *(get back)* home, Robin went into her room shutting the door quietly behind her and Sarah stood at the window in the dark watching the street.

3. Part of the effort was the government 's decision to include religious classes in elementary schools and to *(give back)* churches, mosques and other sacred placed to religious leaders.

4. As a female soldier explains how to use the gas mask, Jane fights back her tears and says coming to the station has *(brought back)* bad memories because she was a soldier in the army with her husband eight years ago and she has lost him in the war.

5. The company has some problems because of the financial crisis in the country. If the banks stop trusting them and if they *(pull back)* on interbank lending, there is nothing they can do. They will go bankrupt.

6. When we were young, there was a haunted house in our neighborhood. Everybody knew that house and people say that there were ghosts in the house. One day, we got very curious about the haunted house and decided to go inside. The house was very scary, but we didn't go all that way to *(turn back)* without going in; so opened the door and walked in.

7. Ken was taken to prison when he was 12 years old because he shot his cousin in his leg. Two years later, because he was young, they let him out, but he wanted to take his revenge. He found a gun and directly went to his cousin's office. What

he really wanted was not talking to him but killing him. He shot his cousin and was *(put back)* in prison for murder on the same day he came out.

8. We heard on the news that the Big Bank in the city center was held up last week. Two masked men came in the building and forced the security guard responsible from the bank vault to *(step back)*. Unfortunately, they took all the money and by the time the police arrived, they had already disappeared.

Task 6. *Use the target phrasal verbs in a meaningful sentence (Peters & Pauwels, 2015)*

> come back – step back – put back – bring back – turn back –
> get back – give back – pull back

1. _____.

2. _____.

3. _____.

4. _____.

5. _____.

6. _____.

7. _____.

8. _____.

OUT

Conceptual Metaphor	PV	Meaning	Example
Building as a Container	Move out	to stop living in a particular house, apartment or area, and go to live smw else	They lost thousands of dollars when they had to quickly move out and find a new home.
	Set out	to start a journey, especially a long journey	Columbus set out from Europe to discover a new route for the spice trade from the Orient.
MOVING OUT OF CONTAIN.	Come out	If marks or colors come out of smt, especially smt made of cloth, they disappear or become less strong when you clean or wash them.	You should really wash dark clothes separately, in case the color comes out.
Enclosure as a Container	Turn out	If you turn out a cupboard, pocket or other container, you empty it to clean and tidy it or see what is in it.	The teacher told us to turn out our pockets in front of her.
NON-EXISTENCE, IGNORANCE, INVISIBILITY AS CONTAIN.	Bring out	to make someone's best or worst qualities appear in the way they behave	There's something about driving a car that brings out the worst in me.
	Figure out	to understand smt or smo, or find the answer to a question after careful thinking	It took her a few minutes to figure out what he was trying to say.
	Point out	to tell smo smt that they need to realize, because it is important in a particular situation or in a discussion you are having	As I've already pointed out, it takes a long time to learn a foreign language.
	Carry out	to do something that you have organized or planned	During the 1970s, the group carried out a series of attacks around the world, including the massacre in 1972 at Lod Airport in Israel.

1. *Entities moving out of containers (Rudzka – Ostyn, 2003)*

First, the researcher asks the students whether they remember the senses of "out" that they have learnt two weeks before. She draws a table on the board by eliciting the senses of "out" and demonstrates/reminds each sense.

OUT

ENTITIES MOVING OUT OF CONTAINERS

- Building as a Container
- Enclosure as a Container

NON-EXISTENCE, IGNORANCE, INVISIBILITY AS CONTAINERS
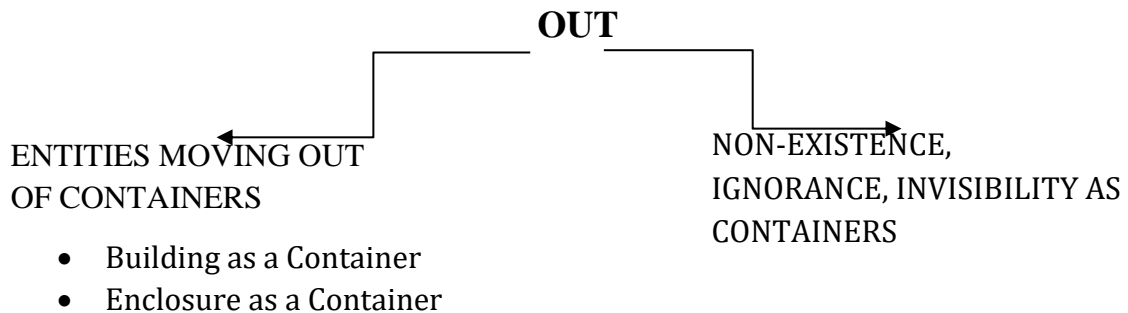
Then, focusing on the first sense "ENTITIES MOVING OUT OF CONTAINERS", she shows the following diagram to the students and asks for some phrasal verbs that have been presented two weeks before in each category and tries to elicit some example sentences with these verbs.
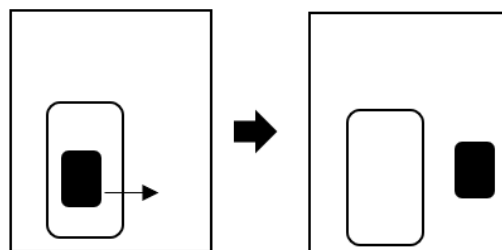
ENTITIES MOVING OUT OF CONTAINERS

Noticing Activity: (Nation, 2001)
The researcher shows some sentences with the target phrasal verbs to the students and leads them to try to categorize these verbs in either "BUILDING AS A CONTAINER" or "ENCLOSURE AS A CONTAINER" sense. At this point, the researcher asks some questions to guide the students such as; *a) What is the meaning of the plain verb? b) Notice the particle and what is the meaning that this particle provides? c) Do you remember the senses we talked about? d) Is there any movement?/To where? e) What is the container for each PV?* The important thing is that when they express their opinions about the meanings, the researcher should provide the proper definition of the target phrasal verb. Also, she illustrates the following picture to concretize the abstract/metaphoric meanings of the phrasal verbs.

BUILDING AS A CONTAINER	ENCLOSURE AS A CONTAINER
Move out	Turn out
Set out	Come out

T: What is happening in the first picture? Are they moving "out"? Out of the house? House is a building, so they are moving out of an apartment, a building.

S: …

T: What are the people in the car doing? They have some luggage on the top of the car. Are they going somewhere? They set out on a journey… "Out" of their house (A build…

S: …

T: What is the man doing with his pockets? Are the pockets empty? Maybe, the picture means he doesn't have any money. So, what is the man doing? He is turning out his pockets… What does that mean? Empty???... Turning the inside "out" … "Out" of the pocket…

S: …

T: What about the last picture, what do you see? What's happened? The color of the dress has changed, it is pale. What is the reason for that? Washing? The color has come out because of washing. "Out" of the cloth… How does the woman feel about that? Bad…
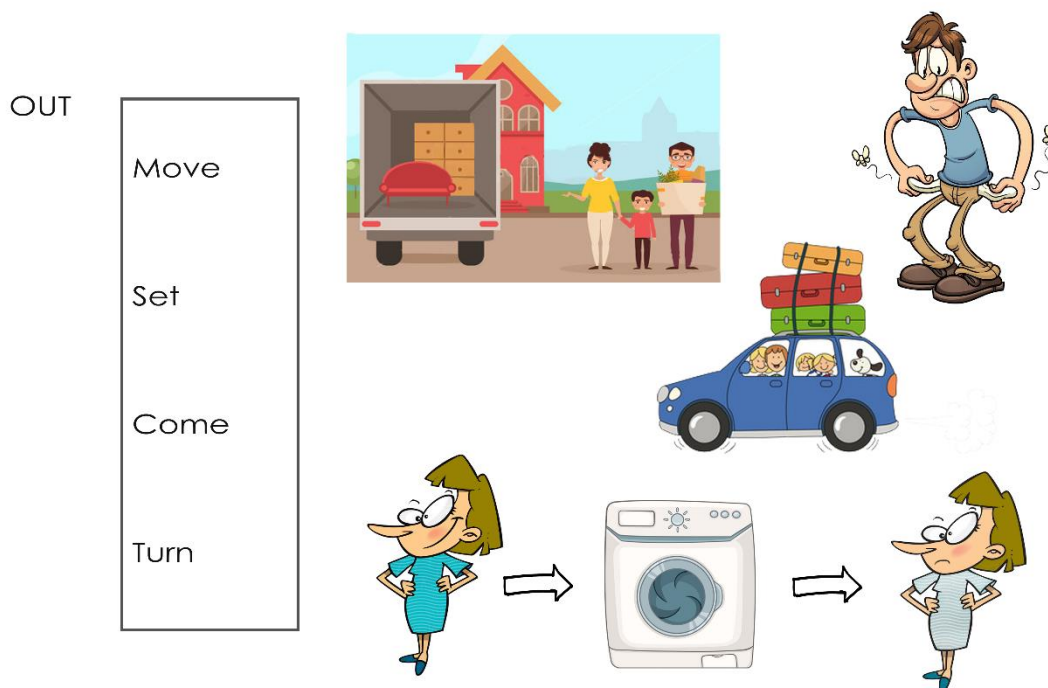
Sentences:

1. When <u>setting out</u> on a long walk, you should always wear suitable boots or trainers.
2. The Brown Family have recently <u>moved out</u> of the city, gone to live in the village.
3. I lost my keys; I <u>turned out</u> all the drawers looking for them, but I couldn't find them.
4. **A:** I have washed this t-shirt 4 times, but the stain didn't disappear.
   B: It is the ink stain and I don't think it will <u>come out</u>, whatever you do.

2. *Non-existence, ignorance, invisibility as containers (Rudzka – Ostyn, 2003)*

To continue with the second sense "NON-EXISTENCE, IGNORANCE, INVISIBILITY AS CONTAINERS", the researcher turns back to the table on the board and shows the following diagram to the students to remind them this sense.

The STATE of		with OUT
NON-EXISTENCE	→	COMES INTO EXISTENCE
IGNORANCE		BECOMES KNOWN
INVISIBILITY		BECOMES VISIBLE
SILENCE		BECOMES TO BE HEARD
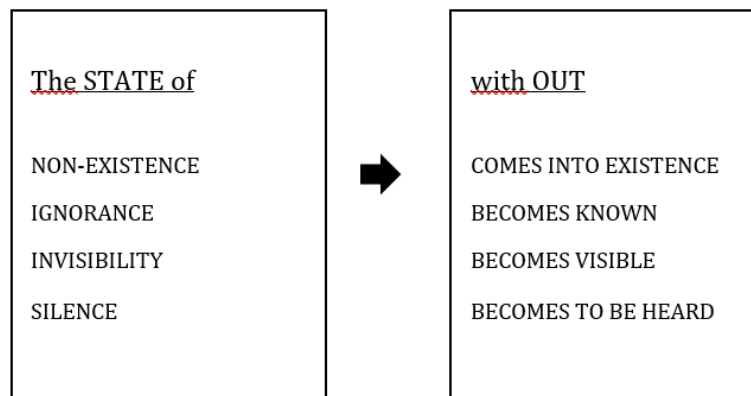
NON-EXISTENCE, IGNORANCE, INVISIBILITY AS CONTAINERS

<u>Noticing Activity:</u> (Nation, 2001)

Referring to the phrasal verbs that the students have known with example sentences from them, the researcher presents the target phrasal verbs in sentences and elicits what the students understand from each sentence. Herein, the researcher asks similar questions to guide the students such as; *a) What is the meaning of the plain verb? b) Notice the particle and what is the meaning that this particle provides? c) Do you remember the senses we talked about? d) What changes in each sentence?* The students can guess the meanings of the target phrasal verbs, but when they make a guess about the definitions, the researcher should provide the proper definition of the target phrasal verb. With these explanations, the researcher's main purpose is to make the abstract/metaphoric meanings much clearer.

NON-EXISTENCE, IGNORANCE, INVISIBILITY AS CONTAINERS
Figure out
Point out
Bring out
Carry out

T: What do you understand from the first sentence? What is the meaning of "figure out"? Understand?? How do you understand it? What is/are the words that gives the clue for meaning? What is the context for "figure out"? "Smart" girl??? What does "out" mean there? Does the word mean finding/learning something new?

S: …

T: In the second sentence, what is the meaning of "point out"? What is the meaning of "out"? Can you show with your index finger? (showing) What does it mean? Pointing? What have I already pointed out? Is it something new or have I known that before?

S: …

T: What does the third sentence tell us? What did Jane do? What do you think "carry out" means? What did she carry out? Plan?? Does "carry out" mean to do something? What does "carry" mean, what does "out" mean in the sentence? She made a plan, conducted it and everybody knows that…

S: …

T: What does 'bring out' mean in the last sentence? It may mean to reveal something… In the last sentence, what is the subject? Bad people?? What do they reveal? Darkness… So, inside of you there is darkness and you hide it. However, bad people can take it "out" easily…

S: …

Sentences:
1. Don't worry! Vicky is a smart girl, and she will be able to <u>figure out</u> how to switch the washing machine on.
2. As I've already <u>pointed out,</u> it takes a long time to learn a foreign language.
3. Jane <u>carried out</u> her plan of going to Afghanistan, despite the war.
4. Bad people generally <u>bring out</u> the darkness inside you.

Exercises – OUT

Retrieval Activities:

<u>Task 1.</u> *In each of the following sentences, a phrasal verb is missing. Using the context of the sentence, decide which phrasal verb should go in the each blank. Choose among the following phrasal verbs. (Neely & Cortes, 2009)*

> figure out – move out – turn out – point out – set out – come out – bring out – carry out

1. It is important to _____ that one in ten children still leave school unable to read or write. *(point out)*
2. Will the color of these jeans _____, when I wash them? As the color is dark blue, I don't want it to change. *(come out)*
3. "Actually," Rosemary said, "my husband has _____. I don't know where he is." *(moved out)*
4. It's hard to _____ why a mother would leave her child, I really can't understand. *(figure out)*
5. When people get to Atatürk Airport, they have to _____ all of their pockets before going through the x-ray machine. *(turn out)*
6. You've got a long journey ahead of you from Kütahya to Van, so you should _____ early in the morning. *(set out)*
7. Venice is such a beautiful place, which gives the guarantee to _____ the romantic in all people. *(bring out)*
8. Students have to _____ all the instructions their teacher gives in the class; they should do what the teacher says. *(carry out)*

<u>Task 2.</u> *Rephrase the sentences containing phrasal verbs using the clues in brackets. (Peters & Pauwels, 2015)*

1. The teacher told Jack that he had some grammar mistakes in his writing; she asked him to find and correct them. **(to point out)**
   _____.
2. With this new detergent all the dirty marks will disappear beautifully. **(to come out)**
   _____.
3. As I am living in İstanbul, while going to work, I always start my journey very early to avoid the traffic. **(to set out)**
   _____.
4. There was obviously something wrong with my hair, but I couldn't understand what it was. I think the hairdresser made a mistake while cutting my hair. **(to figure out)**
   _____.

5. Sea is always revealing different emotions in me at different times. **(to bring out)**
   _____.

6. I had always wanted to leave my old house and start living by the sea when I bought this cottage. **(to move out)**
   _____.

7. It is spring now and I'm going to empty all the kitchen cupboards to clean next weekend. **(to turn out)**
   _____.

8. Scientists are currently conducting many studies on the mice about the medication for cancer. **(to carry out)**
   _____.

Task 3. *Match the phrasal verbs with the synonymous words given on the right.*

a) Come out	____ Reveal
b) Move out	____ Tell
c) Set out	____ Understand
d) Turn out	____ Conduct
e) Figure out	____ Leave
f) Carry out	____ Start
g) Point out	____ Empty
h) Bring out	____ Disappear

Generative Activities:

Task 4. *Replace the underlined verbs in the sentences below with a similar phrasal verb from the box. (Salazar, 2014) (SUBSTITUTION TASK)*

> move out – turn out – come out – point out – figure out –
> bring out – set out – carry out

1. Old age and sickness generally <u>reveal</u> the essential characteristics of people. *(bring out)*

2. Columbus <u>started his journey</u> from Europe to discover a new route for the spice trade from the Orient. *(set out)*

3. What I want to <u>tell you</u> is that you should be careful with Blanca. She is a dangerous person. *(point out)*

4. My mother told me to <u>empty</u> the attic, so I threw many old stuff into trash. *(turn out)*

5. It took Martha a few minutes to <u>understand</u> what Mike was trying to say; he said he wanted a divorce. *(figure out)*

6. In the game God of War, the mission is to <u>conduct</u> a series of attacks to destroy the enemy forces. *(carry out)*

7. While I was in İzmir, I always liked to watch the boats <u>leaving</u> the harbor. *(move out)*

8. **A:** What happened to your hands? They look dirty.
   B: It is the oil paint that I use for reproduction of Mona Lisa, I washed my hands three times, but it didn't <u>disappear</u>. *(come out)*

<u>Task 5.</u> *In each of the following paragraphs, a phrasal verb has been deleted. Using the context of the paragraph, please rewrite the paragraph and add the phrasal verbs where you think it fits best to convey the corresponding meaning. (Cortes, 2006)*

1. In 1274, Italian explorers Marco and Niccolo Polo *(set out)* on a 24-year journey in which they traveled the famous Silk Road from Italy, through brutal deserts and towering mountains to eastern China.

2. Nicoletta is a single-mother who loves writing. She was living in London with her family but after she lost her husband in a car accident, she decided to *(move out)* of London to the countryside in order to write books and raise her children.

3. Being a journalist is a difficult job. As a journalist, whether the news is good or bad it doesn't matter, you have to be ready for everything. Also, you have to be very active because you will run from a place to another one to collect news. While collecting news, your only responsibility is to try to *(figure out)* what is going on.

4. A research which was *(carried out)* in 2011 found out that the clock tower Big Ben in London is bending. According to the research, it is easily understood on photos that the tourists take but scientists say that it may not be visible to the naked eye.

5. Loving a child doesn't mean doing whatever your child wants; but to love him/her is to *(bring out)* the best in him, to teach him/her to help and love people and to show him/her to live as a productive human being.

6. Do you know how to shock the fresh peas before putting them in the freezer for upcoming winter? First, take the peas out, then boil some water in a pot and put some salt in it. Salt is important because it will make the color *(come out)*. After that, put the peas in the boiled water and keep them in for 3-4 mins. Finally, take the peas out and put them in cold water.

7. My aunt had an accident while she was having a bath. She slipped, banged her head on the floor and fainted. We immediately took her to the hospital and doctors

(pointed out) that she was having a head hemorrhage. Although she had a brain surgery as early as possible, she can't walk and talk now.

8. I have never cheated in an exam, but my classmates did. For one of the English tests, we were responsible from memorizing some words. I studied very hard to learn them, but my best friend didn't. His plan was to write them in a small piece of paper, put the paper in his pocket and when he had an opportunity, he would take out that paper and cheat. During the exam, the teacher saw him cheating and asked him to *(turn out)* all his pockets. When he did, the teacher saw the paper with words and she became very angry.

Task 6. *Use the target phrasal verbs in a meaningful sentence (Peters & Pauwels, 2015)*

> come out – set out – point out – bring out – turn out – move out –
> figure out – carry out

1. _____.

2. _____.

3. _____.

4. _____.

5. _____.

6. _____.

7. _____.

8. _____.

REVISION EXERCISES WITH KAHOOT!

Exercises – UP

Kahoot Activity:

In each of the following sentences, a phrasal verb is missing. Using the context of the sentence, decide which phrasal verb should go in each blank. Choose among the following phrasal verbs. (Neely & Cortes, 2009)

> come up – break up – go up – put up – wind up – hold up –
> sit up – blow up

1. If you plant the seeds now, they should _____ in about ten days' time. **(come up)**
2. Benjamin had eaten too many hamburgers, so it wasn't surprising when the whole food _____ again. **(came up)**
3. Companies generally _____ advertisement on billboards to market their upcoming products. **(put up)**
4. The owner of the house is a little strange; he _____ signs everywhere saying, 'Private Property, Keep Out!'. **(puts up)**
5. At 6 months, a baby boy cannot yet _____ by himself. **(sit up)**
6. After getting paralyzed, Jeremy had to learn to use his upper body to be able to _____. **(sit up)**
7. Why don't we _____ to the bridge and have a better land view? **(go up)**
8. I forgot my jacket at home, can you _____ and get it now? **(go up)**
9. Two idiots tried to _____ the bank with pump guns and they were caught by the police. **(hold up)**
10. Thieves have the habit of _____ a place such as a jewellery store or a bank, so it must be difficult to give up this habit. **(hold up)**
11. I want to move a bigger house but if I move to another house, I could _____ paying a much higher rent. **(wind up)**
12. Robert was a drug addict; he _____ in hospital after a drug overdose last week. **(wound up)**
13. The last thing I'd planned for on your birthday was _____ at you, but you made me really angry; I am so sorry. **(blowing up)**
14. Although Scarlet is a calm woman, nowadays she can easily _____ at unimportant things. **(blow up)**
15. I had a fight with my best friend, and it breaks my heart to _____ such a perfect friendship. **(break up)**
16. The group had recorded ten music albums before they decided to _____. **(break up)**

Exercises – DOWN

Kahoot Activity:

In each of the following sentences, a phrasal verb is missing. Using the context of the sentence, decide which phrasal verb should go in each blank. Choose among the following phrasal verbs. (Neely & Cortes, 2009)

> come down – lay down – go down – get down – take down –
> bring down – break down – settle down

1. Can you _____ and talk to the neighbors downstairs about the noise they are making? **(go down)**
2. If a plane _____, first the black box in the plane is examined. **(goes down)**
3. I heard a noise in the bathroom; when I checked I saw that the shower curtain had _____ with the bar that holds it. **(come down)**
4. Yesterday, the weather was very bad; it was storming, and you could hear the hail _____. **(coming down)**
5. Two men holding up the bank said; "Everyone _____ on the floor!" **(get down)**
6. For the first time in his life, I saw Mathew _____ on his knees and prayed by his wife's grave. **(got down)**
7. Can you help me _____ those blankets from the shelf? **(take down)**
8. Why don't you _____ that painting and put up your own portrait? **(take down)**
9. Nobody can possibly work under this amount of pressure without _____ in the end. **(breaking down)**
10. Sandy _____ and cried because of the emotional effect of testifying his husband's death alone. **(broke down)**
11. The rebel forces are trying to _____ the president and his government. **(bring down)**
12. The president's appearing inauthentic in the elections _____ his candidacy. **(brought down)**
13. The company has _____ some guidelines to show how to set up a computer. **(laid down)**
14. The German government has _____ some conditions for its citizens to go abroad. **(laid down)**
15. When Martin became 35, what he really wanted was to get married and _____. **(settle down)**
16. I am dreaming about a house somewhere and some friends, so it would be nice to _____ a little. **(settle down)**

Exercises – BACK

Kahoot Activity:

In each of the following sentences, a phrasal verb is missing. Using the context of the sentence, decide which phrasal verb should go in each blank. Choose among the following phrasal verbs. (Neely & Cortes, 2009)

<div style="border:1px solid black; padding:10px;">

get back – step back – turn back – bring back – pull back –
give back – come back – put back

</div>

1. While moving, the Smith family requested that the furniture be _____ in place. **(put back)**
2. The police told those officers to put their weapons down and _____! **(step back)**
3. Click the arrow to the right of the "Forward" button, and then select from the list to _____ to a previously visited page. **(get back)**
4. I went to the airport with my family and _____ alone because they went on a holiday to Maldives. **(turned back)**
5. Can you please remind me to _____ this book to the library tomorrow? **(give back)**
6. The city council is going to _____ the old electric trams to solve İstanbul's public transport problems. **(bring back)**
7. Because of the rumors about the project, the company has _____ from financing it. **(pulled back)**
8. My fear of failing the proficiency exam has _____ as I got low grades in the finals. **(come back)**
9. Some of the words that we used when we were young have _____ in again recently. **(come back)**
10. The country decided to _____ from the war because they were losing. **(pull back)**
11. Watching that romantic movie has _____ the feeling of love in my heart. **(brought back)**
12. Japan wants Russia to _____ the islands which were occupied at the end of World War II. **(give back)**
13. The Captain had been advised to _____, due to very bad weather conditions. **(turn back)**
14. Lions and tigers are difficult animals to _____ in their cage. **(put back)**
15. Kate, calm down and _____ so doctors can help your husband. He is having a heart attack. **(step back)**
16. A: When will you be back?
    B: We'll probably _____ at about 9 o'clock. **(get back)**

Revision Exercise – UP/DOWN/BACK/OUT

Kahoot Activity:

In each of the following sentences, a phrasal verb is missing. Using the context of the sentence, decide which phrasal verb should go in each blank. Choose among the following phrasal verbs. (Neely & Cortes, 2009)

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come up – break up – go up – put up – wind up – hold up – sit up – blow up – get back – step back – turn back – bring back – pull back – give back – come back – put back – come down – lay down – take down – bring down – settle down – get down – break down – go down – figure out – move out – turn out – point out – set out – come out – bring out – carry out

---

1. It was a very expensive skirt, but most of the color _____ when I washed it. **(came out)**
2. Personalized blood tests to track whether the disease has _____ have been developed by US researchers. **(come back)**
3. Because of the rising dollar, local investors decided to _____ from financing the international project. **(pull back)**
4. We want to see Lake Tahoe, so tomorrow at 5 o 'clock in the morning, we'll _____ on the twelve-hour drive north to California. **(set out)**
5. The news of shipwreck was on television, the ship has _____, but not the nine people inside it. **(come up)**
6. As a serious astronomy student, Edward would _____ on the roof on clear nights and gaze at the stars while playing guitar quietly. **(go up)**
7. I have a hobby room in the basement where I usually _____ to work on handcraft. **(go down)**
8. To _____ to Kütahya from Antalya, we have to go by Isparta and Burdur. **(get back)**
9. Mathew promises to do something, but he always fails to _____ his promises. **(carry out)**
10. Teenagers like to _____ pictures of famous people on the walls of their room. **(put up)**
11. I always wanted to go to Japan, but I never thought I would finally _____ living there. **(wind up)**
12. Tim _____ and cried when he heard the bad news about the accident his father made. **(broke down)**
13. I am going on a holiday again, so I need to empty my luggage before deciding what to _____ in it. **(put back)**
14. My landlord has sold the house, so I had to _____ and find a new one. **(move out)**

15. In a job interview, you should _____ straight to show your confidence. **(sit up)**

16. I didn't understand why Jane accused me of trying to _____ her marriage! **(break up)**

17. As John was going to paint the wall, he asked me to _____ all the paintings. **(take down)**

18. The new museum was built to _____ historical monuments from the British Museum in London. **(bring back)**

19. The captain _____to the referee that the boy had done nothing to deserve a red card. **(pointed out)**

20. Have the burglar used a gun to _____ a jewelry store? **(hold up)**

21. The possibility that nuclear weapons could _____ in the hands of terrorists is a serious risk. **(wind up)**

22. I like watching the snow _____, with a cup of coffee in my hand. **(coming down)**

23. The dormitory has _____ some ground rules about the check-in times. **(laid down)**

24. My brother was really sad last night, but I couldn't _____ why. **(figure out)**

25. Although Brian is normally a friendly person, he easily _____ at slight things. **(blows up)**

26. Two men went into the bank with guns and said; "Everyone _____ on the floor!". **(get down)**

27. I think anniversaries often _____ feelings of nostalgia. **(bring out)**

28. Before Mila _____ in Portugal, she had run her own antiques shop in London. **(settled down)**

29. Can you _____ a little bit, so I can see the singer better? **(step back)**

30. I don't like those children; as they pass by, they always _____ and laugh at me. **(turn back)**

31. I am planning to make a clean sweep in the house; I will _____ all the kitchen cupboards and wardrobes. **(turn out)**

32. Mary doesn't want to go out with us tonight; we have to _____ a way to get her out. **(figure out)**

33. Is it your ex-husband who doesn't want to _____ your child? **(give back)**

34. The party is threatening to _____ the government by withdrawing from the ruling coalition. **(bring down)**

35. When I have two drinks, I become ready to _____ a bank. **(hold up)**

Appendix XV

SPSS TABLES

Multiple-Choice Test

Table 1. Descriptive Statistics

Descriptive Statistics						
MC-test	N	Range	Min	Max	Mean	Std. Dev.
Pretest	60	10	0	10	4,30	2,367
Immediate posttest	60	21	9	30	21,37	4,712
Delayed posttest	60	22	9	31	20,18	6,091

Table 2. Results of one-way repeated measures ANOVA analysis in MC test

MC- test	**Value**	**F**	**Hypothesis df**	**Error df**	**p**	**Partial Eta Squared**
Wilks' Lambda	0,79	338,487	2,000	58,000	,000*	,921

*. The mean difference is significant at the ,001 level.

Table 3. Pairwise Comparison Results in MC test (Pre/Post/Delayed Tests)

(I) time	**(J) time**	**Mean Diff. (I-J)**	**Std. Error**	**Sig.^{a}**	**99,9% Confidence Interval for Difference^a**	
					Lower Bound	Upper Bound
Pretest	Immed. p.test	-17,067	,653	,000*	-19,553	-14,580
	Delayed p.test	-15,883	,743	,000*	-18,716	-13,051
Immed. p.test	Pretest	17,067	,653	,000*	14,580	19,553
	Delayed p.test	1,183	,488	,055	-,676	3,043
Delayed p.test	Pretest	15,883	,743	,000*	13,051	18,716
	Immed. p.test	-1,183	,488	,055	-3,043	,676

*. The mean difference is significant at the ,001 level.
^{a}. Adjustment for multiple comparisons: Bonferroni.

C-Test

Table 4. Descriptive Statistics

Descriptive Statistics						
C-test	N	Range	Min	Max	Mean	Std. Dev.
Pretest	60	8	0	8	3,25	2,229
Immediate posttest	60	16	16	32	26,00	3,888
Delayed posttest	60	21	11	32	25,20	4,418

Table 5. Results of one-way repeated measures ANOVA analysis in C-test

C-test	Value	F	Hypothesis df	Error df	p	Partial Eta Squared
Wilks' Lambda	,025	1144,311	2,000	58,000	,000*	,975

*. The mean difference is significant at the ,001 level.

Table 6. Pairwise Comparison Results in C-test (Pre/Post/Delayed Tests)

(I) time	(J) time	Mean Diff. (I-J)	Std. Error	Sig.ª	99,9% Confidence Interval for Differenceª	
					Lower Bound	Upper Bound
Pretest	Immed. p.test	-22,750	,479	,000*	-24,574	-20,926
	Delayed p.test	-21,950	,540	,000*	-24,006	-19,894
Immed. p.test	Pretest	22,750	,479	,000*	20,926	24,574
	Delayed p.test	,800	,373	,109	-,623	2,223
Delayed p.test	Pretest	21,950	,540	,000*	19,894	24,006
	Immed. p.test	-,800	,373	,109	-2,223	,623

*. The mean difference is significant at the ,001 level.
ª. Adjustment for multiple comparisons: Bonferroni.

Masked Repetition Priming Lexical Decision Task

a. *Comparison within pre/post/delayed tests*

Table 7. Descriptive Statistics

MRPLDT	N	Range	Min	Max	Mean	Std. Dev.
Descriptive Statistics						
Pretest						
Identity prime	60	786,97	533,04	1320,01	776,00	177,74
Unrelated prime	60	776,36	606,50	1382,86	834,62	179,37
Immediate posttest						
Identity prime	60	449,60	462,56	912,16	611,59	99,87
Unrelated prime	60	570,26	514,09	1084,35	695,36	127,08
Delayed posttest						
Identity prime	60	569,32	416,90	986,22	600,89	108,80
Unrelated prime	60	455,42	547,11	1002,53	667,55	106,20

Table 8. Results of independent samples t-test analysis on RTs in pretest

MRPLDT	Levene's Test for Equ. of Var.		t-test for Equality of Means							
	F	Sig.	t	df	Sig. (2-tailed)	Mean Diff.	Std. Error Diff.	95% Conf. Inter. of the Diff.		
Pretest (RTs)								Lower	Upper	
	,046	,831	-1,798	118	,075	-58,618	32,600	-123,176	5,939	

*. The mean difference is significant at the ,05 level.

Table 9. Results of independent samples t-test analysis on RTs in immediate posttest

MRPLDT	Levene's Test for Equ. of Var.		t-test for Equality of Means							
	F	Sig.	t	df	Sig. (2-tailed)	Mean Diff.	Std. Error Diff.	99,9% Conf. Inter. of the Diff.		
Immed. Posttest (RTs)								Lower	Upper	
	2,954	,088	-4,014	118	,000*	-83,768	20,867	-154,192	-13,344	

*. The mean difference is significant at the ,001 level.

Table 10. Results of independent samples t-test analysis on RTs in delayed posttest

MRPLDT	Levene's Test for Equ. of Var.		t-test for Equality of Means							
	F	Sig.	t	df	Sig. (2-tailed)	Mean Diff.	Std. Error Diff.	99,5% Conf. Inter. of the Diff.		
Delayed Posttest (RTs)								Lower	Upper	
	,313	,577	-3,396	118	,001*	-66,657	19,629	-132,904	-,4095	

*. The mean difference is significant at the ,005 level.

b. *Comparison between tests*

Table 11. Descriptive Statistics of overall RTs in MRPLDT

Descriptive Statistics						
MRPLDT	N	Range	Min	Max	Mean	Std. Dev.
Pretest	60	751,52	585,81	1337,33	804,79	170,97
Immediate posttest	60	494,36	489,16	983,52	653,08	107,54
Delayed posttest	60	414,70	482,77	897,47	634,05	97,22

Table 12. Results of one-way repeated measures ANOVA analysis on overall RTs

MRPLDT	Value	F	Hypothesis df	Error df	p	Partial Eta Squared
Wilks' Lambda	,405	42,674	2,000	58,000	,000*	,595

*. The mean difference is significant at the ,001 level.

Table 13. Pairwise Comparison Results on RTs in MRPLDT (Pre/Post/Delayed Tests)

(I) time	(J) time	Mean Diff. (I-J)	Std. Error	Sig.ª	99,9% Confidence Interval for Difference ª	
					Lower Bound	Upper Bound
Pretest	Immed. p.test	151,710	17,501	,000*	85,023	218,396
	Delayed p.test	170,744	18,627	,000*	99,766	241,721
Immed. p.test	Pretest	-151,710	17,501	,000*	-218,396	-85,023
	Delayed p.test	19,034	9,972	,184	-18,964	57,032
Delayed p.test	Pretest	-170,744	18,627	,000*	-241,721	-99,766
	Immed. p.test	-19,034	9,972	,184	-57,032	18,964

*. The mean difference is significant at the ,001 level.
ª. Adjustment for multiple comparisons: Bonferroni.

Self-paced Reading Task

a. *Formulaic sequencing gains*

Table 14. Descriptive Statistics

Descriptive Statistics						
SPRT – FS	N	Range	Min	Max	Mean	Std. Dev.
Pretest	60	589,53	357,92	947,45	600,02	144,28
Immediate posttest	60	457,71	234,52	692,23	414,73	90,73
Delayed posttest	60	302,34	219,23	521,57	347,98	69,49

Table 15. Results of one-way repeated measures ANOVA analysis on RTs in SPRT – FS

SPRT – FS	Value	F	Hypothesis df	Error df	p	Partial Eta Squared
Wilks' Lambda	,210	109,301	2,000	58,000	,000*	,790

*. The mean difference is significant at the ,001 level.

Table 16. Pairwise Comparison Results in SPRT – FS (Pre/Post/Delayed Tests)

(I) time	(J) time	Mean Diff. (I-J)	Std. Error	Sig.ᵃ	99,9% Confidence Interval for Differenceᵃ	
					Lower Bound	Upper Bound
Pretest	Immed. p.test	185,298	16,708	,000*	121,633	248,962
	Delayed p.test	252,042	17,333	,000*	185,996	318,089
Immed. p.test	Pretest	-185,298	16,708	,000*	-248,962	-121,633
	Delayed p.test	66,745	8,586	,000*	34,030	99,459
Delayed p.test	Pretest	-252,042	17,333	,000*	-318,089	-185,996
	Immed. p.test	-66,745	8,586	,000*	-99,459	-34,030

*. The mean difference is significant at the ,001 level.
ᵃ. Adjustment for multiple comparisons: Bonferroni.

b. *Semantic association gains*

Table 17. Descriptive Statistics

Descriptive Statistics						
SPRT – SA	N	Range	Min	Max	Mean	Std. Dev.
Pretest	60	788,49	339,79	1128,28	656,11	169,26
Immediate posttest	60	458,52	238,89	697,41	429,46	95,07
Delayed posttest	60	340,66	216,45	557,11	354,60	64,91

Table 18. Results of one-way repeated measures ANOVA analysis on RTs in SPRT – SA

SPRT – SA	Value	F	Hypothesis df	Error df	p	Partial Eta Squared
Wilks' Lambda	,223	101,094	2,000	58,000	,000*	,777

*. The mean difference is significant at the ,001 level.

Table 19. Pairwise Comparison Results in SPRT – SA (Pre/Post/Delayed Tests)

(I) time	(J) time	Mean Diff. (I-J)	Std. Error	Sig.ᵃ	99,9% Confidence Interval for Differenceᵃ	
					Lower Bound	Upper Bound
Pretest	Immed. p.test	226,650	21,309	,000*	145,455	307,845
	Delayed p.test	301,512	21,698	,000*	218,834	384,190
Immed. p.test	Pretest	-226,650	21,309	,000*	-307,845	-145,455
	Delayed p.test	74,862	10,341	,000*	35,457	114,266
Delayed p.test	Pretest	-301,512	21,698	,000*	-384,190	-218,834
	Immed. p.test	-74,862	10,341	,000*	-114,266	-35,457

*. The mean difference is significant at the ,001 level.
ᵃ. Adjustment for multiple comparisons: Bonferroni.

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