

Polysemous English phrasal verbs:

**EFL textbook distribution, students' receptive and
productive knowledge and teachers' beliefs in the Greek
Cypriot context**

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Dedication

In memory of my parents and grandparents

Abstract

Formulaic sequences such as idioms, collocations and phrasal verbs constitute an essential part of English vocabulary and a crucial element of foreign language learners' communicative competence. While substantial research has been carried out on idioms and collocations comparatively fewer studies have focused on phrasal verbs despite the great difficulty, they possess to foreign language learners and although phrasal verbs are considered necessary for native-like fluency. This thesis aims to fill in this gap by exploring, i) phrasal verb distribution in English foreign language textbooks, ii) English language learners' knowledge of phrasal verbs and iii) English foreign language teachers' beliefs about phrasal verb learning and teaching.

This first study examined the occurrence and recurrence of phrasal verbs in six English foreign language textbooks in order to shed some light in what seems to be an under-researched area. Research has shown that phrasal verbs are polysemous and can have more than one meaning sense. Gardner and Davies (2007) estimated that each of the 100 most frequently used phrasal verbs in the British National Corpus has on average 5.6 meaning senses, while, Garnier and Schmitt (2015) concluded that each of the 150 most frequently used phrasal verbs in the Corpus of Contemporary American English has on average two meaning senses. Nonetheless, no research, so far, explored the way the various phrasal verb meaning senses are treated in contemporary English foreign language textbooks. To fill in this gap, the first study, explored the distribution of phrasal verbs and their frequently used meaning senses (based on native speakers' corpus indications) in the textbooks. The results of this study highlight the need for textbook writers to i) adopt a more scientific based and systematic selection process, taking

into consideration the polysemous nature of phrasal verbs and ii) provide more opportunities for repetition, an essential component of vocabulary acquisition.

The second study explored 100 English foreign language learners' productive and receptive knowledge of a sample of high frequency phrasal verbs and phrasal verb meaning senses. Participants were tested at form-recall and form-recognition level of mastery and the effect of frequency (based on textbooks and corpus indications) and a number of language engagement factors on knowledge were examined. Twenty participants also took part in an interview to validate the form-recall test items. Results showed that participants had a rather weak knowledge of phrasal verbs. Consistent with previous findings the robust effect of frequency and engagement in leisure activities, such as reading and watching English films, was further supported.

The third study investigated English foreign language teachers' beliefs about phrasal verb teaching and learning. Following a qualitative approach, twenty teachers took part in semi-structured interviews in order to gain insights into their beliefs about phrasal verbs. Analysis of the results indicated that all teachers considered phrasal verbs to be one of the most challenging feature of English vocabulary. Nonetheless, conflicting results about phrasal verb importance were found, as non-native speaker teachers seemed to consider phrasal verbs a less important element of English vocabulary, while all native speaker teachers stressed the importance of learning phrasal verbs. This study concluded that teachers' beliefs about phrasal verbs were differentially affected by the numbers of teaching experience, L1 background and students' proficiency level.

Overall, the results of these studies stress the lack of foreign language learners' phrasal verb knowledge and highlight the need for a better treatment of this word combination in foreign language teaching contexts. My research results, may, prove useful, to second language

researchers, textbook writers, and material designers as well as to foreign language teachers. It is hoped that polysemous phrasal verbs will receive more attention in the field of Applied Linguistics and future efforts will try to improve the quality of textbooks and provide foreign language teachers with necessary support for phrasal verb teaching.

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List of Abbreviations

EFL: English foreign Language

ELT: English language teaching

BNC: British National Corpus

COCA: Corpus of Contemporary American English

L1: First language

L2: Second Language

NC: Native corpus

NS: Native speakers

TF: Textbook frequency

FLL: Foreign language learning

Declaration

I declare that the work presented in this thesis is my own and was conducted during my time as a PhD student at the University of Essex. Several parts of this thesis are written as journal papers:

- Study 1, presented in Chapter 3, is co-authored with my supervisor Dr Sophia Skoufaki, and written following the guidelines of Applied Linguistics Review journal.
- Study 2, presented in Chapter 4, is also co-authored with Dr Sophia Skoufaki, and written following the guidelines of Applied Linguistics Review journal.

- Study 3, presented in Chapter 5, is written following the guidelines of the Language Teaching Research journal.

Acknowledgement

Four years ago, I embarked on a journey that would change me in more ways that I could have ever imagined. My PhD journey, just like life, was a roller coaster ride with many ups and downs. Along this journey, I met some truly amazing people that helped me improve both as a researcher and as a human being. It also made me realise, how lucky I was to have friends and family that would stand by my side no matter what. This thesis would have never been completed without the support of these incredible people that I was blessed enough to have in my life.

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“You shall know a word by the company it keeps”

R. Firth (1957)

CHAPTER ONE

INTRODUCTION

1.1 Background

Phrasal verbs represent a quite complex area of English vocabulary (Bolinger, 1971). In fact, different definitions have emerged throughout the years to refer to this language phenomenon and “linguists and grammarians struggle with nuances of phrasal verb definitions” (Gardner & Davies, 2007, p. 341). Phrasal verbs are also considered to be some of the most challenging word constructions for foreign language (EFL) learners to master (Cowie, 1993) and past research has observed an avoidance phenomenon in the use of phrasal verbs by EFL learners (Dagut & Laufer, 1985; Hulstijn & Marchena, 1989; Laufer & Eliasson, 1993; Liao & Fukuya, 2004; Siyanova & Schmitt, 2007). These studies suggest that, although learners know the meanings of phrasal verbs, they may deliberately choose to avoid using them in favour of their one-word verb equivalents.

Nevertheless, phrasal verbs happen to be an important feature of English vocabulary. While Biber, Johansson, Leech, Conrad, and Finegan (1999) estimate that phrasal verbs occur almost 2,000 times per million words in fiction and conversation, Liu (2011) finds that they occur almost three times as much, and Gardner and Davies (2007) estimate that learners will encounter on average one phrasal verb in every 150 words of English to which they are exposed. Furthermore, phrasal verbs may carry a large number of meanings and functions. Gardner and Davies’ (2007) search of the British National Corpus showed that each of the 100 most frequent English phrasal verbs have between five and six meaning senses on average. These meaning senses may not be possible to be conveyed by a single word equivalent or may carry connotations that their single word equivalent does not have (Cornell, 1985). In fact, Siyanova and Schmitt (2007) argue that, because phrasal verbs are widely used in informal

spoken discourse, failure to use them in such situations is likely to give away learners as non-natives.

Various reasons make phrasal verbs particularly difficult for second language learners to learn. To begin with, phrasal verbs are very common and highly productive in the English language as a whole (Bolinger, 1971; Celce-Murcia & Larsen Freeman, 1999; Darwin & Gray, 1999; Gardner & Davies, 2007; Moon, 1997). In addition, many phrasal verbs have multiple meanings themselves. For example, Gardner and Davies (2007) found that the 100 most frequent phrasal verbs in the British National Corpus (BNC) have 559 potential meaning senses, or an average of 5.6 meaning senses per phrasal verb. Thus, learners may find learning phrasal verbs particularly difficult, especially as there are issues with respect to idiomaticity and semantic non-compositionality, which can be very confusing to learners (e.g. Moon, 1998).

Furthermore, the status of particles in phrasal verb construction (i.e. preposition or adverb particle), particle movement, and the transitivity of phrasal verbs are among other aspects that can cause further confusion for learners. Phrasal verbs can occur in transitive form, intransitive form or even both (Quirk et al, 1985). Transitive phrasal verbs are always followed by a direct object, which can be a noun phrase (*e.g. She picked up the phone*) or a clause (*e.g. My sister found out that her husband had been planning a surprise party for her*). On the other hand, intransitive phrasal verbs do not and cannot take objects, so the verb and particle always stay together (*e.g. The price of petrol will go up next year/The flight will take off in ten minutes*). Adding to learners' confusion some phrasal verbs can be both transitive and intransitive in form (*e.g. Please wake me up at 6 in the morning/I usually wake up at 6 in the morning*).

In addition, cross-linguistic factors, particularly the influence of learners' L1, are frequently discussed in the literature with respect to the learning of phrasal verbs (e.g. Granger 1998a; Paquot 2008). More precisely, non-existence of similar structures in learners' L1s may affect

their understanding of phrasal verbs and several studies show that this may also result in the avoidance of phrasal verbs by non-native speakers (e.g. Dagut and Laufer 1985; Laufer & Eliasson 1993; Liao & Fukuya 2004). In fact, Hulstijn and Marchena (1989) found that even learners whose native language contains phrasal verbs (e.g. Dutch) might avoid using such forms when communicating in English.

Most laymen consider vocabulary knowledge as the ability to map a written/spoken form of a lexical item onto a meaning or a concept (e.g. *dog* refers to a four-legged animal that barks). Brown (2011) analysed nine general English textbooks and found that all nine of them mainly focused on the meaning-form relationship, with occasional references to grammatical functions. However, vocabulary is a much more complex construct. Schmitt (2010, p. 15) stated that “while it is true that the form-meaning link is the first and most essential lexical aspect which must be acquired, and may be adequate to allow recognition, much more must be known about lexical items, particularly if they are to be used productively”.

Frequency has been established as an essential predictor of knowledge (e.g. Nation & Waring, 1997; Leech, Rayson & Wilson, 2001; N. Ellis, 2002; Nation, 2013). In other words, the more frequent a word is the more likely it is to be known. Nation and Waring (1997) claim that there is no reason to believe that such relationship will not be displayed in formulaic sequences. For example, Garnier and Schmitt (2016) investigated L2 learners’ knowledge of highly frequent phrasal verbs in English and concluded that corpus frequency predicts students’ knowledge as students knew the most frequent meaning senses of a phrasal verb as opposed to the less frequent meaning senses. Nevertheless, other studies show that the effect of frequency for formulaic sequences is still quite unclear (Szudarski, 2012; Pellicer-Sánchez, 2015; Macis, 2018). Chapter 3 and Chapter 4 further discuss the role of frequency in first and second language vocabulary acquisition.

However, what is frequent in a native speakers' context as identified in a native speakers' corpus does not necessary translate to frequency in the second language context (e.g. classroom, textbooks). In fact, the small body of research that investigated the selection criteria of phrasal verbs in ELT textbooks concluded that there is a remarkable divide between applied linguists recommendations and what is included in the textbooks (Darwin & Gray, 1999; Koprowski, 2005; Zarifi & Mukundan, 2012). Koprowski (2005) analysed three General English foreign language textbooks and concluded that "the selection process appears to be unscientific and largely grounded on the personal discretion and intuition of the writers" (p.330). Therefore, if textbook writers base their selection on intuition rather than on empirical results, learners may be presented with low-utility phrasal verbs that may only be encountered in their textbooks. Since phrasal verbs are highly polysemous (Gardner and Davies, 2007), it is important, to also investigate the selection criteria of phrasal verb meaning senses and whether students are presented with the most frequent ones. Since phrasal verbs are so frequent in native speakers' speech, careful selection based on frequency should be followed when choosing what to include in the textbooks.

Frequency of occurrence of phrasal verb forms within the ELT textbooks is also something worth investigating. It is generally acknowledged that vocabulary learning is enhanced by repetition as learning requires repeated exposure to a lexical item. This is possibly because initial exposure to new words tends to create lexical knowledge that is delicate and incomplete (Elgort et al, 2016; Landauer & Dumais, 1997). Research for example on L1 and L2 incidental learning has shown that the number of encounters a learner has with a word form affects whether this word is acquired (e.g. Horst et al, 1998; Jenkins et al, 1984). Therefore, more exposures are needed for that word to be acquired. However, the research findings on the number of exposures needed for a word to be acquired through reading have been inconclusive. Some research indicates that four to five instances are adequate for some aspects of word

knowledge to be acquired (e.g. Bolgar et al, 2016), while, others indicate that more than six exposures are needed (Rott, 1999). Yet, other research studies have shown that for significant word gains more than eight to ten exposures are needed (e.g. Horst, et al 2005; Pigada & Schmitt, 2006; Waring & Takaki, 2003). Therefore, when looking at the distribution of phrasal verb meanings in English language textbooks it is necessary to also look at the number of encounters that students have with a particular phrasal verb meaning.

As mentioned in the previous paragraphs of this section phrasal verbs are particularly challenging for second language learners to master due to various reasons, such as, their semantic and syntactic complexity. However, to better understand how learners can be aided in the process of learning phrasal verbs the role of the teacher is worth investigating. More precisely, since learners are being taught phrasal verbs mostly by their teachers, it is interesting to examine what are their views and beliefs about phrasal verbs as this will unavoidably affect their classroom practices. Teacher beliefs have gained increasing attention in both the language teaching field and in education in general due to its tremendous influence on teachers' classroom instructions, students' learning outcomes as well as teachers' own learning and development (Borg, 2007). However, research on teachers' beliefs about vocabulary instruction has been scarce (Borg, 2014), while to my knowledge no study investigated teachers' beliefs about phrasal verbs.

1.2 Research Aims and Methodology

As presented in section 1.1, phrasal verbs are very challenging for second language learners. Sinclair (1996, p.78) even calls them “the scourge of the learner” since they present so many inherent difficulties, such as idiomaticity or polysemy and due to their syntactic complexity. Nevertheless, their importance has been recognised by L2 researchers and language teachers. Phrasal verbs therefore present a worthy field of study as far as the foreign language learner is

concerned. Surprisingly though, research on phrasal verbs has been scarce (e.g. Garnier and Schmitt, 2015,2016; Siyanova and Schmitt, 2007). What is more, past research seems to fail to account for the polysemous nature of phrasal verbs. However, since the 100 most frequent phrasal verbs in the British National Corpus have on average 5.6 meaning senses (Gardner and Davies, 2007) polysemy should not be ignored. Nevertheless, only a handful of studies accounted for phrasal verb polysemy when examining L2 learners' knowledge of phrasal verbs (e.g. Garnier and Schmitt, 2016).

The present study aims to investigate polysemous phrasal verbs in the context of learning English as a foreign language. More precisely, three different individual studies were carried out with different research aims, in order to shed some light on this complex word construction of English in the context of Greek Cyprus.

The first study is a corpus study that examines the treatment given to polysemous phrasal verbs in six current textbooks published for teaching English as a foreign language in Greek-Cyprus. The textbooks are from two different textbook series and span from the B1 to B2 proficiency levels based on the Common European Framework of Reference. More precisely, this study first aims to investigate whether corpus frequency criteria are applied when choosing which phrasal verbs and which phrasal verb meanings to include in the textbooks. The identification process was based on a phrasal verb frequency list (PHaVE list) created by Garnier and Schmitt (2015). This list was chosen since it is the only frequency list that includes not only the most frequent meaning senses in the Corpus of Contemporary American English but also their most frequent meaning senses. In addition, this study aims to investigate the frequency of occurrence of these highly frequent phrasal verbs and their frequent meaning senses in the six textbooks. Research has shown that frequency of occurrence plays a vital role in the acquisition of new words (e.g. Peters, 2014; Webb et al, 2013; Webb 2007; Chen & Truscott, 2010; Rott, 1999; Eckerth & Tavakoli, 2012; Laufer & Rozovski- Roitblat, 2011). In other words, the more

encounters with a word the better this word will be known. The limited research that examined the role of frequency of exposure in the acquisition of formulaic language (mainly the acquisition of collocations through incidental and explicit instruction) highlighted the importance of repetition in the acquisition of formulaic sequences. Ergo, it is important to investigate whether there is enough repetition of both phrasal verbs and phrasal verb meanings in the textbooks under investigation. To my best knowledge, no study has sought to examine this in the past.

The second study aims to examine Greek-Cypriot learners of English knowledge of a sample of phrasal verb meaning senses at recall and recognition level. The items tested were included in the PHaVE List (Garnier & Schmitt, 2015) and were also shared by the two textbooks used by the learners. Therefore, we could account for both corpus frequency (as identified by the PHaVE list) but also textbook frequency. In this way we made sure that we tested indeed the most frequent phrasal verbs and phrasal verb meanings in learners' language input. In addition, this study investigates the effect of a number of language exposure factors on this knowledge (i.e. time spend watching films in the target language, time spend reading in the target language, time spend listening to songs in the target language, time spend on social media and time spend in an English Speaking country. Lastly, in order to validate the lexical items included in the form-recall test, 20 participants also took part in an interview.

The third and final study aims to investigate teachers' beliefs about phrasal verb learning and teaching. The classroom is where students are mainly exposed to the foreign language and one of the main sources of language input is through the teacher. Therefore, the role of the teacher and their views on phrasal verbs is important and should not be ignored. In fact, the teacher is one of the most important tools that can affect students' learning process. Research has shown that teachers' beliefs can affect both the classroom learning experience and the students' outcomes (e.g. Brophy & Good, 1986; Wang et al, 1993; Borg, 2001). Harste and Burke (1977)

and Kuzborska (2011) said that teachers make decisions about their classroom teaching based on beliefs they have about language teaching and learning. They emphasized that teachers' beliefs have a great impact on their aims, procedures and on their learners. Therefore, teachers' beliefs about phrasal verbs can affect learners' classroom experience and possibly their knowledge of phrasal verbs.

1.3 Cypriot Context

1.3.1 History of English in Cyprus

1.3.2 The current Situation

Currently, English language is very prominent in Cyprus and it is a compulsory subject at both public and private schools. English is omnipresent in the everyday life of Greek-Cypriots through the media, the use of internet and most importantly due to tourism. Cyprus, an island in the Mediterranean Sea is a popular tourist destination and the language used to communicate with tourist is English.

Currently, a substantial proportion of English teaching sessions are allocated in Primary schools. English as a foreign language is introduced in year 4, for two session per week, one hour each. In lower-secondary schools (Gymnasium) students attend 4 periods per week. This means that a language learner in Cyprus will undergo at least 8 years of compulsory English Instruction and will have an adequate number of English classes in his school journey. In addition, since students are obliged to take tests such as IELTS, GCE and the First Certificate for further education or for career reasons most language learners also attend English lessons in private language schools. Thus, in total, learners may undergo at least six hours of English instruction per week.

Concerning methodology, the ministry of education in Cyprus, motivates teachers to use a variety of techniques and principles in classrooms. The lessons should also be less teacher-centred and more learner-centred. According to the guidelines of the Ministry of education, a more communicative approach to teaching should be adopted.

However, due to the large amount of materials that teachers have to cover, most ELT classes in Cyprus devoid the speaking element in the classroom and focus mostly on grammatical aspects. Based on my own observations and experience as a language teacher in Cyprus, learners struggle to produce language and their underdeveloped productive skills have a negative effect in their communicative competence.

The selection of instructional materials depend on the type of school learners are attending. In public schools, the textbooks are selected by the Cypriot Ministry of Education, while in Private schools, the textbooks are chosen by the owner/s of the Schools. Importantly, students in Cyprus, also attend afternoon English classes in private schools called *frontistiria* where materials are again selected by the owner/s of each school. Frontistiria is a type of private cram school in Greece and Cyprus. Textbooks are the main language tool and lessons tend to be organised around them.

1.4 Significance of this study

This thesis is hoping that the overall findings of the three studies will shed some light on one of the most challenging features of English language, the English phrasal verb. The first study aims to examine whether the most frequent phrasal verbs and their most frequent phrasal verb meanings (as operationalised in the PHaVE List) are included in the six textbooks under investigation. In addition, the study aims to examine whether there is enough repetition of phrasal verbs and their meanings in the textbooks. This, hopefully, will raise the awareness of textbook writers and curriculum designers on the teaching of phrasal verbs, an element of English language which is important for learners to learn in order to gain fluency and native like speech. We are also hoping that writers will be made aware of the importance of a more systematic way of selecting suitable and relevant contents with respect to phrasal verbs: the use of corpus data (i.e. corpus-based), instead of relying on their intuition. This study will hopefully also highlight the importance of accounting for the polysemous nature of phrasal verbs and hence adapt a more systematic way when selecting which meanings to include in textbooks and classroom materials. Lastly, the first study highlights the lack of repetition in the instructional materials. Vocabulary repetition has been proven to facilitate vocabulary repetition and ergo is a crucial factor to be taken under consideration when designing language textbooks.

The second study aims to investigate students' knowledge of phrasal verbs and phrasal verb meanings and to identify the factors affecting phrasal verb acquisition. Therefore, we hope that the study will raise awareness to both teachers and learners about the difficulties of phrasal verb learning. It is also hoped that this study, will enable teachers to adopt a more effective pedagogical approach when dealing with phrasal verbs and use a variety of materials and techniques to present and teach phrasal verbs. Advising students to read English written materials and watch English spoken films could facilitate phrasal verb learning. Importantly, the study further supports the notion that phrasal verbs are a source of major hurdle for learners, who struggle to cope with them both receptively and productively.

Lastly, the third study hopes to shed some light on teachers' beliefs about phrasal verbs. Teachers beliefs and philosophies affect their teaching approaches. Therefore, it is important to decipher their beliefs about this challenging word construction, in order to better understand how these beliefs can affect their teaching practices and as a result students' learning. To my best knowledge, no study so far, has examined teachers' beliefs about formulaic language and phrasal verbs.

Taking the findings of the above studies into consideration, we may conclude that learners' deficiencies in the recognition and production of phrasal verbs may be "material and teaching induced" (a term first adopted by Gouverneur (2008)). In other words, it seems that the input students receive in the classroom (either through their textbooks or their teachers' speech) affect their knowledge of phrasal verbs. The above studies highlight the need to adopt a more well-rounded approach when dealing with phrasal verbs that will take into consideration; native speakers frequency findings, textbook frequency indications, second language acquisition findings and teachers' beliefs. This approach is represented in Figure 1.

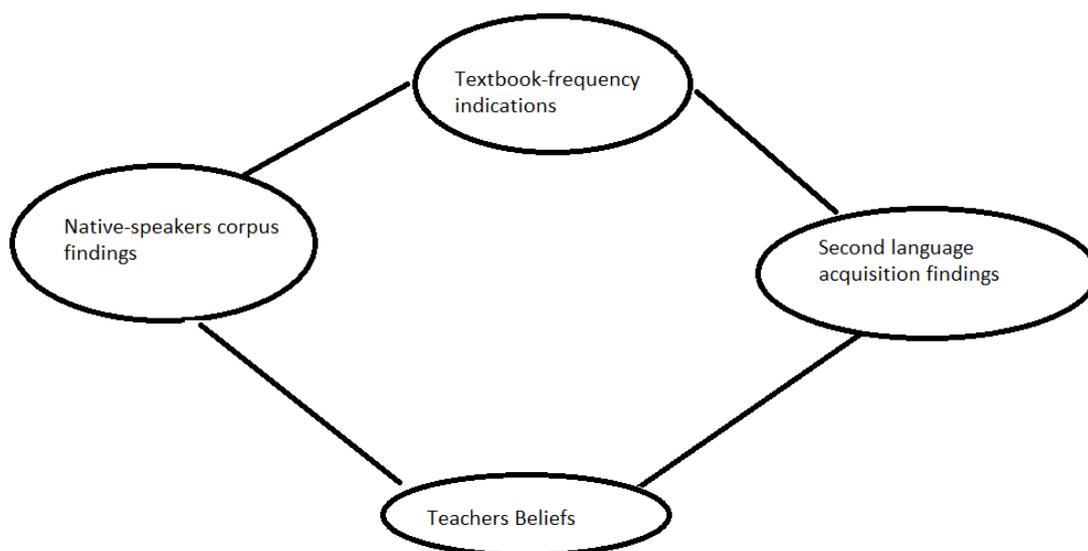


Figure 1 Dealing with phrasal verbs in an EFL classroom: Aspects to consider

1.5 Thesis Outline

In Chapter 2, I will provide a review of the literature relevant to the scope of this thesis. Chapters 3, 4 and 5 will present the three original studies I have carried out for this thesis each involving their own research questions and methodologies but nevertheless being related to one another. Each chapter begins with its own literature review discussing issues that are specific to the scope of the study. Hence, unavoidably some repetition with the literature review of this chapter will occur. Then, a detailed account of the methodology employed for each chapter is provided. Following the presentation and discussion of the results the implication for pedagogy are explained. It is crucial to mention that each chapter was formatted according to the authors guidelines of the academic journal that will be submitted. The first two studies (Chapter 3 and Chapter 4) are co-authored with my supervisor Dr Sophia Skoufak

Chapter 2

Literature Review

2.1 Formulaic Language and Formulaic sequences

Formulaic language research has proliferated in recent years, as computer advancements have allowed researchers to effectively search recurring multiword strings in large corpora. Throughout the years different definitions of formulaic language have emerged that included different terms for formulaic items. Wray (2002), in her seminal book on the topic has identified more than 50 such terms; conventionalized forms, formulaic speech, multi-word units, prefabricated routines, ready-made utterances and stereotype phrases to name some. However, when looking closer at the different definitions we can conclude that the variety derives from the different aspect of formulaicity that is being examined. For example, lexical phrases focus on the functional use of formulaic language, while prefabricated utterances or chunks emphasize the holistic processing that supposedly takes place with formulaic language (Nattinger & DeCarrico, 1992).

This thesis, inspired by the widely cited definition by Wray (2002) will refer to formulaic language as the overall phenomenon, while it will refer to formulaic sequence as “A sequence, of contiguous or non-contiguous words or other elements that can vary in their degrees of semantic transparency” (p. 9).

This definition brings forward both structural and semantic components. Firstly, the degree of adjacency varies. More precisely, formulaic sequences can be completely fixed or, can include gaps between them. For example, in the case of the phrasal verb *take off* the following two sentences are both acceptable:

a) I *took off* my hat

b) I *took* my hat *off*

Secondly, formulaic sequences can be both semantically transparent and idiomatic. According to Moon (1998, p.8) idiomaticity of formulaic sequences suggests that “The meaning arising from word-by-word interpretation of the string does not yield the institutionalized, accepted, unitary meaning of the string”. In other words, it is not always possible to deduce the meaning of a formulaic sequence by looking at the sum of the meanings of its components. Idioms are an excellent example of non-compositionality. For instance, the idiom *Kick the bucket* means that someone has died; the additional meanings of kick + the + bucket (the literal meaning of the sequence) do not make sense. Idioms are the most obvious example of formulaic language and have thus attracted a great deal of research attention ((Kuiper, Columbus & Schmitt 2009; Skoufaki 2008).

2.2 Types of Formulaic sequences

2.2.1 Lexical phrases

2.2.2. Collocations

2.2.3 Lexical bundles

2.2.4 Idioms

2.3 Ubiquity and functions of formulaic language

2.4 What are phrasal verbs?

Phrasal verbs are an intrinsic part of English language. While phrasal verbs are colloquial in tone and mainly a feature of informal speech they can also be found in more formal setting such as in academic English (*e.g. to sum up an argument*). While they are ubiquitous in English language (Biber et al, 1999; Gardner & Davies, 2007; Liu, 2011) providing a definition of them is not an easy task. On the contrary, it is a very difficult task and phrasal verbs are often considered a somehow fuzzy lexical category of English. One of the main reasons for this is that what is a phrasal verb to some members of the language community does not necessarily need to be to all the other members of the language community. In fact, Darwin and Gray (1999) claim that the lack of understanding of what phrasal verbs are, derive from the lack of agreement between the researchers as to what items can be included in the category of phrasal verbs.

While attempting to classify and define phrasal verbs various terms have been used to refer to this language form, such as separable verb (Francis, 1985), two word verb (Taha, 1960; Siyanova and Schmitt, 2007) and verb particle combinations (Frazer, 1974). This study adopts the term phrasal verbs as it is the most general term used by researcher studying this language phenomenon and it is also the term used by Garnier and Schmitt (2015) in their PHaVE frequency list, that it is also the frequency list used in this study. Adding to that, the term phrasal verbs is a common term used in the teaching and learning environment including reference materials (*e.g. students' textbooks*).

Some researchers adopt the term phrasal verb to refer to the combination of a lexical verb (LV) and an adverbial particle (AVP) while the combinations of a lexical verb with a preposition are called prepositional verbs (*e.g. Frazer, 1974; Quirk et al, 1985*). In addition, some phrasal verbs require both an adverbial particle and a preposition (*e.g. make up for, catch up with*) and those

are often referred as phrasal-prepositional verbs. In particular though, the distinction between phrasal and prepositional verbs is a difficult one to make. The example below will illustrate how certain word combinations can also act a prepositional verb and as a prepositional particle (PRP) in phrasal verbs:

a) *James run into the office.* Lexical verb + Prepositional particle

b) *James ran into Sarah at the office.* Lexical verb + adverbial particle

Therefore the above example clearly illustrates that while in phrasal verb word constructions the lexical verb and the adverbial particle act as whole unit (*run into Sarah*) in the case of prepositional verb the lexical verb and the preposition act in isolation. For example, in the sentence *James run into the office*, the preposition into is part of the preposition phrase *into the office*.

In order to avoid confusion, this thesis will adopt the term particle to refer to both adverbial particles and prepositional particles in a phrasal verb construction.

As far as the definition of PV is concerned, many different theories have been proposed to define phrasal verbs. Interestingly though, when we look closer at these definitions we can conclude that they mainly differ over what syntactic and semantic characteristics are used to classify this word construction (Biber et al, 1999; Celce-Murcia & Larsen-Freeman, 1999; Darwin & Gray, 1999; Gardner & Davies, 2007). One of the most clearly articulated definition of phrasal verbs is the one developed by Darwin and Gray (1999, p.76-77) and is an adaptation of the definition developed by Quirk et al (1985): "A phrasal verb consists of a verb proper and a morphological invariable particle that function together as a single unit both lexically and syntactically". From this definition two main characteristics of phrasal verbs are derived; the first is a syntactic one that claims that a phrasal verb is a verb followed by a particle which is

morphologically invariable and function as a single grammatical unit. The second characteristic is a lexical one and states that phrasal verb function as single lexical unit. This characteristic is evidenced by phrasal verbs that can be replaced by one-word equivalent. For example, in the sentence *Can you please take off your coat* the phrasal verb *take off* can be replaced with the verb *remove* and the sentence can still keep its meaning, *Can you please remove your coat?*

Celce-Murcia and Larsen-Freeman (1999) on the other hand defined phrasal verbs based on semantic criteria. More precisely, they described three semantic categories of phrasal verbs; literal, aspectual and idiomatic. The first category, literal phrasal verbs is comprised by phrasal verbs that its constituents seem to retain their individual meaning (*e.g. stand up, hand out, fall down*). Someone may claim that these combinations are not phrasal verbs but rather combinations of a lexical verb and a directional prepositional verb. However, as the researchers also acknowledge for pedagogical purposes they will also be classified as phrasal verbs. The second category, are the aspectual phrasal verbs which are in the middle of the spectrum of idiomaticity. In other words, the particles of this category are neither literal nor idiomatic but rather contribute meanings about the verb's aspect. For example, in the sentence:

Can you drink the milk up.

The lexical verb *drink* is used in each literal sense and the particle *up* is used to show the notion of completion. On the other end of the spectrum we have idiomatic phrasal verbs such as *chew out, tune out, put off etc.* The meanings of these phrasal verbs cannot be derived by adding up the meanings of each constituent. For instance, the phrasal verb *go through* in the sentence *He has gone through a lot over the past few years (suffer a lot)* is an idiomatic one as its constituents appear to have lost their meanings.

However, one problem of the categorization of PVs in semantic categories is polysemy. It is generally agreed that many PVs are polysemous and can have more than one meaning.

Therefore, it is quite impossible to say that a PV belongs to a particular group as the meaning of a phrasal verb depends on the context to which is being used. The following two sentences better illustrate this:

She *picked up* her coat and left - Literal phrasal verb

She *picked up* Italian when she was in Rome - Idiomatic phrasal verb

So, how do we classify pick up? Is it a literal phrasal verb or an idiomatic phrasal verb? In reality, it is not easy to have a clear-cut classification of phrasal verbs and they cannot easily be placed in the above categories.

To further complicate the matter, Darwin and Gray (1999), Biber et al. (1999) and other researchers, refer to literal verb+ particle combinations (e.g. *go in, go on etc.*) as free combinations rather than phrasal verbs, as their meanings can be derived from adding up the meanings of its components. However, it should be noted that these combination share most of the characteristics of their figurative counterparts and therefore they can be classified as phrasal verbs. Textbook writers and curriculum designers do in fact consider these combinations as phrasal verbs, something that helps confusion to be avoided among students. Sawyer (2000) support this act as he claims that to avoid confusion and reduce avoidance such combinations should be considered as phrasal verbs.

For my study, I decided to use Gardner and Davies' (2007) definition of PVs that is a more functional and objective definition. The researchers classify phrasal verbs as any two-part verbs "consisting of a lexical verb (LV) proper followed by an adverbial particle (tagged as AVP) that is either contiguous (adjacent) to the verb or non-contiguous (i.e. separated by one or more intervening words" (p. 341). The reason for choosing this definition is because this definition was adopted by Garnier and Schmitt (2016) for the development of the PHaVE frequency list.

The PHaVe list, was used as a reference to carry out the two main studies of this thesis (See Chapter 4 and 5).

2.5 Characteristics of Phrasal Verbs

Knowledge of the different phrasal verb characteristics can potentially aid phrasal verbs acquisition. To begin with, a notion closely related to phrasal verb is that of transitivity (Quirk et al.: 153). Phrasal verbs can be both transitive and intransitive. Transitive PVs take a direct object that is either a noun phrase (*switch of the lights*) or a clause (*My sister found out that her husband was cheating on her*) while intransitive phrasal verbs cannot take a direct object (*the plane will take off in 10 minutes*). In some cases, phrasal verbs can be either transitive or intransitive as in the case of the phrasal verb *wake up* which is transitive in the sentence *Can you please wake me up at 6 in the morning* but intransitive in the sentence *I tend to wake up at 6 in the morning*. As far as this study is concerned, I will not be concerned with transitivity of phrasal verbs.

Another important notion closely related to phrasal verbs is that of non-separability in other words “the inability of the particle to be moved to a position after a noun phrase” (Quirk et al., p.1156) This concept is closely related to the notion of transitivity as most transitive phrasal verbs are also separable in the sense that the particle can be moved after the object and be separated from the lexical verb. For example, the phrasal verb *turn on* can occur in both sentences:

Please *turn on* the lights

Please *turn* the lights *on*.

Another frequently discussed concept related to phrasal verbs is that of idiomaticity. Through the examination of this issue different terms arose such as transparent, literal, non-literal, figurative. The terms transparent and literal usually convey the same meaning and are used opposed to non-literal / figurative verbs in several studies (Dagut and Laufer, 1985; Liao and Fukuya, 2004). Linguists, historically, put phrasal verbs as a part of a continuum where literal verbs are on one end and non-literal phrasal verbs are on the other end of the continuum. Literal phrasal verbs are the ones where the meaning of the phrasal verb as a whole can be conveyed by its individual parts while the non-literal phrasal verbs are verbs whose meaning cannot be conveyed by combining their individual parts.

2.6 Corpus based phrasal verb frequency list

One of the main concerns of teachers and textbook designers is to decide which lexical items to include in the textbooks. According to Liu (2011) a frequency criterion seems to be the most appropriate since ideally students should be exposed to authentic language. In addition, frequency is a more reliable criterion than pure writers' intuition as the second may lead to presenting students with low usefulness lexical items (Hunston, 2002).

As far as phrasal verbs are concerned a number of corpus studies investigated the frequency of phrasal verb use in the corpora. The Longman Grammar by Biber et al. (1999) is the first phrasal verb corpus based frequency list. The researchers included phrasal verbs with a frequency count of over 40 times per million words in at least one register of either the Longman Spoken and Written English corpus. Their search resulted in a list of the 31 most frequent phrasal verbs such as stand up, sit down, go off etc. Interestingly, the researchers concluded that five verbs were highly productive when combining with adverbial particles to form phrasal verbs; The verb come and put (combining with 12 different particles), get (combining with 11 different particles), go (combining with 10 different particles), and take

(combining with nine different particles). Similarly, six adverbial particles were identified as the most frequent; down, in, out, on, and off. What is more, phrasal verbs were classified in their semantic domains, such as communication (e.g. point out), occurrence (e.g. come off), aspectual (e.g. go on), copular (e.g. turn out), mental (e.g. find out), and activity (e.g. get up). Lastly, the relative frequencies of these 31 most phrasal verbs were investigated within each of four register types (conversation, fiction, news reportage and academic prose). This search showed that phrasal verbs occur almost 2000 times per million words in fiction and conversation. It is important to mention here that the researchers did not include literal phrasal verbs since they considered the combination of a lexical verb + particle as free combinations.

Following up on the work of Biber et al. (1999), Gardner and Davies (2007) conducted a corpus-based study of phrasal verbs in the British National Corpus (BNC) and identified the 100 most frequent phrasal verbs in the corpus. Seeking to validate and extend the list of the most frequent phrasal verbs presented in the Longman Grammar by Biber et al. the researchers identified the 100 most frequent phrasal verb constructions in the 100-million-word corpus. According to the researchers' phrasal verbs are "all two-part verbs in the BNC consisting of a lexical verb proper [...] followed by an adverbial particle [...] that is either contiguous (adjacent) to that verb or non-contiguous (i.e. separated by one or more intervening words)" (341). The researchers lemmatized the outcome so that the inflection forms of a verb were counted together. Defining the phrasal verb is a crucial starting point for any frequency list as a different definition could have potentially yielded different results.

The researcher concluded that only 20 lexical verbs were found in phrasal verb word constructions account for the 53.7% of all phrasal verbs in the BNC. In addition, when these verbs are combined with only eight particles can account for the 50.4% of all the phrasal verbs in the BNC. Lastly, the researchers concluded that 25 phrasal verb lemmas make up of almost one third of all the phrasal verb occurrences in the BNC while 100 make up 51.4%. Importantly,

the researches also concluded that phrasal verbs are highly polysemous and that learners will encounter on average one phrasal verb in every 150 words of English they are exposed to. Even though, Gardner and Davies' was the first large-scale corpus study of phrasal verbs, it is not without limitations. As the authors point out themselves the researchers did not investigate the frequency of these phrasal verbs among registers and varieties of English.

In an attempt to account for the above limitation, Liu (2011) carried out a corpus search in order to identify the most frequent phrasal verbs in both the COCA and the BNC. Liu examined all the phrasal verbs already included in Biber et al.'s (1999) and Gardner and Davies' (2007) lists. Interestingly, he pointed out a high degree of overlap between the two; only four of Biber et al.'s 31 phrasal verbs were not in Gardner and Davies' list of the top 100 phrasal verbs. In addition, to searching this 104 combined phrasal verbs in the COCA, tried to identify the other most frequent phrasal verbs in both COCA and BNC and used four recent comprehensive phrasal verb dictionaries as a guide. He searched, in total, for 8,847 phrasal verbs (5,933 extracted from the dictionaries, and 2,914 extracted as a by-product of his own query method). It is important to mention that the threshold for inclusion in his frequency list was 10 tokens per million words, for the three reasons. Firstly, 70 % of the 104 phrasal verbs on the Biber et al.'s and Gardner and Davies' combined list each have at least 10 tokens per million words. Secondly, a lower frequency threshold would mean that many more phrasal verbs would have been included in the list something that according to Liu (2011) would mean that the least will not be meaningful. Thirdly, the top 100 phrasal verbs identified by Gardner and Davies were reported to account for more than half of all the phrasal verb occurrences in the BNC. The final list contained only 152: Biber et al.'s and Gardner and Davies' combined list, and an additional 48 phrasal verbs. Liu notes that these 152 most frequent phrasal verbs cover 63 % of the total 512,305 phrasal verb occurrences, which "helps demonstrate the representativeness and hence the usefulness of these most frequently used phrasal verbs" (668). He also points out phrasal

verb use appears similar among the two varieties of English; American and British. The researcher combined look around with look round and turn around with turn round, in list in the end contained 150 items. However, this frequency list is not without limitation, as the researcher did not account for polysemy.

In order, to account for this limitation, Garnier and Schmitt (2015) created the Phrasal Verb Pedagogical List (PHaVE list) that identifies the most frequent meanings of the 150 most frequent phrasal verbs previously identified by Liu (2010). The list also provides definitions and example sentences, an element that makes the list practically useful to language teachers and to language learners. The researchers analysed the 150 most frequent phrasal verbs included in Liu's list because this list has the advantage of including items that had been identified by three different studies that used different corpora and different procedures. In addition, it is a list that includes items from two varieties of English, British and American English.

Following Liu's steps the researchers decided to have a similar coverage threshold for an item to be included in the list. The researcher decided that a threshold of 75 % is optimal. Therefore, all the meaning senses included in the PHaVE List for each phrasal verb accounted for at least 75 % of all occurrences of this item in my corpus search. However, as according to the researchers there were numerous cases that the primary meaning sense did not reach 75 % coverage they decided to have a lower-end threshold 10 %. In other words, this means that all the meaning senses included in the PHaVE List accounted for at least 10% of the phrasal verb's occurrence in my corpus search. As the researchers wanted to create a preliminary list of the different meaning senses they used a variety of well established English dictionaries as well as a lexical database. Namely the Cambridge Dictionaries online, the Oxford Dictionaries, the Oxford advanced learners' dictionaries, the Merriam-Webster, the Collins Dictionaries, the Macmillan Dictionary, the English phrasal verbs in use for intermediate and advanced as well as the Word Net Search 3.1. They used the COCA to query for the phrasal verb meanings as it

has the advantage of being relatively large and is balanced across different registers. Their final product, the PHaVE list included two meaning senses under each phrasal verb on average on average ($288/150 = 1.9$). This led the researchers to conclude that an average of two meaning senses is enough to cover 75 % of the occurrences of the 150 most frequent phrasal verbs in the COCA. Also, the researchers found out that the average coverage percentage afforded by the included meaning senses for each phrasal verb is 83.4 %.

2.7 Approaches to teaching formulaic sequences

2.8 Phrasal verbs and language learners

Different studies have been carried out to investigate the use of phrasal verbs by non-native speakers. Unfortunately, the findings confirm that PVs is one of the most challenging linguistic feature and learners face a lot of difficulties in acquiring them (Dagut and Laufer 1985; Hulstijn and Marchena 1989; Laufer and Eliasson 1993; Liao and Fukuya 2004; Siyanova and Schmitt 2007). These researchers revealed various reasons as to why PVs were found to be problematic for language learners. They also concluded that students would even avoid using them whenever is possible.

An early contribution to research on the avoidance of PVs was conducted by Dagut and Laufer (1985) who looked at Israeli learners' use of English PVs. The researchers specifically focused into the frequency of avoidance of three types of PV (literal, figurative and completive). The results show that the majority of the learners taking part in their study avoided the use of phrasal verbs and instead preferred the one-word verbs equivalents. In addition, they concluded that the learners particularly avoided figurative phrasal verbs. This finding is not surprising since the learning load in the case of figurative PVs is particularly heavy.

A follow-up study on avoidance was conducted by Hulstijn and Marchena (1989), which was based on the conclusion drawn by Dagut and Laufer (1985). Hulstijn and Marchena (1989) hypothesize that Dutch learners would not avoid PVs for structural reasons, as they have the same syntactic feature in L1, but that they would avoid PVs for semantic reasons; learners would find figurative phrasal verbs more difficult than literal phrasal verbs. Their results revealed while Dutch learners (both intermediate and advanced) did not avoid PVs in general they did avoid idiomatic PVs that have Dutch equivalents. This reveals that idiomatic PVs seem to present a difficulty even when the learners' L1 and L2 are similar in the use of the form.

This led the researchers to conclude that structural differences of L1 and L2 are not the only reason for PV avoidance, but similarities between L1 and L2 are also possible reasons.

Similarly, Laufer and Eliasson (1993), identify three possible causes of syntactic and lexical avoidance: (a) L1-L2 differences (b) L1-L2 similarity, and (c) L2 complexity. In their study of avoidance they concluded that PVs were avoided by learners whose L1 lacked such a grammatical structure (Hebrew) but were not avoided by those who possessed such a structure in their L1 (Swedish). Phrasal verbs are a feature of Germanic languages therefore their acquisition and production is possibly easier for the children's that their L1 possesses the structure. It is interesting though that the Dutch learners in Hulstijn and Marchena's (1989) study avoid idiomatic PVs while Swedish learners in Laufer and Eliasson's (1993) did not. One possible reason to this contradictory finding is perhaps due to the types of PV analysed. More specifically, while Laufer and Eliasson (1993) looked at PVs as a whole, Hulstijn and Marchena (1989) conducted detailed analysis on different types of PV (idiomatic and non idiomatic).

Another study of avoidance of PVs was conducted by Liao and Fukuya (2004) who examined the avoidance of English PVs by Chinese learners of English, who do not have the structure in their L1. Their results indicate that intermediate learners produced phrasal verbs much less advanced learners and native speakers. In addition, interestingly, figurative PVs were avoided by the intermediate learners but not really avoided by the advanced learners, which suggests that "learning seems to have counteracted the effects of L1-L2 difference for the advanced learners of English" (Liao and Fukuya 2004: 211). Thus, contrary to past findings, Liao and Fukuya (2004) claim that the avoidance or non-avoidance of PVs could be "a manifestation of learners' interlanguage development rather than the L1-L2 differences or similarities" (198). In other words, as learners' knowledge of the second language expands the task of learning phrasal verbs becomes easier.

A recent study by Siyanova and Schmitt (2007) investigated the use of figurative sequences (the researchers name multiword units) by advanced learners of English as compared to native speakers in both spoken and written contexts, to find whether exposure to an L2 environment plays a role in the use of 'multi-word verbs' by language learners. They carried out a frequency analysis of 26 phrasal verbs and their one-word equivalents in the BNC and CANCODE (a corpus for native written and spoken English) on one hand, and the ICLE (for non-native written English) on the other hand. The results showed that for almost 70 % of the verb pairs, the one-word verbs were more frequent than the phrasal verbs, both in written (BNC) and spoken discourse (CANCODE). The non-native corpus analysis showed that learners used phrasal verbs similarly to native speakers in the BNC. However, prefer to use the one word equivalent of phrasal verbs.

A number of studies attempted to test knowledge of phrasal verbs by nonnative speakers of English. Schmitt and Redwood (2011) measured the productive and receptive knowledge of L2 phrasal verbs the effect of a number of factors on this knowledge. Their participants were 23 students of intermediate level and 45 students of upper intermediate level. In their study they tested 60 phrasal verbs the majority taken from Gardner and Davies (2007) frequency list. The data collection phase required students to complete a receptive and a productive test in the form of a form recall and meaning recognition test. Participants had to also complete a biodata questionnaire with personal information. The findings revealed that frequency plays a major role on phrasal verb acquisition; students at both receptive and productive level had better knowledge of the most frequent phrasal verbs rather than the less frequent ones. The researchers also concluded reading English book or magazine and watching English television facilitates learning. While this study provided with valuable information about phrasal verb knowledge it did not account for polysemy.

Chen (2013) further explored the relationship between phrasal verb frequency and learners' knowledge. In her study, Chen investigated the use of phrasal verbs by Chinese university students' on comparison with the American and British corpora. To do so, the researcher utilized a corpus of learners' English along with four native corpora of two English varieties and genres (argumentative and academic writing). The results indicated significant positive correlations between the frequency rankings of the most frequent 50 phrasal verbs in the BNC and COCA and their frequency in the Chinese learners' corpus. Chen, interpreted this results as a sign that high frequency of occurrences does lead to learning and eventual production of phrasal verbs by EFL learners. Nevertheless, the study was not without limitations as the researcher used frequency rankings instead of frequency counts and did not account for polysemy.

In order to account for some of the above limitations, Garnier and Schmitt (2016) further investigated L2 learners' productive knowledge of highly polysemous phrasal verbs and the effect of frequency, semantic opacity and exposure factors such as L2 instruction and L2 engagement in leisure activities on phrasal verb knowledge. The researchers recruited 128 students on a BA English/ TEFL Course in two Chilean Universities. Participants were asked to complete a form recall test in the form of gap fill sentences. The items (50 items) included in the test were selected from the PHaVE list (Garnier and Schmitt 2015) via a random number generator. The participants also completed a biodata questionnaire in order to explore the effect of a number of factors in the acquisition; L2 instruction, L2 immersion and L2 engagement.

Results indicate that participants mean scores were quite low at 40.6 % which is less than half of the items in the test. The mean scores of participants on the most frequent meaning sense is slightly higher at 44.5%. Looking at the individual meaning senses (up to the 4th one) the researchers concluded that the mean for each meaning sense is low, especially for the third one (31.6%). Nevertheless, the knowledge did not drop in parallel as the fourth meaning sense is

nearly as high as the first one (44.3% and 44.5% respectively). This may be in part attributable to the fact that only three phrasal verbs had four meaning senses in the test. In addition to that, students may have not been exposed to all meaning senses based on their frequency. Students' primary exposure in the language classroom is through textbooks that do not necessarily base their selection on frequency criteria. As far as the factors that can be identified to play a role in phrasal verb acquisition, the researchers conclude that semantic opacity did not have any significant effect on phrasal verb knowledge. Similarly, L2 instruction, immersion in L2 environment and year of BA study did not have any effect on knowledge. The mixed method model showed a positive relation between knowledge and time spend reading and on social media. Lastly, the results showed no relationship between listening to music and watching English film.

Even though the study offered valuable insight on learners' phrasal verb knowledge it focused only on the frequency of the phrasal verbs and their meanings in the corpus. However, corpus frequency does not necessarily ensure that students have been exposed to these phrasal verbs meanings as textbook writers often do not base their selection on frequency criteria but rather on intuition (Koprowski, 2005). The researchers, themselves also pointed out, the fact that knowledge did not drop in parallel may be because students were not exposed to the most frequent meanings in their classroom.

The following section will review the literature pertaining the distribution of phrasal verb in English language textbooks and reference materials.

2.9 Phrasal verbs in English language textbooks

Textbooks play a central role in classrooms and are a powerful tool in language teaching. Researchers have indicated the importance of textbooks as sources of information and guidance

for teachers (e.g. Jimenez and Mancebo, 2008). However, research so far reveals that textbook writers do not base their selection of phrasal verbs on frequency criteria.

Darwin and Gray (1999) developed a list of the 20 most frequently occurring verbs in the BNC and they then compared it with the frequently occurring phrasal verbs in a typical ESL textbook. The results were striking. Only three phrasal verbs from the list of the most frequent phrasal verbs were included in the textbooks. Therefore, this led the researchers to conclude that learners were not introduced to the most frequent phrasal verbs and that textbook writers based their selection on mostly intuition rather than frequency criteria.

Likewise, Koprowski (2005) examined the usefulness of lexical phrases in three contemporary textbooks. The results of the study revealed that not even a single item was found to be shared by the three textbooks. Based on the lack of consistency between the items in the textbooks he concluded that researchers do not follow any criteria when choosing which phrasal verbs to include in the textbooks and rather base their selection on their intuition.

In a more recent study, McAleese (2013) investigated the presentation of formulaic sequences in a contemporary ELT textbook namely the English First hand 1 the 4th edition used for general courses in Japan. Formulaic frequencies from the vocabulary lists in the appendix were located and then the Bank of English was used to determine their frequency and range. The results of this study also suggested that the criteria for selection of multi-units words including phrasal verbs were based on writers' intuition and "may be unrepresentative of authentic language and therefore have limited value to the learner" (McAleese 2013: 321).

From the above discussion, we may conclude that the previous research carried out on the selection of phrasal verbs in ESL textbooks have shown that textbook writers base their decision mainly on intuition rather than research finding. However, previous research on textbooks materials did not account for the polysemy of phrasal verbs. Therefore, this study

aims to examine in depth whether and how the different senses of phrasal verbs are presented and also to investigate how often these items are recycled in the textbooks.

2.10 Polysemy and phrasal verbs

2.10.1 What is polysemy?

According to Crossley et al (573) a polysemous word is a word that can have more than one meaning sense and that these meanings should be related to each other. For instance, a search of the word *book* in the Online Oxford learners dictionary will yield the following meanings:

1. a set of printed pages that are fastened inside a cover so that you can turn them and read them
2. a written work published in printed or electronic form

Therefore, we can see that the above meanings are related to each other as they are all referring to an object that we use to read. A search of the word *bank* in Online oxford learners' dictionary yielded the following meanings:

1. an organization that provides various financial services, for example keeping or lending money
2. a supply of money or things that are used as money in some games, especially those in which gambling is involved
3. the side of a river, canal, etc. and the land near it
4. a raised area of ground that slopes at the sides, often at the edge of something or dividing something

In the above example, while the first and the second meaning are related to one another in the sense that they both referring to money, the third and fourth sentence the meanings of bank are unrelated to the first and second meaning.

Therefore, since polysemous words have related meanings how can we classify the word *bank*?

In this point it is important to distinguish between two commonly confused concepts the one of polysemy and homonymy. These two terms traditionally are used to refer to the phenomenon of multiple meanings. Homonymy, however, refers to unrelated senses of the same phonological word (Saeed, 2009), while, polysemy refers to multiple meaning senses of a word that are related to each other. However, drawing a distinction between related and unrelated meanings is not a straightforward task as there is no clear definition as to what should be considered related and what an unrelated meaning. Some proposed criteria are related to the etymology and speakers' intuition of the unrelatedness and relatedness of a meaning (Lyons, 1977). However, as a distinction between polysemy and homonymy is not the objective of this study we will not analyse the two concepts in depth.

Gardner and Davies (2007) in their corpus investigation concluded that each one of the top 100 phrasal verbs in their frequency list was estimated to have between 5 and 6 meanings senses on average. Similarly, Garnier and Schmitt (2015) while investigating COCA to find the most frequent phrasal verb meanings concluded that on average phrasal verbs have 1.9 meaning senses. Besides their polysemous nature, phrasal verbs vary in the spectrum of idiomaticity; they can be literal, aspectual or idiomatic. According to Rodriquez-Puente (201) phrasal verb meanings vary in idiomaticity because many of them possess an idiomatic meaning that was derived from a literal one. Therefore, in such cases phrasal verbs go through a process called *idiomatisation* or *lexicalisation* that is change of a literal phrasal verb meaning to an idiomatic meaning over time (Lewandowski, 1992; Thim, 2012). Therefore, based on the principle of *idiomatisation*, phrasal verb meanings are not random but are closely related as knowledge of

the literal meanings (known as core meanings) can aid the acquisition of the idiomatic meanings of that phrasal verb. Rodriguez-Puente (2012) in her corpus study showed how the literal meaning of the phrasal verb bring up *bring into a higher position* found in middle English developed to the more idiomatic meaning of *to bring into a higher age* and finally to the completely idiomatic meaning of *to educate* in the Early Modern English.

2.11 Research on Polysemy in an L2 context.

2.12 Polysemous phrasal verbs in dictionary versus in corpus studies

Phrasal verbs are polysemous and according to Gardner and Davies (2007) can have 5 to 6 meaning senses. Garnier and Schmitt (2015) in their frequency list concluded that the 150 most frequent phrasal verbs have on average 1.9 meanings. Researchers agree that phrasal verbs are highly polysemous lexical items however the figures of how polysemous the most frequent verbs of a corpus are vary. One possible reason for this is that the exact number of meanings per phrasal verb differ between different engines and materials. For example, Gardner and Davies (2007) used WordNet, a large lexical database of English to identify the meanings of the highly frequent phrasal verbs. However, when I investigated the meanings of the most highly frequent phrasal verbs in WordNet I came to the conclusion that such search can yield two different entries for the same meaning. For example, let us look at the phrasal verb work out that was also provided by Gardner and Davies (2007):

1. work out, work up (come up with) "His colleagues worked out his interesting idea";
"We worked up an ad for our client"
2. work out (happen in a certain way, leading to, producing, or resulting in a certain outcome, often well) "Things worked out in an interesting way"; "Not everything worked out in the end and we were disappointed"
3. work out (work out in detail) "elaborate a plan"
4. exercise, work out (do physical exercise) "She works out in the gym every day"

5. work out (be calculated) "The fees work out to less than \$1,000"

6. calculate, cipher, cypher, compute, work out, reckon, figure (make a mathematical calculation or computation)

In this example, the first and third meaning entry of work out seems to be the same that is to *think something in detail*. Similarly, the fifth and the sixth meaning entry seem to talk about the same meaning. Therefore, it is likely that some of the meaning senses have been overestimated.

Similarly, a dictionary search of the phrasal verb work out in the Macmillan online dictionary will yield 6 meanings senses two of which are redundant while the same phrasal verb will yield 3 meaning senses in the online Oxford learners' dictionary. Therefore, different sources list a different number of meaning senses per phrasal verb something that can potentially confuse learners.

Another interesting example is the phrasal verb go on. Garnier and Schmitt (2015) while investigating COCA identified that this phrasal verb has two most frequent meaning senses that cover 73.5% of all the meaning occurrences of that phrasal verb; *to happen and take place* and *to proceed to do or tackle something after doing something else*. Interestingly though, When I looked up the same phrasal verb in Oxford learners dictionary, my research yielded 10 meaning senses while the same phrasal verb in the Collins COBUILD Phrasal Verbs Dictionary (2012) yielded 22 meaning senses entries.

Therefore, from the above discussion we can conclude that different sources provide different meaning senses entries depending on their purpose. Dictionaries for instance, are tools that learners mainly use to identify the different meanings of a word. Hence, their purpose is to present exhaustive information, of a lexical item which means that they will contain a large number of entries for highly polysemous items such as the English phrasal verbs. On their other hand, Garnier and Schmitt's frequency list contains a list of fewer meaning senses per phrasal verb something that makes this list of pedagogical value.

2.13 Teachers' Beliefs

Chapter 3

Picked out from the crowd: Selection and repetition of polysemous phrasal verbs and their meanings in EFL textbooks

Abstract: Phrasal verbs (PVs) are a necessary learning target for English as a Foreign Language (EFL) learners because they occur frequently in EFL learners' input (Gardner and Davies 2007) and they are a sign of fluent speech (Siyanova and Schmitt 2007). However, PV learning and use pose challenges to EFL learners for various reasons, one of them being their tendency to be polysemous (Garnier and Schmitt 2016). Given the importance of textbooks as a source of English-language input for EFL learners (e.g., Tomlinson 2003), the present study examines the PV input that EFL learners receive through their textbooks. In particular, this study examines the occurrence and repetition rate of high-frequency polysemous PVs and their meaning senses in two EFL textbooks series commonly used in Cyprus. Results indicate that while these textbooks include an adequate number of high-frequency PVs, PVs are not repeated often. Only a small number of phrasal verbs are common between textbooks of the same proficiency level. Lastly, all textbooks in the two textbook series include low-frequency PV meaning senses. Implications for research and pedagogy are discussed.

Keywords: phrasal verbs, polysemy, EFL textbooks, word frequency, vocabulary repetition

3.1 Introduction

Learning phrasal verbs (PVs) is a worthwhile activity for English as a Foreign Language (EFL) learners for various reasons. First, PVs are very frequent in the English language. Biber et al. (1999) estimate that PVs occur approximately 2,000 times per million words in conversation and in fiction and Gardner and Davies (2007) estimate that learners will encounter, on average, one PV in every 150 words of English they are exposed to. Secondly, PVs tend to be polysemous (e.g., Gardner and Davies 2007; Garnier and Schmitt 2015) and their meaning senses may carry connotations that cannot be expressed by their one-word equivalents (Cornell 1985). Moreover, knowledge of PVs can potentially help learners develop fluency, while failure of using PVs can lead to unidiomatic and unnatural speech (Siyanova and Schmitt 2007).

In addition to being worthwhile learning targets, English PVs are also worthwhile teaching targets because research indicates that EFL learners find learning and using PVs challenging (e.g., Garnier and Schmitt 2016; Laufer and Eliasson 1993; Liao and Fukuya 2004). Learning difficulties with PVs can be attributed to various reasons. First, because PVs are found in Germanic languages, learners with Germanic native languages (L1s) may find PV learning easier than those with native languages that lack this construction (Liao and Fukuya 2004; Dagut and Laufer 1985). Furthermore, PVs are low in transparency, that is, at least some of their meaning senses are unpredictable. PVs are also composed by two or more orthographic words, working together as a single semantic unit. Learners, however, may try to decode the meaning of the individual words and misinterpret them. Finally, PVs tend to be polysemous. For example, Gardner and Davies' (2007) search of the British National Corpus (BNC) reveals that each of the 100 most frequent PVs in the corpus has on average 5.6 meaning senses. Given the limited

amount of L2 input foreign-language learners receive as compared to second-language learners, who are immersed in L2 settings, learners may not come across some of the meaning senses of PVs or may encounter them not enough times to learn them.

In many EFL classrooms, teaching centres around the textbook (Ghosn 2013; Matsuoka and Hirsh 2010; Nordlund 2016; Römer 2004). Therefore, research on EFL textbooks can have a significant impact on EFL teaching. Most studies on formulaic language in EFL textbooks examine collocations (e.g., Abello-Contesse and López Jiménez 2010; Tsai 2015) while studies on PVs have been scarce (e.g. Alejo Gonzales et al. 2010; Koprowski 2005). Furthermore, to our knowledge, no study has examined which PV meaning senses are presented in EFL textbooks and whether their selection follows specific criteria, such as native-corpus frequency, as recommended by vocabulary researchers (e.g., Gairns and Redman 1986). Finally, other factors being equal, the more a lexical item appears in the input of language learners, the more likely it is that it will be learned (Uchihara, Webb and Yanagisawa 2019); therefore, research examining whether high-frequency PVs and their meaning senses appear in EFL textbooks with the repetition rate likely to foster PV is necessary. Nevertheless, to our knowledge, no study so far has sought to examine a) whether high-frequency PVs and high-frequency PV meaning senses occur in EFL textbooks and b) whether they are repeated sufficiently to be likely to be learned. Such research, however, is needed as it can inform EFL materials design in terms of PV selection and repetition rate. This study aims to start filling these research gaps. It investigates the occurrence and recurrence of PVs and PV meaning senses included in two intermediate-level EFL textbook series commonly used in Cyprus.

3.2 Literature review

3.2.1 Vocabulary in EFL textbooks

EFL teachers tend to use textbooks as their main teaching material (e.g., Ghosn 2003; Hutchinson and Torres 1994; Tomlinson 2003; Abello-Contesse and López Jiménez 2010). This reliance on textbooks means that textbooks act as a syllabus (e.g., Drew et al. 2007; Lee 2005). In the area of PV instruction, interviews with 20 EFL teachers in Cyprus indicate that these teachers, particularly the novices, tend to teach only PVs included in the textbooks they are using (Chapter 5). Unfortunately, textbooks have been criticized for a lack of scientific grounding in vocabulary selection (Koprowski 2005; Gouverneur 2008; Rixon 1999). There is a general agreement among applied vocabulary researchers (e.g., Milton 2009; Nation and Waring 1999; Schmitt 2010) that high-frequency vocabulary needs to be prioritized for teaching because the more frequent a vocabulary item is, the more likely it is to be encountered by language learners outside the language classroom. Although vocabulary frequency for native speakers may not be the same as that for foreign-language learners, selecting high-frequency vocabulary items, PVs included, for teaching based on their frequency in native-speaker corpora is sensible as a lexical item's "usefulness generally correlates with frequency of occurrence" (Boers and Lindstromberg 2009: 56).

3.2.2 Multi-word expressions in EFL textbooks

The limited number of studies which have examined the treatment of multi-word expressions in EFL textbooks indicate that multiword expressions do not seem to have been selected based on a native-corpus frequency criterion.

Koprowski (2005) examined the usefulness (calculated based on frequency and range information from the COBUILD Bank of English, a corpus with British and American English sub-

corpora) of multi-word expressions in three contemporary textbooks at upper-intermediate level; *Innovations* (Dellar and Hocking 2000), *New Headway upper-intermediate students' book* (Soars and Soars 1998) and *Inside out* (Kay and Jones 2000). In total, 822 lexical items were examined and assigned a usefulness score. *Innovations* includes the largest number of lexical phrases (353) followed by *New Headway* (260) and *Inside out* (209). Looking closely at the overall average usefulness rating for each textbook a different picture emerges; *Inside out* has the greatest usefulness score (7.20) followed by *New Headway* (4.83) and *Innovations* (3.32). This inconsistency in the usefulness scores across the three textbooks led the researcher to conclude that coursebook designers may have not consistently and adequately followed frequency and range criteria when choosing which expressions to include in the textbooks. Moreover, more than 14% of the lexical phrases in the textbooks did not appear in the COBUILD Bank of English. Finally, not even one multi-word expression was shared by all textbooks. In a partial replication of Koprowski (2005) with upper-beginner and pre-intermediate textbooks, McAleese (2013) found that over 25% of the identified multi-word expressions had a very low usefulness score. McAleese (2013: 326) concluded that these multi-words in this textbook series are "under-representative of real-life English".

Gouverneur (2008)'s findings agree with those of Koprowski (2005) and McAleese (2013). examined how verb phrase collocations with *make* and *take* are presented and taught in three EFL textbook series for intermediate and advanced learners. Results indicate that these collocations are the direct focus of the exercises only at the intermediate level and in a much lesser degree at the advanced level. Furthermore, only 7% of the *make* collocations are shared across the advanced textbooks and only 15% across the intermediate textbooks; *take* collocations present a more striking picture as none is shared across textbooks.

In Tsai (2015) verb-noun collocations from a list based on the BNC were located in i) three series of graded lower-intermediate EFL textbooks used in Taiwan, ii) learners' writing and iii) English native speakers written production. Only a few frequent collocations from the list were found in the textbooks, while, only a scant of these collocations (11.77% to 2.87%) were repeated 10 or more times in the textbooks, a threshold number of encounters that past research has found to promote vocabulary acquisition (e.g., Uchihara et al. 2019).

Similarly, Alejo González et al. (2010) investigated PVs in English language textbooks used in Spain in secondary and post-secondary education¹. In total eight EFL books were examined corresponding to two language proficiency levels of the Spanish secondary education system (secondary and post-secondary education). The researchers concluded that from the 25 most frequent PV found in the eight textbooks, only one (*go out*) is repeated 8 times, while, the vast majority of PV are only repeated once. This finding “sheds serious doubts on the likelihood that students might pick up these phrasal verbs from their textbooks in an incidental fashion” (p. 59).

It is noteworthy that the studies reviewed above have revealed disappointing findings about the repetition rate of multiword expressions in EFL textbooks. However, frequency of occurrence, that is, how many times a language learner encounters a word in their written or spoken input, plays a significant role in the acquisition of vocabulary for single word items (e.g., Pigada and Schmitt 2006; Waring and Takaki 2003) and research on multiword expressions, albeit more limited, yields similar findings (e.g., Peters 2014). The following section will discuss the role of vocabulary frequency in vocabulary learning in more detail.

¹ Education in Spain, based on Spain's 1990 Educational Act (LOGSE), is organised in the following levels Primary Education (6-12 years); compulsory Secondary Education (12 to 16 years); post-compulsory Secondary Education (see Alejo González et al. [2010: 74])

3.2.3 Vocabulary Frequency and second language vocabulary acquisition

Vocabulary frequency has been described in two ways in psycholinguistics and applied linguistics research. First, a number of studies have operationalised it as the lexical frequency of target items in large native speakers corpora such as the British National Corpus (BNC) and the Corpus of American English (COCA) (e.g., Horst et al. 1998; Koprowski 2005; Liu 2011). However, frequency counts in native speakers' first language (L1) does not necessarily mirror the exposure that foreign language learners have to the target language in a second language (L2) context (e.g., Schmitt 2014; Zhang and Mai 2018; Boers and Lindstromberg 2009). Foreign language learners' main sources of exposure to the target language comes from their textbooks, their classroom interactions and their own engagement with the foreign language in various leisure activities (e.g., watching films, listening to music, extensive reading). As a result, a number of studies (also) defined vocabulary frequency as the frequency of occurrence of a lexical item in learners' classroom input and materials (e.g., Coxhead et al. 2017; Vidal 2003) and in the input they receive from activities such as extensive reading (e.g., Horst et al. 1998; Eckerth and Tavakoli 2012; Webb and Chang 2015) and watching films (e.g., Peters and Webb 2015; Rodgers and Webb 2011).

Past research has found a positive link between vocabulary frequency (operationalised both as frequency in native speakers' corpora and in language learners' input) and vocabulary learning (e.g., Pigada and Schmitt 2006; Webb 2007; Chen and Truscott 2010; Rott 1999; Webb et al. 2013; Peters and Webb 2018; Waring and Takaki 2003). However, several recent studies indicate that the effect of vocabulary frequency on vocabulary knowledge is more complex and other factors may play a more important role in vocabulary learning both for individual words

(e.g., Laufer and Rozovski-Roitblat, 2014; Webb and Chang 2015; Vidal 2003) and collocations (e.g., Pellicer-Sánchez 2017; Szudarski and Carter 2014; Macis 2018). For example, Laufer and Rozovski-Roitblat (2011) examined the effect of vocabulary repetition in two task types: reading and FonF (participants consulted a dictionary or asked their teacher for the meaning of the target words) and reading followed by explicit vocabulary activities (labeled FonFs). The results showed that frequency of occurrences had an effect on word retention only in the FonFs task. Furthermore, the study showed that decontextualized, FonFs activities resulted in higher learning gains than the FonF task. Their participants learnt more words when they encountered them in the text and then practiced them twice during FonFs activities than when they encountered the words six times during reading. This finding led the researchers to conclude that the effect of task type on vocabulary learning may be superior to the frequency of occurrence at the meaning recall knowledge level. Regarding meaning recognition, the study showed that FonFs tasks are superior to the FonF only when participants are exposed to the same number of encounters. Moreover, results from studies examining the effect of native speakers' corpus frequency on vocabulary learning found a decline in test scores when rarer words were tested (e.g., Alsaif and Milton 2012), however, this decline disappears after a certain infrequency threshold (e.g., Aizawa 2006).

Similar lack of clarity about the effect of lexical repetition on vocabulary acquisition is evident in research on incidental vocabulary acquisition through reading. Uchihara et al. (2019)² defines incidental vocabulary acquisition as “the learning that emerges through a meaning-focused comprehension task in which learners are not told about any upcoming vocabulary test”

² Uchihara et al. (2019) also examined studies that looked at incidental vocabulary acquisition through listening to an audio, watching a video and listening to an audio while reading. These studies will not be reviewed in this article as its main focus is to examine phrasal verb occurrences in written teaching materials.

(561). Past research has revealed a positive link between frequency of occurrences and vocabulary learning; i.e. the more a learner encounters an unknown word the better the chances for that word to be acquired (e.g., Rott 1999; Chen and Truscott 2010; Zahar et al. 2001; Waring and Takaki 2003; Petersb 2014; Webb 2007; Horst et al. 1998). However, research on both L1 (e.g., Saragi et al. 1978) and L2 (Webb, 2007; Horst et al. 1998; Waring and Takaki 2003) reveal a great variation in the number of encounters needed for a word to be learnt. Estimates in second language research range from 6 encounters (e.g., Rott 1999), to 8 (e.g., Horst et al. 1998), to 10 (e.g., Webb et al. 2007) to at least 20 encounters (e.g., Waring and Takaki 2003). Furthermore, a number of studies on single words (e.g., Laufer and Rozovski-Roitblat 2014; Webb and Chang 2015) and collocations (e.g., Pellicer-Sánchez 2017; Szudarski and Carter 2014; Macis 2018) found no significant effect of frequency on vocabulary learning. Uchihara et al. (2019) carried out a meta-analysis of findings from 26 studies to investigate the complex relationship between frequency and vocabulary acquisition from reading. Results indicate a medium effect ($r=.34$) of repetition on incidental vocabulary acquisition, while, subsequent analysis revealed that vocabulary knowledge is moderated from other variables such as learners' characteristics (e.g., age and previous vocabulary knowledge), methodological differences (e.g., use of nonwords and vocabulary test format) and type of treatment (e.g., use of dictionaries, differences in the number encounters).

The limited number of studies that have examined the effect of repetition in explicit vocabulary learning also showed a positive relationship between vocabulary frequency and vocabulary learning (e.g., Folse 2006; Petersa 2012; Petersb 2014), but, have also revealed that other factors (e.g., task type) may play a superior role than vocabulary frequency for vocabulary learning (e.g., Laufer and Rozovski-Roitblat 2011). This inconsistencies in the findings can be attributed to various factors. For example, Uchihara et al. (2019) support that discrepancies in the findings

for incidental vocabulary acquisition through reading may be due to the type of word knowledge tested (e.g., form/meaning recognition or recall) and the timing of testing (immediate or delayed post-test). A comparison of the effect sizes of vocabulary repetition in studies using recall tests with those using recognition tests revealed a higher effect ($p=.07$) on the recall tests than on the recognition tests (Uchihara et al. 2019:583). Therefore, vocabulary repetition is a more important factor for teachers and material designers to consider when learners are asked to recall meaning and/or form than when they need to recognize it.

Past research has shown that form and meaning recall increase students performance in both productive and receptive tasks. Laufer and Aviad-Levitzky (2017) and McLean et al. (2020) looked at the role of meaning recall and recognition in reading comprehension. Participants in both studies were asked to complete a word meaning recognition and a meaning recall test that tested a sample of words from the meaning recognition test. McLean et al. (2020) in order to provide more generalizable findings also bootstrapped the results of these tests. Results in both studies revealed a stronger correlation of the meaning recall test in reading comprehension scores (compared to meaning recognition test). This finding suggests that while meaning recognition may be enough for a learner to comprehend a reading text, meaning recall may be a more reliable predictor of reading comprehension.

A pedagogical implication of Laufer and Aviad-Levitzky (2017) and McLean et al. (2020) is that efforts to increase students' word recall ability may lead to the development not only of productive skills but also receptive skills. Furthermore, research on listening comprehension has shown that a) learners were more able to recall the meaning of a word read in isolation rather than when they heard in isolation and b) that vocabulary was inferred correctly more in reading rather than listening (van Zeeland, 2013). These findings suggest that there may be a

higher need for learners to develop their recall skills (both for form and meaning) in listening rather than in reading tasks. Therefore, textbooks should provide enough opportunities for learners to develop both their recall and their recognition skills. As shown above, repetition has been found to have a stronger effect on word recall rather than word recognition scores, and that at least 10 encounters with a word are needed for that word to be successfully recalled (Uchihara et al. 2019). Therefore, for a learner to not only be able to recognize a phrasal verb but also to recall it in their speech and writing more than 10 repetitions may be needed. This is also supported by Pellicer-Sánchez (2017) that suggested that more than eight repetition may be needed for an item to be learnt from reading. Given the complex nature of incidental vocabulary learning no optimal number of word occurrences for successful vocabulary learning can be suggested. Nevertheless, for pedagogical purposes, a threshold of at least 10 occurrences of a word in written materials (e.g., Webb 2007) and at least 15 occurrences in spoken materials (van Zeeland & Schmitt 2013) is advisable.

How textbook designers define *PV* affects which PVs they include in their textbooks and how researchers define PVs affects which PVs they identify in textbook analysis. Therefore, the following section will present our working definition of *PV* and will summarise the findings of research which identified high-frequency English PVs. This discussion will form the background for the discussion of the study's method.

3.2.4 Operationalising high-frequency PVs

Various definitions have been proposed for *PV* on the basis of syntactic and semantic PV characteristics (e.g., Biber et al. 1999; Darwin and Gray 1999; Gardner and Davies 2007; Celce-Murcia and Larsen Freeman 1999). In this study, we have adopted Gardner and Davies's (2007: 341) definition, according to which PVs are "all two-part verbs consisting of

a lexical verb (LV) proper followed by an adverbial particle (AVP) that is either contiguous (adjacent) to the verb or non-contiguous that can be separated by one or more interval words”.

This operationalisation of *PV* was congruent with the method of the present study: This study search for the PVs and PV meaning senses in Garnier and Schmitt’s (2015) PV frequency list, which was compiled using Gardner and Davies’s (2007) definition of *PV*. However, after close investigation of the textbooks analysed in this study we concluded that in all six textbooks PV exercises treated *prepositional verbs*, that is, verbs followed by prepositional phrases, as PVs. For example, in *Cosmic B1* (Roderick and Finnie 2011: 37) a PV exercise introduced PV combinations with the lexical verb *look* and various particles/preposition. One of the combinations introduced as PVs was *look for*, in *John was looking for a job*. Therefore, we decided to consider them as PVs and include them in our analysis.

Garnier and Schmitt’s (2015) PV list is based on two previous PV lists, Gardner and Davies’s (2007) and Liu’s (2011). Gardner and Davies (2007) identified cases of lexical verbs followed by adverbial particles in the BNC. Their end-product is a frequency list of the 100 most frequent PVs in the BNC. The researchers estimated that these 100 PVs have, on average, 5.6 meaning senses. Their frequency list however was based only on the BNC, a fact that potentially means that this list does not include high-frequency PVs from other varieties of English. They also only examined PVs that contain the 20 most productive lexical verbs without taking under consideration other highly frequent lexical verbs. Liu (2011) used the COCA and the BNC as well as data from Biber et al. (1999) and Gardner and Davies (2007) studies as a reference point and provided a cross-register and cross-English variety

examination of the English PVs. Liu found that PV frequency rankings across the BNC and the COCA are fairly similar despite the fact that they represent different time periods. Liu's PV list includes the 150 most frequent phrasal verbs in the BNC and the COCA.

Garnier and Schmitt's (2015) Phrasal Verb Pedagogical List (PHaVE list) contains the most frequent meaning senses of the 150 PVs in Liu's list (2011). They are 288 PV meaning senses (an average of two meaning senses for each of the 150 PVs from Liu's (2011) list). Following up on the work of Garnier and Schmitt (2015), Liu and Myers (2018) identified the meaning senses that are most frequent in the general spoken section and in the academic writing section of COCA. Their study identifies 330 senses are useful for general spoken English and 323 senses are useful for English academic writing. Similarly, to Garnier and Schmitt (2015), Liu and Myers (2018) found an average of 2.9 meaning senses per PV.

3.3. This study

This study examines the PV input that EFL learners receive through their textbooks. This research aim is warranted not only because it fills a research gap but also because it may inform EFL pedagogy by guiding the selection of PVs for inclusion in EFL textbooks. The development of PV knowledge in turn can help learners improve their receptive and productive skills, especially their listening comprehension and speech fluency.

More specifically, this study will examine the following research questions:

- a) Given the important role of frequency in vocabulary learning, do more high-frequency PVs than low frequency PVs appear in the EFL textbooks?
- b) Since considerable vocabulary repetition is necessary for vocabulary learning, do PVs appear enough in the EFL textbooks?

- c) Given the important role of frequency in vocabulary learning, do high-frequency meaning senses of high-frequency PVs appear in the textbooks?
- d) Since considerable vocabulary repetition is necessary for vocabulary learning, do high-frequency meaning senses of high-frequency PVs appear enough in the EFL textbooks?

3.4 Methodology

This study examined the occurrence and recurrence of highly frequent phrasal verbs and their most frequent meaning senses in six EFL textbooks spanning from the B1 to the B2 CEFR levels. Previous studies that investigated formulaic language in EFL textbooks mainly examined lexical items found in textbook exercises (e.g., Gouverneur 2008), or, in the vocabulary lists at the back of each textbook (e.g., McAleese 2013). Nevertheless, a thorough analysis of the various components of an EFL textbooks is essential because a) it will enable us to draw a clear picture of the PV input that learners receive through their textbooks and b) research has shown that formulaic language learning can take place incidentally without the items being explicitly taught or highlighted (Webb et al. 2013). Therefore, a thorough analysis of the textbooks is needed to investigate whether textbooks provide adequate repetition for learners to incidentally acquire PV. Considering the above, this study, identified and tallied the PV and PV meaning senses occurrences in all the parts of each textbook; including information about the contexts the PVs were found in; e.g., in the reading passage, exercise, instruction etc.

PV identification depends in the researcher's working definition of PV's (Darwin and Gray 1999). For this study, we adopted Gardner and Davies (2007) definition as this definition was used for the compilation of the PHaVE list (Garnier and Schmitt 2015), the PV frequency list we used as a reference for the identification of PV and PV meaning senses. We decided to slightly modify their definition to include prepositional verbs, as all six textbooks introduce them as PVs in their various PV exercises. The identification process was divided into two parts

(see section 4.3 for a more detailed analysis of the procedure followed). First, the six textbooks were scanned using the Optical Character Recognition (OCR) software. Then CLAWS part-of-speech tagger was used to identify all the occurrences of a lexical verb followed by an adverbial particle in the corpus. Additionally, the textbooks were manually examined by the first author to ensure that all the identified word combinations were PV. During this stage, a number of prepositional verbs were found to be presented as PV in the various PV exercises of the textbooks and were also tallied to the Excel sheet.

In the second part of the research all the sentences in which PV from the PHaVE list occurred in were highlighted and recorded in Microsoft Word. During this stage, we identified in the textbooks a number of PV meaning senses that were not included in the PHaVE list. To identify the corpus frequency of these new meaning senses, we consulted COCA, following Garnier and Schmitt's (2015) procedure (see section 4.3. for a detailed description of the procedure).

3.5 Textbooks used in this study

Textbooks were selected based on the following criteria: a) they are the main textbook series used in two of the main private EFL schools with many branches in different cities in Cyprus, b) they have been designed for general English courses as opposed to intensive courses or courses for specific purposes and c) for their proficiency level.

The six EFL textbooks used in the study form part of two textbook series and span from the B1 to B2 CEFR levels. Table 1 lists the textbooks used in this study.

Table 1: Textbooks used in the study

Title	Editorial	Level	Year	Authors
Real English B1	Burlington Books	B1	2013	Simon Marks Charlotte Addison
Real English B1+	Burlington books	B1+	2013	Jeanette Swanson David Thomas
Real English B2	Burlington books	B2	2013	Jeanette Swanson David Thomas
Cosmic B1	Pearson	B1	2011	Meghan Roderick Rachel Finnie
Cosmic B1+	Pearson	B1+	2011	Fiona Beddal
Cosmic B2	Pearson	B2	2011	Rod Fricker Suzzane Gaynor

Although both book series include more than one component (i.e., workbook, companion, grammar book) we only examined the student books. We decided to do that because they are the main materials used and due to time constraints, since the study did not only involve counting the occurrences of PVs but also identifying the different PV meaning senses.

3.6 PVs searched for in the textbooks

All PVs were identified in the textbooks using the procedure summarized in section 4.3. The PVs identified in the textbooks were categorized as those which appear in the PHaVE list (Garnier and Schmitt 2015) and those which do not. The former were considered high-frequency since they are the 150 most frequent PVs from Liu's (2011) PV list. PVs which did not appear in the PHaVE list were considered low-frequency PVs.

The PHaVE list was used instead of another PV list because it included the 150 most frequent PVs from Liu's (2011) PV list – the most recent PV frequency list and includes PVs used in two varieties of English; British and American – and also listed their most frequent meaning senses³. These 150 phrasal verbs cover 62.95% of all the PV occurrences in the BNC, something that suggests that learning these PVs will be beneficial for students (Garnier and Schmitt 2015).

3.7 Procedure

In order to compile an electronic corpus of the textbooks, textbooks were scanned via Optical Character Recognition (OCR) software, which converts images into text. These scans were then manually checked because the output of OCR software is not perfect; misspellings were corrected, and missing words were added.

In order to identify PVs in the corpus, we first needed to identify all lexical verbs followed by adverbial particles (either next to the verbs or not) in the corpus. Therefore, the corpus was

³ Although we know that Liu and Myers (2018) identified the meaning senses of the 150 PVs in Garnier and Schmitt's (2015) PHaVE list which are most frequent in the general spoken section of COCA and, presumably, potentially good learning targets for learners of general EFL, we did not search the textbooks for these meaning senses but only for the senses listed in the PHaVE list and those which we identified for the PVs which appeared in the materials but did not appear in the PHaVE list. Liu and Myers (2018) had not appeared when this study was conducted nor were we otherwise aware of this new PV list.

tagged for part of speech. The CLAWS part of speech tagger (Rogers and Smith 1997) was used. Because part of speech tagging is not error-free, the first author examined the textbooks to confirm whether the PV occurrences indicated by CLAWS really were PVs.

The second part of the research intended to identify all the meaning senses included in the textbooks and the frequency of their occurrence. In doing so, we manually identified each phrasal verb meaning presented in each of the six textbooks and recorded it in a separate file using Microsoft Word. To do, so the first author went through the textbooks and highlighted all the sentences that the PV from the PHaVE list occurred in. While carrying out this procedure, the first author identified meaning senses which were not included in the PHaVE list. As we were interested in the corpus frequency of these additional meaning senses, we used the COCA to identify their frequency following Garnier and Schmitt's (2015) procedure. First, we consulted the dictionaries listed below and a lexical database, WordNet (Fellbaum 1998) to identify the new meaning senses:

- Cambridge Dictionaries Online (British English, American English, Business

English, Learner's Dictionary);

- Oxford Dictionaries (British & World English, US English);
- Oxford Advanced Learner's Dictionary;
- Merriam-Webster;
- Collins Dictionaries (British English, American English);
- Macmillan Dictionary;
- Collins COBUILD Phrasal Verbs Dictionary;

These dictionaries and WordNet were consulted because Garnier and Schmitt (2015) also consulted them prior to their corpus study. Then phrasal verbs with additional meaning senses were queried in COCA in order to find the corpus frequency percentage of the additional meanings. To do so, the process adopted by Garnier and Schmitt (2015) was followed. In addition, we had to make sure that all the forms of a particular lexical verb will be included in the analysis (e.g. *go*, *goes*, *going*, *went*). Therefore, to avoid false tokens we entered the word lemma in the *Word/phrase* box as [verb] and then AVP.[RP*] in the *Collocates* box as shown in Figure 1 below:



Figure 2: COCA query for the phrasal verb *blow up*

The concordances lines for each PV was then imported into Microsoft Excel to make the reading and coding of the meaning senses easier.

After those PV meaning senses were identified they were recorded in a separate Microsoft Word file along with a definition, a percentage for each meaning and an example sentence. The next step was carried out to identify the frequency of occurrence for the PV meaning senses in the textbooks. To answer this, we recorded each occurrence of a meaning sense in every textbook into a Microsoft Excel sheet in order to reveal their frequency of occurrence.

3.8 Inter rater reliability: Coding of PVs meaning senses additional to those in the PHaVE list

In order to ensure inter and intra rater reliability were granted, a native speaker of English studying for a PhD in Psychology analysed a sample of PVs in the COCA. In total 15 phrasal verbs were found to have additional meanings in the textbooks. From those one, five PVs (*take on, make up, put up, go through, blow up*) were randomly chosen to be tested. Prior to the corpus search, we gave her instructions on how to use COCA and how to query for information. Once, she was confident the procedure started. Following Garnier and Schmitt's (2015) process and also to ensure that she would not be influenced by our own judgements no instruction was given as to how to group the meaning senses or how to differentiate among them. Two random samples of 100 concordances were compared and Cohen's Kappa was used to analyse the inter-rater reliability between the two raters. We chose to use Cohen's Kappa because this is a widely used measure to compare interrater reliability measures for categorical or nominal variables. The Cohen's Kappa between our categorization and the first rater was $K = .825$ ($p < .000$) a result that gave us confidence that our categorization was correct. According to Peat (2001: 228) a value of .8 and above represents a very good agreement. Moreover, our categorization of PV meaning senses had high internal consistency, with a Cronbach's $\alpha = 0.89$. Field (2018) suggests that values around 0.8 have good reliabilities.

3.9 Inter rater reliability: Coding of PVs meaning senses identified in the textbooks

To examine the reliability and validity of the first author’s meaning-sense coding for the sentences which included PVs from the PHaVE list found in the textbooks, a sample of 30% from each textbook was randomly extracted and coded from a second rater.⁴After an initial trial the second coder indicated that she felt confident enough to differentiate among the meanings and began the procedure. Inter-rater agreement was high ($K = 0.95, p < .001$).

3. 4 Results

In this section, results and statistical analyses are reported to address the research questions of the current study. Results were analyzed using SPSS 25. Findings on the occurrence and recurrence of phrasal verb lemmas in the textbooks will be presented first, followed by findings about the occurrence and recycling rate of the PV meaning senses in the textbooks.

5.1.1 PVs in the textbooks

Table 2 provides an overview of the PV content of each textbook.

Table 2: Word tokens, PV tokens, normalised PV tokens and PV lemmas per textbook

Textbooks	Tokens	PV Tokens	PVs per 1000	PV lemmas
Real English B1	54,660	345	63.11	70
Real English B1+	77,772	485	62.36	103
Real English B2	65,775	350	53.21	89
<i>Total Real English</i>	198,207	1,180	59.53	262
Cosmic B1	57,611	420	72.90	97
Cosmic B1+	60,498	352	57.85	82

⁴ The second rater was a native speaker of English, who was at the time completing a PhD in sociolinguistics.

Cosmic B2	77,246	403	52.17	103
<i>Total Cosmic</i>	195,355	1,175	60.14	282

Table 2 indicates that the two textbook series are of comparable size in terms of single-word tokens, PV tokens and PV types, both when we consider the total number of tokens and types per textbook series but also when we compare the textbooks for each proficiency level.

The first research question examines whether high-frequency PVs are presented in the six textbooks. Frequent PVs were considered those that were included in the PHaVE list (Garnier and Schmitt 2015) as these 150 PVs were previously identified by Liu (2010) to be the most frequent PVs in both the COCA and the BNC. Table 3 provides an overall picture of the number of PV lemmas from the PHaVE list and the PV lemmas not in the PHaVE list for textbook.

Table 3: Number of “PHaVE list PV lemmas” and PV lemmas not in the PHaVE list

Textbooks	PHaVE list PV lemmas	PV lemma not in the PHaVE list
Real English B1	51	19
Real English B1+	76	27
Real English B2	64	25
<i>Total Real English</i>	191	71
Cosmic B1	68	29
Cosmic B1+	56	26

Cosmic B2	70	33
<i>Total Cosmic</i>	194	88

Table 3 shows that both the Real English and the Cosmic series contain more high frequency PV lemmas than low-frequency PV lemmas. Low-frequency PV lemmas in the Real English series account only for the 27.08% of all PV lemmas in the series, whereas high-frequency PV lemmas make up more than half of all PV instances (73.28%). Similar pattern is evident in the Cosmic series as high-frequency PV lemmas account for more than half of all PV occurrences in the series (68.74%), while, low frequency PV account for a very small proportion of all PV lemmas (31.20%). The correspondence between the choice of PVs in these two series is therefore rather high. Both series, seem to include more high-frequency than low-frequency PVs.

An examination of the number of PV lemmas across the books inside each textbook series indicates however a different trend inside each series. In the Real English series, the number of PV types increases from B1 (70 lemmas) to B1+ (103 lemmas). Similar results were reported in López Jiménez's (2013) examination of multi-word items in EFL textbooks used in Spain as the author found that the practice of multiword items increases in intermediate and advanced level textbooks. This result possibly reflects the traditional belief that difficult constructions such as PVs should be taught to students of high proficiency levels. Nevertheless, this assumption lacks scientific support. PV type numbers then slightly drop at B2 level but are still higher than those in Real English B1. By contrast, the Cosmic B1 textbook includes more PV types (97) than the Cosmic B1+ (82). The Cosmic B2 textbook contains the largest number of PV types (103), a finding which can be again attributed to the traditional belief that PVs are challenging and hence entail learning difficulties that are best suited to advanced learners.

Table 4 presents the number of PHaVE list PV tokens and PV lemmas.

Table 4: Total Number of PHaVE list PV tokens and PV lemmas

	Real English				Cosmic			
	B1	B1+	B2	Total	B1	B1+	B2	Total
Tokens	192	342	212	746	247	296	290	833
Lemmas	51	76	64	191	68	56	70	194

Table 4 indicates that with the exception of the B1+ textbook, the Cosmic series includes more PV tokens than the Real English series. The comparison between the two series in terms of lemmas indicates that the two series include a similar number of lemmas overall. If we take the number of PV tokens in each textbook series, the similar number of lemmas between the series indicates that PVs are repeated more often in the Cosmic series than in the Real English series. A comparison across the sub-corpora indicates that in the Real English series the B1+ (45.84%) level contains more PV tokens than both the B1 (25.73%) and the B2 (28.41%). Similar picture emerges from the Cosmic series, as the B1+ (35.53%) includes a larger number of token than the B1 (29.65%) level and the B2 (34.81%) (albeit with a smaller margin). Chi-squared test indicates that these differences are significant, $\chi^2(2) = 17.587$, $p < .001$. Pairwise comparisons via z-test with Bonferroni correction indicates that these proportion differ significantly i) for the B1 + B1+ subcorpora for both series and ii) the B1 + and the B2 subcorpora for both series. No significant differences were observed for the B1-B2 level Pairwise comparisons via z-test with Bonferroni correction indicate no significant difference between the textbook of the same proficiency level between the two series.

These significant differences among subcorpora in terms of PV tokens may reflect differences among subcorpora in terms of PV lemma variation. The more varied lemmas in text/corpus are, the more likely they are to cover more text. Table 4 shows that the two series contain similar number of PV lemmas. In the Real English series, the B1+ level contains the largest number of PV lemmas (76), followed by the B2 level (64) and the B1 (51). A different picture emerges from the Cosmic series as depicted in Table 4; B1 level includes the largest number of PV lemmas (68) while the B2 level is closely second with 70 PVs types. Contrary to the pattern observed in the Real English series, the B1+ level includes the smallest number of PV lemmas. A chi squared test comparing the number of lemmas across the subcorpora however indicates that there were no significant differences within and between the series in terms of PV lemmas, $\chi^2(2) = 5.705, p > .005$. Therefore, the six textbooks contain similar number of PV lemmas. It worth noting that the six textbooks seem to present disconcertingly low proportions of high frequency phrasal verbs. It should be stressed however, that we are not assuming that all the 150 frequent PV in the PHaVE list (Garnier and Schmitt 2015) should be presented in the textbooks. It is unrealistic to expect that all most frequent PV lemmas are presented in the textbooks.

Table 4 shows the 10 most frequent PVs in each textbook series. In the parenthesis is the frequency of the phrasal verbs in the PHaVE list (Garnier and Schmitt 2015). As table 4 illustrates only three (*find out, go out, pick up*) out of these 10 most frequent PVs in the textbooks are among the most frequent PVs of the PHaVE list (Garnier and Schmitt 2015). The most frequent PV in both series is *find out*, a PV mostly used in instructions to exercises in all textbooks.

Table 4: The 10 most frequent PVs in each textbook series

Real English	Cosmic
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Find out – 37 occurrences (6 th)	Find out – 42 occurrences (6 th)
Sum up – 34 occurrences (130 th)	Go out – 33 occurrences (8 th)
Go out – 27 occurrences (8 th)	Work out – 33 occurrences (29 th)
Set up – 25 occurrences (11 th)	Take off – 28 occurrences (28 th)
Give up – 24 occurrences (16 th)	Look back – 28 occurrences (34 th)
Pick up- 24 occurrences (2 nd)	Take up – 27 occurrences (41 st)
Work out- 20 occurrences (29 th)	Run out – 25 occurrences (103 rd)
Put on – 20 occurrences (87 th)	Get up – 21 occurrences (23 rd)
Take up – 19 occurrences (41 th)	Come up – 20 occurrences (4 th)
Make up- 15 occurrences (17 th)	Pick up – 19 occurrences (2 nd)

Table 4 reveals that the most frequent PVs in both textbook series are not as frequent in the PHaVE list (Garnier and Schmitt 2015). For example, the second most frequent PV in the Real English series is the 130th most frequent PV in the PHaVE list. Nevertheless, this finding is not surprising as *sum up* is a commonly used PV in writing and it is frequently found in the writing section of the series. The high frequency of *find out* in both textbook series is also due to its frequency use in exercise instructions.

As we were also interested in looking at the raw differences between the tokens of the three proficiency levels for each of the two series, we conducted a Friedman's ANOVA. We chose this test, since our data was not normally distributed and thus non-parametric tests had to be adopted. The results revealed that there was a significant difference between the raw number of PV tokens across the three proficiency levels of the Real English Series ($\chi^2(2) = 20.86, p <$

.000). We then run a post-hoc Wilcoxon’s signed rank test to identify where the difference lies between the three proficiency levels on three pairs of comparison (CB1&CB1+, CB1+&CB2, CB1&CB2). Bonferroni correction was used so the critical value .05 was divided by three (the number of tests conducted). Therefore, the revised alpha level for determining statistical significance was .05/3. Hence, $p < .0167$. The results revealed that the raw frequency of Real English B1 and Real English B1+ significantly differed between these two proficiency levels with $Z = -4.234$, $P < .001$, $r = .18$. Statistically significant differences were also found between Real English B1+ and Real English B2 with $Z = -.851$, $p < .001$, $r = .03$). No statistically significant difference was found between Real English B1 and Real English B2.

The results of the Friedman’s ANOVA for the Cosmic Series revealed that there were no statistically significant differences between the raw number of phrasal verb tokens across the three proficiency levels ($\chi^2(2) = .680$, $p > .000$). Therefore, learners were exposed to similar number of phrasal verb tokens, regardless which textbook they use.

Table 4 shows the 10 most frequent phrasal verbs in the two-textbook series. In the parenthesis is the frequency of the phrasal verbs in the native speakers’ corpus as revealed by Liu (2010). As table 4 illustrates only three (*find out*, *go out*, *pick up*) out of these 10 most frequent PVs in the textbooks are among the most frequent PVs of the PHaVE list (Garnier and Schmitt 2015). The most frequent PV in both series is *find out*, a PV mostly used in instructions in all six textbooks.

Table 4 The most frequent phrasal verbs in the two series

Real English Series	Cosmic Series
Find out – 37 occurrences (6 th)	Find out – 42 occurrences (6 th)
Sum up – 34 occurrences (130 th)	Go out – 33 occurrences (8 th)
Go out – 27 occurrences (8 th)	Work out – 33 occurrences (29 th)

Set up – 25 occurrences (11 th)	Take off – 28 occurrences (28 th)
Give up – 24 occurrences (16 th)	Look back – 28 occurrences (34 th)
Pick up- 24 occurrences (2 nd)	Take up – 27 occurrences (41 st)
Work out- 20 occurrences (29 th)	Run out – 25 occurrences (103 rd)
Put on – 20 occurrences (87 th)	Get up – 21 occurrences (23 rd)
Take up – 19 occurrences (41 th)	Come up – 20 occurrences (4 th)
Make up- 15 occurrences (17 th)	Pick up – 19 occurrences (2 nd)

Table 4 reveals that the most frequent PVs in both textbook series are not as frequent in the PHaVE list (Garnier and Schmitt 2015). For example, the second most frequent PV in the Real English series is the 130th most frequent PV in the PHaVE list. Nevertheless, this finding is not surprising as *sum up* is a commonly used PV in writing and it is frequently found in the writing section of the series. Similarly, the phrasal verb *find out* is commonly used in instruction something that explains its high frequency in both textbook series.

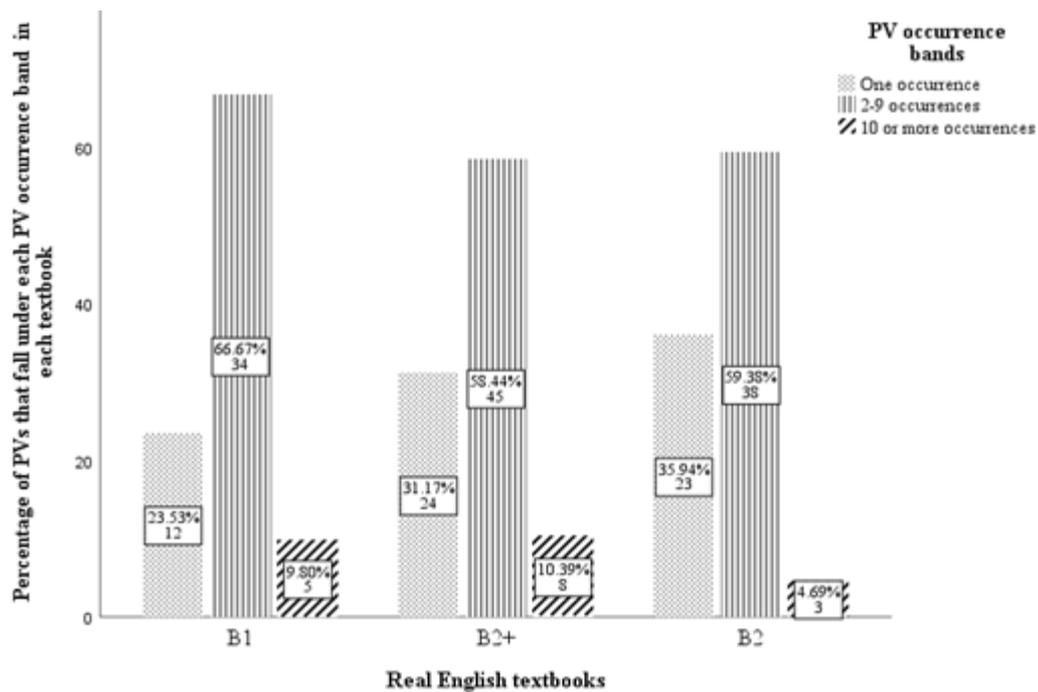
The comparison between the three textbooks per textbook series indicated that from the total of 134 PV examined in the Cosmic series only 30 were included in all three textbooks. Similar, results were obtained for the Real English series, as 32 PV from the total 127 were common in all three textbooks. A comparison between the textbooks from the same proficiency level showed that for the Real English B1 and the Cosmic B1 only 38.37% from the total PV examined were found in both textbooks. Slightly higher overlap (45.05%) was found between the Cosmic B1+ and the Real English B1 as 41 PV from the total of 91 PV were found in both textbooks. Finally, 42 PV from a total of 97 were found in both textbooks.

3.4.2 Repetition of PVs in the textbooks

Past research has established the importance of repetition for vocabulary acquisition (e.g., Nation, 1990; Waring and Takaki, 2003; Webb, 2007). The number of times that a word needs to be encountered to be acquired by the learners however, varies. Nation (2010) suggests that a word needs to be encountered 5-16 times; while Waring and Takaki (2003) and Webb (2007) 8-10 times. Similarly, the number of encounters required for a collocation to be learnt varies considerably from 5 to 15 times (e.g., Peters, 2014). These findings, while disparate in terms of the number of encounters needed for a lexical item to be learnt, suggest that the greater the number of encounters with an item the higher probability for the item to be learned.

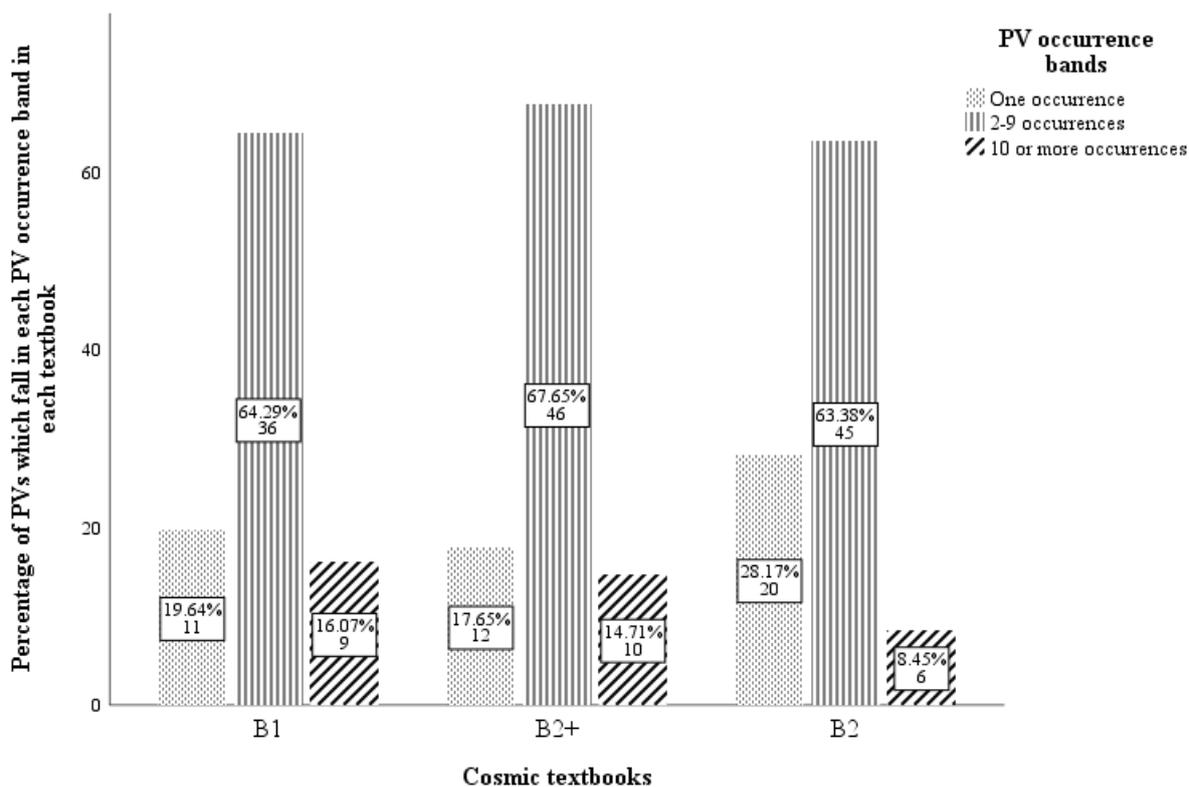
Figures 1 and 2 illustrate how many PVs appear in each textbook of each textbook series once, 2-9 times and 10 or more times. Both figures indicate that PVs that occurred 2-9 times form the majority across textbooks in both series, followed by PVs that occurred only once. However, in the Cosmic series, PVs that occur 10 or more times are more frequent and single-occurrence PVs are fewer than in Real English across all proficiency levels. Therefore, while presenting an adequate number of PV lemmas, in each of the six textbooks PV-lemma occurrences are below the 10 occurrences suggested by applied linguistics research as necessary for form and meaning recall ability to develop through incidental vocabulary for at least one third of the lexical items encountered (e.g. Webb 2007).

Figure 1: Percentage and count of PV lemmas occurring once, 2-9 times and 10 or more times in the Real English series per textbook



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Figure 2: Percentage and count of PV lemmas occurring once, 2-9 times and 10 or more times in the Real English series per textbook



3.4.3 PV meaning senses in the textbooks

Past research has revealed that PVs have more than one meaning sense. Gardner and Davies (2007) estimated that the 100 most frequent PVs in the BNC have an average 5.6 meaning senses. Therefore, it is of equal importance to investigate which PV meaning senses are presented in the textbooks. This study used Garnier and Schmitt's (2015) PV frequency list as a reference to identify which meaning senses were presented in the selected textbooks. To do so, we will first look at PVs with two meanings, then with three and finally with four meaning senses. It is important to mention that some phrasal verbs included in this analysis have only one frequent meaning based on Garnier and Schmitt (2015) (e.g. *pick up*) however since an additional meaning was found in the textbook it was included in the final analysis.

Table 6 Distribution of Phrasal Verbs with two meanings in the textbooks

Meaning sense	Real English B1	Real English B1+	Real English B2	Cosmic B1	Cosmic B1+	Cosmic B2
1	58	46	30	31	39	71
	occurrences	occurrences	occurrences	occurrences	occurrences	occurrences
2	23	34	7	35	27	15
	occurrences	occurrences	occurrences	occurrences	occurrences	occurrences

Table 6 reveals that all six textbooks present both meaning senses. The most frequently occurring meaning is the first one for all six of them with the exception of Cosmic B1 in which learners encounter the second meaning more frequently.

Table 7 shows the frequency of occurrence for PVs with three meaning senses.

Table 7 Distribution of phrasal verbs with three meanings

Meaning sense	Real English B1	Real English B1+	Real English B2	Cosmic B1	Cosmic B1+	Cosmic B2
1	6 occurrences	42 occurrences	16 occurrences	18 occurrences	22 occurrences	20 occurrences
2	7 occurrences	18 occurrences	17 occurrences	5 occurrences	15 occurrences	7 occurrences
3	-	38 occurrences	13 occurrences	9 occurrences	30 occurrences	23 occurrences

Table 7 reveals that with the exception of Real English B1 all the other textbooks present all the three meaning senses. Again, this analysis includes items that according to the PHaVE list have two meaning senses but we have found an additional meaning in the textbook.

Table 7 reveals that for Real English B1+ and the Comic series the third meaning senses is more frequent than the second one while for Cosmic B1+ and Cosmic B2 is even more frequent than even the first one.

Table 8 shows the frequency of occurrence of PVs with 4 meaning senses

Table 8 Distribution of PVs with 4 meaning senses.

Meaning	Real	Real	Real	Cosmic B1	Cosmic B1+	Cosmic B2
Senses	English B1	English B1+	English B2			
1	3	16	5	8	21	13
	occurrences	occurrences	occurrences	occurrences	occurrences	occurrences
2	5	16	4	9	7	1
	occurrences	occurrences	occurrences	occurrences	occurrences	occurrence
3	1	15	9	11	15	9
	occurrence	occurrences	occurrences	occurrences	occurrences	occurrences
4	3	15	10	10	16	24
	occurrences	occurrences	occurrences	occurrences	occurrences	occurrences

The table 8 illustrates that in the Real English B2 and Cosmic B2 the 4th meaning has more occurrences that even the first meanings while in both textbooks the third meaning is more frequently encountered that the second meaning. Similarly, Cosmic B1 and Cosmic B1+ present the third meaning more often than the second one.

3.6 Conclusion and pedagogical implication

This study analysed how phrasal verbs are treated in six ELT textbooks used in Cyprus. This study, to the authors best knowledge, is the first attempt to investigate which phrasal verb

meanings are presented in ELT textbooks. Phrasal verbs are highly polysemousⁱ and Gardner and Davies (2007) estimated that each phrasal verb has on average 5.6 meaning senses.

The two textbooks series contains an adequate number of phrasal verb types and the majority of them are part of the 150 frequent phrasal verbs as identified by Liu (2010). Real English B1+ and the Cosmic B2 contain the highest number of phrasal verbs. The higher number of phrasal verbs in the higher proficiency level reflects the popular belief that such difficult constructions should be taught in higher proficiency levels as learners are best equipped to deal with the learning burden. This study reports no statistically significant difference in the number of phrasal verb types among the three levels for the Cosmic Series. For the Real English series significant difference in the raw frequency were found between the Real English B1 and Real English B1+ and Real English B1+ and Real English B2 while no significant difference was found in the raw frequency of Real English B1 and Real English B2.

The study also revealed that the selected textbook the vast majority of phrasal verbs were not repeated enough in the textbooks as only a small number of phrasal verbs were repeated more than 10 times. In fact, it seems that those repeated more than 8 times are not phrasal verbs that require extra repetition since in the vast majority of them are phrasal verbs such as *find out* and *look back* and are phrasal verbs found in instructions. This finding is substantiated by Tsai (2015) and Alejo Gonzalez et al (2010); they found only one or two occurrences for collocations and phrasal verbs were repeated only 1-2 times, respectively. The lack of repetition within the six textbooks is alarming as students may not be provided with enough opportunities to acquire productive and receptive knowledge of phrasal verbs. Webb (2007) measured learners' productive and receptive knowledge of orthography, association, syntax, meaning and form and grammatical functions and concluded that more encounters with a word are needed for productive knowledge than receptive and the more encounters with the word the larger the gains in all five aspects. Therefore, the lack of repetition in the textbooks may possibly lead to

either no acquisition of the phrasal verbs or only receptive knowledge of the phrasal verbs. The analysis also revealed that all six textbooks created few opportunities for explicit instruction of phrasal verbs as the majority of phrasal verb tokens were found in reading texts and instructions.

The study also reveals that textbooks writers seem to present the highly frequent meanings of phrasal verbs as revealed by Garnier and Schmitt (2015) but also include meanings that are highly infrequent. For example, the phrasal verb *blow up* includes the meaning to fill something with air as in *They blew up the balloons*, that based on our own corpus study is only 4% of the total occurrence of the phrasal verb in the corpus. Looking at phrasal verbs with 4 meaning senses our analysis revealed that with the exception of the Real English B1 the fourth meaning sense is more frequently occurred than the second and the third meaning sense in all three proficiency levels.

Lastly, this study revealed that with the exception of one exercise in Real English B2, the polysemy of PV was not explicitly acknowledged in the textbooks. While when looking at the vocabulary knowledge aspect that the exercises focuses on it becomes clear that there is a focus on Form and Meanings. Similar, results were obtained by Brown (2010) in his analysis of nine textbooks for General English.

This study hopes to raise awareness among the textbook writers of the importance of taking into consideration the various phrasal verb meanings when deciding which phrasal verbs to include in the textbooks. Therefore, if we consider frequency as an indication of usefulness, textbook writers should not also look at phrasal verb frequency as a total but also at the corpus frequency of individual meanings. In addition, this study illustrated that there is not enough repetition of phrasal verbs in the textbooks. Therefore, we hope that textbook writers will pay better attention at the recycling of phrasal verbs in the textbooks. Furthermore, the results of

the study lead to the call for textbook writers to provide more opportunities for explicit phrasal verb instruction.

8 Limitations

This study investigated only a small sample of textbooks from only three proficiency levels. Therefore, future research should investigate a larger number of textbooks from more than three proficiency levels. Also, the selected textbooks were aimed at students of General English. Future research could investigate phrasal verb occurrence in textbooks aimed at learning English for Specific Purposes and English for Academic purposes in order to make a comparison between these textbooks.

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Chapter Four

Lizeta Demetriou and Sophia Skoufaki⁵

Greek-Cypriot learners' productive and receptive knowledge of English phrasal verbs

Abstract

Research suggests that the more frequently a word is encountered the more likely it is to be learned (e.g., Webb 2007). However, a word frequent in one context (e.g., for the native speakers) may not be frequent in another context (e.g., in L2 contexts). The present study aims to examine the relative role of various sources of English language exposure (e.g., English language teaching textbooks, English films, stay in an English-speaking country) on phrasal verb learning in the context of Greek Cyprus. Phrasal verb learning is the focus of this investigation because a) phrasal verb use is considered a sign of native-like fluency and b) phrasal verb learning is challenging. For this study, 100 participants at the B1+ CEFR level completed three phrasal verb tests, namely, a form recall, a form recognition, and a meaning

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recognition test. A biodata questionnaire was also administered to measure participants' incidental exposure to the English language. To validate the test items 20 participants also took part in an interview that asked participants questions about how they approached the tests. Results indicate a positive relationship between a) corpus and textbook frequency, time spent reading and writing in the L2 and b) learners' knowledge on all three tests. Time spent in an L2 speaking country has a positive relationship with the form recognition test scores while time spent on social media only with the meaning recognition test scores.

Keywords

Formulaic language, phrasal verbs, textbook frequency, corpus frequency, L2 language exposure

4.1 Introduction

English PVs are ubiquitous in the language. Biber et al. (1999) estimated that PVs occur almost 2,000 times per million words in fiction and conversation, while, Liu (2011) estimated that they occur three times as much. Gardner and Davies (2007) calculated that learners will encounter on average one PV in every 150 words of English to which they are exposed. PVs are colloquial in tone (Biber et al. 1999) and are a prominent feature of informal spoken discourse (Altenberg 1998; Freeborn 1995; Biber et al 1999; Liu 2011). Therefore, lack of PVs in learners' discourse can lead to unnatural and non-idiomatic speech (Siyanova and Schmitt 2007).

Despite PVs' pervasiveness in the English language, these multi-word verbs have been found to be very challenging for English foreign language (EFL) learners for a number of reasons.

First, their syntactic peculiarity and semantic complexity make them particularly difficult for learners to acquire (e.g., Dagut and Laufer 1985; Carter and McCarthy 2006; Laufer and Eliasson 1993). Furthermore, PVs, being a feature of Germanic languages, may be perceived as an unnatural word construction to learners whose native language lacks such a structure. In fact, a number of studies have observed an avoidance phenomenon and a preference of learners to use PVs' one-word equivalents, such as *enter* instead of *go in*, or *take* or *collect* instead of *pick up* (e.g., Dagut & Laufer 1985; Hulstijn & Marchena, 1989). Furthermore, PVs are composed of at least two orthographic words and so unaware learners, instead of recognizing them as a single semantic unit, may attempt to decode the meanings of their parts. While this is possible for literal PVs, it is impossible for idiomatic PVs whose meaning is not derived from their parts. Lastly, PVs are in most cases polysemous. Garden and Davies (2007) estimated that the 100 most frequent PVs in the British National Corpus (BNC) have on average 5.6 distinct senses. Hence, the various senses attached to a PV can complicate the form-meaning relationship for EFL learners (Zhang and Wen 2019).

In conclusion, PV are simultaneously difficult to learn and important for EFL learners. As a result, past research has identified factors affecting PV acquisition. Cross-linguistic differences (Dagut and Laufer 1985; Hulstijn and Marchena 1989; Laufer and Eliasson 1993), semantic transparency (Dagut and Laufer 1985; Hulstijn and Marchena 1989; Laufer and Eliasson 1993) and amount of incidental exposure to language (Garnier and Schmitt 2016; Schmitt and Redwood 2011; Omidian et al 2019) have been found to affect PV acquisition. In addition, a few studies examining the relationship between native speaker (NS) corpus frequency and PV knowledge concluded that corpus frequency is a predictor of PV knowledge; EFL learners knew more high frequency PVs than low frequency PVs (Garnier and Schmitt 2016; Chen 2013; Schmitt and Redwood 2011; Zhang and Wen 2019). Nevertheless, frequency counts in

native speaker first language (L1) speech and writing as derived from corpus findings does not necessarily mirror the exposure that learners have to the target language in an L2 context (Schmitt 2014; Zhang and Mai 2018; Boers and Lindstromber 2009). In most L2 contexts the textbook is one of the main sources of language input and the lesson tends to centre around it (Ghosn 2003; Matsuoka and Hirsh 2010). Nevertheless, since past research has shown that most textbook writers do not base their selection of multiword items on corpus frequency (e.g., Koprowski, 2005) we cannot assume that a PV frequent in a native speakers' corpus is equally frequently used in a textbook. To the authors' best knowledge, no study, so far, has taken textbook frequency counts into consideration when determining the role of frequency in PV acquisition. The present study aims to fill this gap, by exploring the relationship between frequency (based on both native speaker corpus and EFL textbook counts) and learner knowledge of polysemous PVs. Furthermore, this study explores the related role of L2 language exposure (through watching films in the L2, reading books in the L2, listening to music in the L2, spending time on social media and time spent in countries where the L2 is widely used) in PV acquisition.

4.2 Literature review

4.2.1 Possible reasons for PV avoidance and use

The fact that PVs pose challenges to EFL learners is well attested in the literature (Dagut and Laufer 1985; Hulstijn and Marchena 1989; Laufer and Eliasson 1993; Alejo Gonzalez 2010; Garnier and Schmitt 2016). Past research has concluded that PVs are prone to avoidance and that EFL learners tend to prefer to use the one-word equivalent of PVs (Dagut & Laufer 1985; Hulstijn & Marchena 1989; Laufer & Eliasson 1993; Liao & Fukuya 2004). One of the reasons for this avoidance has been attributed to L1-L2 differences. For example, Dagut and Laufer (1985) examined Israeli learners' use of PVs and concluded that most participants avoided

using PVs, particularly figurative PVs, and instead preferred using their one-word equivalent. The researchers attributed the avoidance to structural L1/L2 differences (Hebrew lacks any PV type of structure). Laufer and Eliasson's (1993) study however did not observe an avoidance phenomenon in the use of PVs by their Swedish English-L2 learners and attributed the lack of avoidance in this case to cross-linguistic similarities. Swedish (as opposed to Hebrew in Dagut and Laufer's (1985) study) contains more PV-like structures.

Conversely, Hulstijn and Marchena (1989) observed avoidance behaviour in the use of PVs by their Dutch participants that was attributed to semantic reasons rather than cross-linguistic reasons (as Dutch possesses the PV structure). Their learners avoided semantically opaque/idiomatic PVs that already existed in their L1. On the other hand, Liao and Fukuya (2004) drew attention to the additional factor of stage of interlanguage development affecting avoidance rather than just L1/L2 differences. Their Chinese intermediate learners produced fewer PVs than both their advanced learners and native speakers, while, for advanced learners a clear pattern of avoidance was not observed. Similar findings were attained by Hulstijn and Marchena (1989) as their advanced and intermediate Dutch English L2 learners did not categorically avoid PVs in the multiple-choice, memorization and translation tasks.

Siyanova and Schmitt (2007) compared native and non-native use of PVs (these researchers adopted the term *multi-word verbs*) and concluded that native speakers claimed to be much more likely to use PVs compared to the non-native speakers. Conversely, study by Chen (2013) compared the use of PVs by Chinese University students with that by American and British students. She compared a corpus compiled from 780 argumentative essays (written by 130 English major students) with four native corpora of British and American English (and from two genres; argumentative and academic writing). The study's result revealed that Chinese

participants used many PVs in their essays even though Chinese does not possess any separable particle PV structure. According to Chen, this may be due to participants' quite high proficiency level. Nevertheless, as Garnier and Schmitt (2015) point out, Chen's results do not necessarily show that Chinese learners use PVs at a similar rate to native speakers because 1) as also acknowledged by the researcher the high use of PVs may have been promoted by the general frequent use of verbs and b) the study does not give any information about PV distributions for individual verbs, which means that this finding may simply be due to the overuse of certain individual PVs.

Chen's (2013) study also showed a link between corpus frequency (for the 50 most frequent PVs in the COCA and the BNC) and PV knowledge. Similarly, Schmitt and Redwood (2011), Garnier and Schmitt (2016) and Zhang and Wen (2019) also found a link between corpus frequency and PV knowledge. The following section will therefore thoroughly examine the role of frequency in L2 vocabulary acquisition with a special focus on formulaic language and PVs.

4.2.2 Usage based theories and the role of frequency in L2 vocabulary acquisition

In contrast with the L1 and proficiency level factors shown in 2.1 to play a role in language acquisition, the basic tenets of usage-based models postulate that frequency (especially in input) plays a central role, both for single words and phrases (e.g., Ellis, 2002, Tomasello, 2003). Research on L1 acquisition⁶ has shown that input frequency effects can affect among

⁶ For a thorough review of usage-based models and studies that have shown the link between input frequency and language acquisition see Ellis, N.C. (2002). Frequency effects in language processing: A review with implications for theories of implicit and explicit language acquisition. *Studies in Second Language Acquisition*, 24(2), 143-188.

others reading and spelling (e.g., Coltheart et al 1993) and lexis (e.g., Balota and Chumbly 1984). Similarly, frequency has also been found to play a role in L2 acquisition⁷. In the case of lexis, frequency has been shown to be a predictor of knowledge as L2 learners tend to learn higher frequency words before lower frequency words (Nation 2001; Schmitt 2014, Ellis 2002; Nation and Waring 1997). Frequency has also been shown to play a role in the acquisition of formulaic language such as collocations (e.g., Durrant and Schmitt 2009) and PVs (Schmitt and Redwood 2011; Chen 2013; Garnier and Schmitt 2016; Zhang and Wen 2019). The following section will in detail examine the role of frequency in formulaic language acquisition.

4.2.2.1 Corpus frequency and formulaic language knowledge

The link between frequency and formulaic language knowledge has been explored by using corpus findings as the main indicator of frequency. To our best knowledge so far, only 4 studies tested NS frequency as a predictor of PV knowledge: Schmitt and Redwood 2011; Chen 2013; Garnier and Schmitt 2016; Zhang and Wen 2019. Importantly, only Garnier and Schmitt, (2016) and Zhang and Wen (2019) have tested the role of frequency in the acquisition of the various frequent meanings of PVs.

Schmitt and Redwood (2011) measured the receptive and productive PV knowledge of 68 EFL learners. The researchers tested 60 highly frequent PVs⁸ using a form recognition (to test receptive knowledge) and a form recall (to test productive knowledge) test. Results indicated that students scored better in the receptive test (65.2%) than the productive test (48.2%).

⁷ Frequency has been found to contribute to an extent to L2 acquisition, however, other factors such as salience and L1 interference among other have been found to play an equal role (Ellis 2006).

⁸ The researchers consulted the BNC complete, the BNC written, and the BNC spoken as well as the COCA for PVs frequency findings.

Positive correlations between frequency and PVs knowledge were found at both the receptive and productive levels (form recognition = .30 for the BNC complete and .36 for the COCA complete; form recall = .45 for the BNC complete and .42 for the COCA). This led the researchers to conclude that frequency can reliably predict PVs knowledge. Similar results were obtained by Chen (2013) in the form of positive correlations between PV corpus frequency (as indicated by BNC and COCA) and learners' production of PVs. The results indicated only modest correlation coefficients (.41 for the COCA and .34 for the BNC) while r^2 variance was 17.1% for the COCA and 11.9% for the BNC. While providing very informative results, these two studies did not take into account polysemy⁹ and only tested a single PV sense. However, polysemy cannot be overlooked as past research has indicated that PVs are highly polysemous with the 100 most frequent PVs in the BNC having 5.6 senses on average.

To account for polysemy, Garnier and Schmitt (2016) examined 128 EFL learners' knowledge of highly polysemous PVs. Participants completed a form recall test (in the form of a gap fill exercise) containing 40 PVs (and a total of 100 meaning senses) taken from the PHaVE list¹⁰ (Garnier and Schmitt 2015). The results obtained indicated that participants on average successfully produced PVs in 40.56% of all the 100 senses tested. The mean scores of participants on the most frequent sense of each of the 40 PVs was slightly higher at 44.5%. Looking at the individual senses of each PV in descending order of frequency (up to the 4th one) the researchers concluded that the mean for each meaning sense was low, especially for the third one (31.6%). However, the results showed that knowledge did not drop in parallel with sense frequency, as there were cases where scores for the fourth sense were nearly as high

⁹ Polysemy in this study is used as an umbrella term including homonymy.

¹⁰ The PHaVE list stands for the phrasal verb pedagogical list and is a PVs frequency list containing the most frequent senses in the COCA of the 150 most frequent phrasal verbs (in both BNC and COCA) as previously identified by Liu (2011).

as for the first one (44.3% and 44.5% respectively). As suggested by the researchers this may be in part attributable to the fact that only three PVs in the test had four senses. Another possible explanation could be that the PV senses frequency in learners' actual input (e.g., in their textbooks) may have not been the same as the native speakers' corpus frequency.

A recent study by Zhang and Wen (2019) examined intermediate and advanced Chinese learners' knowledge of polysemous English PVs. Participants judged the acceptability of 100 senses of 50 PV taken from the PHaVE list (Garnier and Schmitt 2015). Only two senses of each PV were tested, however (the highest frequency meaning sense and the lowest frequency meaning sense). The conclusion was that both intermediate and advanced learners tend to accept the higher frequency senses more than the lower frequency sense.

The above studies in some degree support the basic tenet of usage-based models, that frequency plays a central role in PV acquisition, although they do not unequivocally show the mechanism by which NS corpus frequency actually impacted on the participants involved. Nevertheless, other studies (especially in the case of collocations) question the dominant role of frequency in formulaic language acquisition. For example, González-Fernández and Schmitt (2015) found only a weak effect of frequency on knowledge of collocations, while, Macis and Schmitt (2017) did not find any frequency effect on knowledge of the figurative meanings of duplex collocations. A possible explanation for this is that these studies only looked at NS corpus frequency. It is doubtful, however if many participants' exposure to formulaic language is the one indicated by corpus findings (Durrant and Schmitt 2010), especially when they are EFL rather than ESL students. In fact, the relevant input that learners receive in the classroom from both materials (Schmitt and Schmitt 2014) and teachers' talk (Horst 2010) seems to be

unprincipled and opportunistic in respect of PVs. If we consider the ELT¹¹ textbook as one of the main sources of language input in the ELT classroom, then it is necessary to also consider textbook frequency counts to better decipher the link between frequency and PV acquisition. None of the studies cited so far did this. This point will be better explained in the following section.

4.2.2.2 The role of textbook frequency in vocabulary knowledge

The main source of language input in the ELT classroom is found in the ELT textbook since the lesson tends to centre around it ¹²(Römer 2004; Ljung 1990). Therefore, to better understand the language input that learners received it is important to compare the real language learner frequency (Römer 2004: 152) as found in the textbooks with native speaker frequency as found in native speaker corpora.

In response to this, studies have been carried out to examine the language included in ELT textbooks with native speakers' language (as depicted in the NS corpora) with disappointing findings for certain cases. For instance, Koprowski (2005) examined the usefulness (based on frequency and range criteria) of lexical phrases, including PVs, found in three ELT textbooks. The results indicated great disparity of usefulness scores in the three textbooks, something that led the researcher to conclude that textbook designers "may have been remiss in adequately ensuring that their choice of lexical phrases have a consistent and reasonable measure of frequency and range, both considered fundamental criteria for pedagogic usefulness" (Koprowski 2005: 328). In addition, a lack of consistency between the lexical phrases found in

¹¹ ELT stands for English Language Teaching

¹² It has to be clarified however, that we are not assuming that language found in the ELT textbook is the only source of language input in the classroom as other sources such as teachers' language input exists.

the three textbooks was found as not even one out of the 822 multi-word items examined were found in all three textbooks. Similar discrepancies between formulaic sequences¹³ in textbooks and native speaker corpus findings were also found for collocations (e.g., Koya 2004; Tsai 2015) and PVs (e.g., Alejo Gonzalez et al 2010).

A recent study by Demetriou and Skoufaki (in preparation) analysed and compared the presence and frequency of occurrence of polysemous PVs in six ELT textbooks used in Cyprus. The textbooks were part of two textbook series ranking from B1 to B2 proficiency level based on the CEFR¹⁴ levels. The researchers used the PVs frequency (PHaVE) list designed by Garnier and Schmitt (2015) to identify the PVs and their meanings in the textbooks, as at the time it was the only list that had identified the most frequent meanings of the most frequent PVs in the English language¹⁵. Results revealed that all six textbooks included highly infrequent PV meanings (based on NS frequency indications). Furthermore, only one of the six textbooks explicitly addressed polysemy at the B2 level. In addition, supporting Koprowski's (2005) findings, selection of PV senses seemed to be based on textbook writers' intuition rather than corpus findings. For example, there were cases where the fourth most frequent PV sense (based on COCA findings) was the second most frequent sense in the textbooks. Also highly infrequent meaning senses in the COCA for all six textbooks were found to be frequent in the textbooks (e.g., *blow up* as in *blow up the picture = enlarge the picture*).

¹³ Inspired by Wray (2002) we refer to the various types of formulaic language, such as PVs, collocations, idioms as formulaic sequences

¹⁴ CEFR stands for Common European Framework of Reference.

¹⁵ Garnier and Schmitt (2015) analysed the 150 most frequent PVs (both in the COCA and the BNC) previously identified by Liu (2011) and found their most frequent meanings in the COCA.

The above analysis further supports the need to analyse learners' actual input (as indicated by textbook analysis) so as to better understand the link between frequency and PV knowledge.

4.2.3 Language exposure factors and formulaic language acquisition

The facilitative role of learners' communicative engagement with the L2 has been found in the acquisition of formulaic sequences. Past studies have indicated that reading in the L2 (Macis and Schmitt 2017; Schmitt and Redwood 2011; Garnier and Schmitt 2016; Omidian et al 2019), watching films in the L2 (Schmitt and Redwood 2011; Omidian et al 2019; González-Fernández and Schmitt 2015), social networking (e.g. González-Fernández and Schmitt 2015; Garnier and Schmitt 2016) and time spent in an English speaking country (e.g. Macis and Schmitt 2017) facilitate formulaic sequence acquisition.

Schmitt and Redwood (2011), beyond looking at the effect of frequency, investigated the role of a number of different kinds of language exposure on PV acquisition. Their participants completed a biodata questionnaire, writing down how many hours per week they spend listening to music, watching TV, reading books and using social media. One-way ANOVA analyses indicated that reading books and watching films were significant predictors of knowledge. Post-hoc analyses revealed significant differences, at both receptive and productive level, between the participants reading and watching films the most as opposed to the ones watching films and reading books the least. On the other hand, listening to music and using social media were not found to predict PV knowledge. González-Fernández and Schmitt (2015) gauged 108 Spanish learners' of English knowledge of 50 collocations and tested among others the effect of informal exposure to English (testing the same activities as Schmitt and Redwood 2011) on knowledge of collocations. Reading, watching films and social networking were

found to be significant predictors of knowledge (reading: $r=.51$; watching English TV or films: $r=.24$; social networking: $r=.18$).

Macis and Schmitt (2017) examined 107 Chilean university students' productive knowledge of the figurative meaning of 30 duplex collocations (that can be both literal and figurative) and the effect of various factors (frequency, semantic transparency, year at university, and language engagement in L2) on this knowledge. Similarly, to Schmitt and Redwood (2011) Garnier and Schmitt (2016) and González-Fernández and Schmitt (2015) mixed effect modelling results revealed reading as a significant predictor of knowledge. The positive effect of reading on PVs acquisition was also supported by Omidian et al (2019) Zhang and Wen ¹⁶(2019). Garnier and Schmitt (2016) also examined the link between informal language engagement and PVs knowledge. The results showed that time spent reading and time spent on social networking could positively predict PVs knowledge. Overall, the above studies indicate that engaging in out of class activities (especially reading) can have a positive effect on formulaic sequence acquisition.

Conversely, the effect of spending time in an L2 speaking environment on formulaic language acquisition (including PVs) is unclear. For example, Macis and Schmitt (2017) found that time spent in an English-speaking country had a positive effect on knowledge of collocations. On the other hand, other studies (e.g., Garnier and Schmitt 2016) did not observe such an effect. This could be partially explained by Adolphs and Durow's (2004) study that concluded that socio-cultural integration is a crucial factor for formulaic language acquisition. Their study concluded that out of their two postgraduate participants the high integration participant used

¹⁶ Zhang and Wen (2019) investigate both advanced and intermediate Chinese English language learners. Reading was found to predict only advanced learners' master of high frequency senses.

much more formulaic sequences than the low integration one during their seven months of interviews. This led the researchers to conclude that there is a relationship between socio-cultural adaptation and formulaic language use. Similarly, Dörnyei et al. (2004) found that sociocultural adaptation, motivation and language aptitude facilitate formulaic language acquisition.

4.3 Research questions

All in all, past research has shown that well-studied factors such as L1, motivation and aptitude affect PV acquisition. Less well understood, however, is the precise role of PV frequency in input. NS corpus frequency has been found to be a positive, though not always strong, predictor of PV knowledge. Nevertheless, frequency in these studies has been operationalised as the lexical frequency of PV in NS corpora while no past research has aimed to explore the role in PV acquisition of frequency of PVs in learners' actual language input. Since the textbook is often one of the main sources of language input that learners receive in a language classroom (Ljung 1990) frequency of PVs in them should also be taken into consideration when examining the effect of frequency. The current research, therefore, aims to fill in this gap by examining the role of both NS corpus and textbook frequency in PV acquisition. Importantly, this study, will assess polysemous PV knowledge at both the receptive and productive level of vocabulary knowledge. In addition, a number of factors concerning different types of language exposure will be examined to better understand the role of out-of-class activities in PVs acquisition, since it is there that NS frequency rather than textbook frequency would be expected to play a role. Their impact will be assessed in direct contrast with that of the item frequency variables. Finally, in order to further validate the items of the productive tests 20 participants took part in an interview immediately after the completion of the tests.

The specific research questions for this study are therefore the following:

1. How good is learners' receptive and productive knowledge of PV senses that occur both frequently in NS corpora and in textbooks of the CEFR level just completed?
2. Which factors can best predict knowledge at the form recall and meaning and form recognition level? (out of NS corpus frequency, textbook frequency, and self-reported language exposure factors).

4.4 Methodology

4.4.1 Participants

100 Greek Cypriot participants (55 boys and 45 girls) English L2 learners from 7 different frontistiria¹⁷ in South Cyprus were recruited to take part in the test and questionnaire parts of this study, of whom 20 were additionally interviewed. All participants shared the same L1, Greek. At the time of the test they had all completed the B1+ level of English and had successfully passed their end of the year exam which allowed them to continue to the next level (B2). This gave us confidence that all students were at the same proficiency level. They were also required to rate their English ability in terms of speaking, listening, reading and writing on a 5-point-scale (0=none, 5=Excellent). Self-rating scores revealed that the majority of the students rated their reading and listening ability higher than their writing ability. Their speaking ability received the lowest scores. A number of students (n=3) rated their overall English ability to be very low. Nevertheless, after close investigation of their results in the three tests of the study (PV form-recall and meaning and form-recognition), it was revealed that students

¹⁷ Frontistiria are types of cram schools in Cyprus and Greece. The majority of students attend English frontistiria after school from the age of 5-6 years old.

performed quite well in all three tests. Possibly, these three students were just very critical of their abilities. The participants' biodata is provided in Table 1.

Table 1. Participants' Biodata information: Means (standard deviations)

Participants	Scores
Age (year)	14.04 (0.44)
Gender (M vs F)	55 vs 45
Self-rated: Reading ability	4 (1.36)
Self-rated: Listening ability	3.3 (1.12)
Self-rated: Speaking ability	2.9 (0.95)
Self-rated: Writing ability	2.3 (0.67)

4.4.2 Selection of Items

One of the main aims of this study was to examine the effect of frequency (both in terms of textbook and NS corpus findings) on PV acquisition. To do this, we followed a two-step procedure. First of all, we wanted to test Greek-Cypriot participants' knowledge of frequent polysemous PVs, as determined by NS corpora. Therefore, we selected items from the PHaVE list (Garnier and Schmitt 2015) which was at the time of the research the only PV frequency list that listed the most frequent meaning senses of the 150 most frequent PVs¹⁸ in the language (both British and American English). Section 4.2.1 describes the main findings of the Garnier and Schmitt' (2015) frequency list.

However, it was crucial to also ensure that the tested items had definitely occurred in the participants' language input. While, it is impossible (with the exception of tightly-controlled

¹⁸ These 150 PVs have been previously identified by Liu (2011) and are the most frequent PVs in both the COCA and the BNC.

experiments) to know the exact L2 language input participants' received in the class we hypothesised that their textbooks were a good indicator based on two reasons. Firstly, their teachers had assured us that their lessons were centred around the textbook and that their own L2 language input includes many of the lexical items found in the textbooks especially in the case of PV's, and secondly, past research has also shown that the textbooks are in many contexts the main source of L2 language input (Römer 2004). Demetriou and Skoufaki (in preparation) had previously identified the most frequent PVs' meanings in the participants' textbooks. Therefore, we selected items that were previously identified by them. Section 4.2.2 outlines the main findings of their study while section 4.2.3 summarises the main items included in the tests.

4.4.2.1 The PHaVe list

Garnier and Schmitt's (2015) examined the 150 most frequent PVs, previously identified by Liu (2011), and found their most frequent senses in the COCA. As their main aim was to create a pedagogical list, they wanted to ensure that the senses that made the final cut were indeed the most frequent in the COCA. Hence, they settled upon an upper threshold of 75% (the senses included in their list together accounted for at least 75% of each PV's occurrences in the COCA) and a lower threshold of 10% (the senses included in the PHaVE list separately accounted for at least 10% of each PV's occurrences in the COCA). Following this rule they analysed 200 randomly selected concordance lines for each PV and identified the key meanings of the 150 most frequent PVs in the COCA. While their list did not include all the PVs' senses (the 25% not included is not a negligible number) it did include the most frequent, key senses,

something that made the list of pedagogical use¹⁹. The final list included 288 senses with an average number of 1.92 (288/150) senses per PV entry.

4.4.2.2 Demetriou and Skoufaki's (in preparation study)

Demetriou and Skoufaki's (in preparation) study used Garnier and Schmitt's (2015) PV frequency list as a reference to identify and compare the presence and frequency of occurrence of polysemous PVs included in six ELT textbooks (from two textbook series) used in Cyprus. Furthermore, they examined whether the textbooks present learners with the most frequent meaning senses in the English language, as frequency in native speakers' corpora is widely regarded as a criterion of usefulness for L2 learners (Koprowski 2005). One of their most intriguing findings was that the textbooks included some senses that were not in the PHaVE list. A striking example is the PV *blow up* that had only one meaning listed in the PHaVE list (=explode or destroy STH with a bomb or cause to be exploded or destroyed (75.5 %) ²⁰) while 3 additional meanings were identified in the textbooks. Therefore, the researchers decided to carry out their own COCA search to identify the frequency percentages of all the additional meanings identified in the textbooks. They followed Garnier and Schmitt's (2015) steps, without however setting an upper or lower threshold (for a detailed analysis of the procedure see Garnier and Schmitt (2015) or Demetriou and Skoufaki (in preparation)). They did not do so as they wanted to identify all the PV senses included in the COCA. A striking finding of their study was that the textbooks included highly infrequent PVs meanings based on NS corpus frequency criteria, that were nevertheless highly frequent in the six ELT textbooks.

¹⁹ As the researchers themselves clarify the underlying rationale of the PHaVE list was to reduce "the overall meaning senses to a manageable number" (Garnier and Schmitt 2015:653).

²⁰ Definition taken from the PHaVE list by Garnier and Schmitt (2015).

4.4.2.3 Final Items included in the tests

Our main aim was to test Greek-Cypriot participants' knowledge of polysemous PVs that were both frequent in NS English and had occurred in the textbooks they had recently used, so that acquisition of them would be expected to have occurred in the senses covered by the textbooks. Since our participants had at the time successfully passed the B1+ level of proficiency and were moving on to the B2 level, we decided to include items that were included in the textbook of the proficiency level they had just completed, namely the B1+. Our participants were from different English language schools (frontistiria) in Cyprus that were using Real English B1+ and Cosmic B1+ student books. Therefore, we decided to test items (PVs and PVs meanings) that were shared across the two textbooks and were also included in the PHaVE list. It is important to mention, however, that some of the senses included to be tested, did not occur in the PHaVE list, but were found to be relatively frequent in the two textbooks based on Demeriou and Skoufaki's (in preparation) study results. Therefore, in this way we ensured that all of our 100 participants had been exposed in class to all the specific senses tested. The search resulted in 26 shared PVs²¹ with a total of 74 senses. We anticipated, however, that the piloting stage would identify problematic items which would have to be removed from the tests. This was indeed the case as after piloting the items (see section 4.6) 25 out of the original 26 PVs were included in the tests with a total of 72 different senses tested.

4.4.3 The productive Form Recall test

First, to measure participants' productive knowledge of PVs we constructed a form-recall test in sentence cloze format, gauging knowledge of all 72 senses of the 25 PVs selected. Our decision to test the form-recall level of knowledge was two-fold. Firstly, form recall is

²¹ As we wanted to test polysemy, we selected only PVs that were polysemous and had more than one meaning either in the PHaVE list or in the textbooks.

considered to be the most difficult level of knowledge (Laufer and Goldstein 2004) and successful production at the form recall level is a sign of full productive mastery of the form-meaning connection (Schmitt 2010). Secondly, this test has ecological validity, as learners are required to have form recall knowledge when producing written language. The final version of the form recall test was a fill-in-the-blank test, where each PV was embedded in an English sentence. Two gaps were included, corresponding to each of the two words that form the PV (lexical verb and adverbial particle). We decided to provide the first letter of each of the two words to restrict the PV options that would be appropriate to just one. At the end of each sentence we provided in parenthesis the meaning, in the form of a one word English synonym of the target PV in bold and italic (to make it more noticeable). Since we were testing polysemous PVs we also ensured that the recurring PV forms were spread out in the test to avoid priming and facilitation effects. The definitions given in the parenthesis were in some cases taken from the PHaVE list (Garnier and Schmitt 2015) and the sentences were created based on example sentences found on the internet. In addition, we followed a two-step procedure to ensure that all the words in the sentences were known to our participants. Firstly, we imported all the sentences into the VocabProfiler of the Complete Lexical Tutor, to check for their frequency and eliminate highly infrequent words and academic words. Then, we imported the newly devised sentences into the Text Inspector of the English Profile²² (for the CEFR levels) to ensure that all the lexical items belonged to levels up to the B1+ CEFR that was our participants' level. The second step was to carefully examine the sentences and also the results of the piloting phase and format the sentences to include lexical items found in the vocabulary exercises of their textbooks. These two steps were deemed necessary, as we wanted to ensure that we were testing their PVs knowledge, and to prevent lack of knowledge of any

²² The English Profile is an online platform that enables students and teachers to get a better understanding of the CEFR levels. The English vocabulary profile provides information about which words and phrases are used at each CEFR level.

of the other words in the sentence having an effect on the final results. Below is an example of a sentence included in the test to elicit the PV *go up*:

He could see a few hands g_____ u_____ in class. (raise)

4.4.4 Recognition Tests

4.4.4.1 The Form Recognition Test

The form recognition test was a multiple-choice cloze test, testing all 72 senses of the 25 PVs.

In this test we deleted the PV from each sentence and instead provided participants with the PV meaning in bold. The PV form was incorporated into a set of multiple-choice items. The participants had to choose the correct PV form from a total of four options (three distractors were included). The same two-step procedure as with the form recall test was followed to ensure that learners knew the words contained in the sentences and that indeed only PV knowledge was tested. Below is an example of a sentence included in the test for the PV *pick up*.

Can you **collect** my mail from the post office, please?

- a) pick out
- b) set out
- c) pick up

- d) make up

4.4.4.2 The Meaning Recognition Test

Lastly, we wanted to gauge participants' meaning knowledge at the recognition level, and hence we constructed a meaning recognition, multiple choice test. In this test we provided the PV form in bold. The participants had to choose the correct PV meaning for a total of four options (three distractors were included). However, due to time constraints (all three tests were administrated on the same day) and to avoid participants' fatigue affecting the results, we only tested one sense of each PV, the most frequent one (as determined by COCA). Below there is an example of the meaning recognition test:

- 1) Can you please **pick up** my trousers as well?

- a) collect
- b) iron
- c) hang
- d) wash

4.4.5 Biodata and Language exposure Questionnaire

Aside from concern with the effect on PV knowledge of PV frequency, one of the main aims of this study was to determine the effect of a number of reported out of class exposure factors. These were assessed along with biodata (e.g., age, gender) in a questionnaire for each participant to complete after the end of the tests. The language exposure information enabled

us to investigate the relationship of everyday exposure to English via reading, listening to music/the radio, watching films/TV and using social media (e.g. Facebook, Twitter, MySpace, etc.) with PV knowledge. In addition, participants were asked to say if and for how many weeks they had stayed in an English-speaking country. The questionnaire was given to students in their L1 (Greek) to ensure maximum understanding.

4.6 Interview stage

It was decided to validate the items of the form recall test, since it was clearly the most demanding. With this purpose, we conducted an interview stage which took place immediately after the completion of the tests. This direct approach to validation was inspired by Schmitt (1999) and Schmitt et al (2001). 20 out of the 100 participants, took part in an in-depth interview with the first author. The format of the interview was inspired by Skoufaki's (2018) study. The interview stage consisted of four parts. The first part included general questions about the three tests with the main focus being on the form recall test. For example, participants were asked whether they liked the test and if they encountered any problems with it. In the second stage participants were asked to do four items of the test and explain out loud how they reached to the answer. We decided to provide new sentences as this would help the participants not to think only retrospectively (Schmitt et al 2001). The third stage, asked participants to complete the same items found in the form recall test and explain how they reached to the answer and to describe the process they followed while completing the tests. The fourth and final stage asked participants to read a list of sentences containing polysemous PVs (from the tests) that were bolded and explain their meaning in each sentence. They were asked to provide the definition or description of the item.

4.7 Piloting Phase

In order to check and improve test validity, the three PV tests (form-recall, form and meaning-recognition) were piloted with both native and non-native speakers of English. The first step in the pilot phase was to administer the tests to 15 native speakers. The aim was to check whether each PV form could be accurately provided with the help of the sentence contexts and the given meanings, and also to get an idea of the time needed to complete the test. The test-takers were initially allowed 50 minutes for the form recall test and 30 minutes for the meaning recognition test. However, since they were all native speakers of English, we anticipated that most of them would complete the tests in a shorter amount of time. As expected, the form recall test needed on average only 15 minutes. The results showed that correct answers were provided for the large majority of items, with scores ranging from 65 to 72 out of 72. A qualitative analysis of the data allowed us to identify and replace or delete certain problematic items that were either left blank or given the wrong answer. At the end of the data collection, 25 (72 PV meaning senses) PVs out of the original 26 remained in the final tests to be given to the students.

In the second piloting stage the test was administered to 20 non-native speakers of English in Cyprus. The criteria for selecting participants were the same as for the main study: students should have successfully completed the B1+ level of English and they should have used either the Real English B1+ textbook or the Cosmic B1+ textbook. The students were allowed 50 minutes for the form recall test, 40 minutes for the form recognition test, and 30 minutes for the meaning recognition. This time, we expected a greater variation in scores due to the fact that L2 participants were likely to differ in their vocabulary knowledge. Their scores were quite low as expected; $M= 27/72$ $SD = 17.20$ for the form recall tests, $M= 37/72$ $SD = 17.03$ for the form recognition test and $M= 19/25$ $SD= 5.62$ for the meaning recall test. After taking the test, participants indicated that they felt comfortable with the procedure, and that they did not notice any confusing items. Test-taking time ranged from 35 to 40 minutes for the form recall, 30 to 35 minutes for the form-recognition and 20 to 25 minutes for the meaning recognition test.

Following this, we decided that the tests were adequate and ready to be administered to other non-native speakers of English taking part in the main study with a completion time allowance of 45 minutes for the form recall, 30 minutes for the form recognition and 20 minutes for the meaning recognition.

The interview stage was also piloted by the first researcher with five participants. By the end of the interview we decided that certain questions should be rephrased and based on certain comments made by the participants, questions were added.

4.8 Procedure

The tests were administered in Cyprus, in the premises of participants' language schools. Tests were completed in pen and paper form and under the first researcher's supervision. First the form recall PV test was given to the students with instructions on how to complete it. As we wanted the instructions to be as clear as possible, they were written in the participants' L1, Greek. Following the completion of the form recall test, students were given the form recognition test which they had to complete in 30 minutes. The students were then given 20 minutes to complete the meaning recognition test. Again instructions (for the form and meaning recognition tests) and explanations were given in Greek to ensure understanding. We decided to first administer the form-recall test and then the form-recognition and meaning recognition tests to avoid priming and facilitation effects that would occur if the less demanding tests were given ahead of the more demanding ones.

For the last stage, 20 of the 100 participants took part in the interview conducted in Greek that lasted approximately an hour. 16 participants were interviewed on the day of the test

completion and the rest 4 on the next day. We wanted to ensure that the interview took place on the same day as, or the next day after, the test as we wanted students to have the tests fresh in mind.

4.9 Data Analysis

The tests were scored disregarding inflectional mistakes. Since there were some cases where answers were slightly difficult to read, we consulted a native speaker of English to confirm our first impressions of the answers. In this way individual items for particular PV senses were therefore scored simply correct or incorrect. Total scores on a test for each participant were then converted to percent correct, for easier comparison, since the total number of items was not the same in all three tests.

The test and questionnaire data was then imported into Excel spreadsheets and IBM SPSS (25.0) for analysis. Descriptive statistics were calculated. In addition, Generalized Linear Model - Generalized Estimating Equations were employed to examine the effect of the various tested factors on PV knowledge. This suited our data because it has within it an option to handle a dependent variable in binary form through a form of logistic regression, but also allows us to specify that the data contains responses which are repeated measures from the same people rather than all being from different people.

Finally, the interviews were transcribed using Microsoft-Word and then the data was subjected to content analysis, with attention to the thinking processes which the participants used when answering the test items.

4.5 Results

The mean score results for each test (Table 2) support the expected order of difficulty which is based on the theoretical assumption, also supported by previous empirical work (Laufer and Goldstein 2004), that recall (open response) is harder than recognition (multiple-choice response), and that retrieving a form for a given meaning, as in language production (speaking and writing), is harder than retrieving a meaning for a given form, as in language reception (listening and reading) (e.g. Schmitt 2010). We must admit however that meaning recognition was also made easier by the fact that the test did not test the secondary senses of each PV as the other tests did. This finding of the expected order of mean scores supports the validity of the test instruments.

Further confirmation of expectations about the test results, on their own, comes from correlations. As would be expected, students who score higher on one of the tests tend to score relatively higher on the others so the correlations between the three measures are all highly significant ($p < .001$). However, the correlation between student total scores on the two form measures ($r = .969$) is notably stronger than that between form recall and meaning recognition ($r = .900$) or form recognition and meaning recognition ($r = .895$). Thus the affinity of the two production measures with each other is supported.

4.5.1 Research question 1: Participants' levels of knowledge of meanings of phrasal verbs that they were expected to know

RQ1 concerns how well the participants knew the PV senses tested. Since, as described in 4.2 above, these PV senses all occurred in the textbooks they had followed at the CEFR level they

had just successfully attained (B1+), and were also mostly frequent in a leading NS corpus (COCA), the default expectation was that they should score 100%, at least on the easiest test of these senses (meaning recognition). In reality eight participants did attain 100% correct on the meaning recognition test while one student attained that on the form recognition test but none attained that on the form recall test. Some students however scored much lower, e.g., as low as 36% even on meaning recognition.

One reason for unexpectedly low scores could be that students were not all concentrating and putting effort into doing well, perhaps because it was clearly a test that had no impact on their class grades etc. From our observation of the students while they were doing the tests, however, that seems unlikely as they all appeared to be making a real effort to answer. The low scores, especially if we take into consideration that students were exposed to these meaning senses, therefore further support previous evidence that PVs are challenging items for learners to master (e.g. Redwood and Schmitt 2011; Garnier and Schmitt 2015).

A specific factor that could be at work, however, is that even relatively frequent PVs do not occur very often in absolute terms in specific senses. In the textbooks the highest frequency senses occurred as much as 10 times in 'Cosmic' and 17 times in 'Real English' and 99 times per million in COCA (Table 3). At the other end of the scale, however, the least frequent senses of the frequent PVs that we included occurred only once and the average numbers of occurrences of senses in both textbooks were below three occurrences. Yet it is argued that as much as 10 repetitions (Uchihara et al. 2019) are desirable/necessary for word learning to occur, although estimates vary considerably in different studies: fewer recurrences might allow for some learning at a basic level of word knowledge. However, around three quarters of the PV senses in the study occurred only three times or less in each textbook. Even allowing for

repetition in class by teacher and students doing tasks in addition to occurrences in the textbook, this suggests that the classroom input alone, even for the more frequent PVs, could have been too limited to support acquisition of some senses.

Table 2. Descriptive statistics of participants' performance on the three tests (%)

	N	Minimum	Maximum	Mean	Std. Deviation
Form recall	100	8	97	41.40	22.289
Form recognition	100	17	100	54.18	22.128
Meaning recognition	100	36	100	66.80	17.024

Table 3. Descriptive statistics of PV frequency in the two textbooks (absolute) and the COCA (per million)

Frequency in	N	Minimum	Maximum	Mean	Std. Deviation
COCA	72	.65	98.99	11.12	16.108
'Real English'	72	1	17	2.69	2.735

'Cosmic'	72	1	10	2.39	2.032
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4.5.2. Research Question 2: Relationships of frequency and language exposure factors with PV Knowledge

4.5.2.1. Predictors of the form recall test scores

We can see in Table 4 that just two of the out of class exposure variables emerge as significant predictors of scores: reading and watching English films. Social media, listening to music and time in an English-speaking country (by a smaller margin) had no significant impact. This could be because social media use is mostly done in participants' L1 (Greek). Music provides limited L2 input and the words are not always listened to. From the size of the Wald chi square values we can see that reading had a greater impact than watching films, which is consistent with books containing a richer vocabulary than that in spoken dialog such as occurs in films. The textbook used (Real English or Cosmic) in itself also had no impact once the impact of the frequencies of the target items in those books were taken into consideration. That is to say that the way the PVs were presented or practised in the two books, if it differed, had no differential effect on learning.

As for frequency, notably the greatest impact was of COCA sense frequencies. Once that is taken into account, COCA based sense order within PVs has no significant effect. The size of the Wald chi square (111.2) suggests that the main single predictor of success on this test in our study is actual COCA frequency, which is consistent perhaps with reading being important since it is in extensive reading outside of class that students would meet PVs in accordance with COCA frequencies. Textbook frequencies also played a significant role, however.

Interestingly the impact of the frequency order of the senses within PVs was greater than that of the actual number of occurrences making up the frequency in the textbooks.

Table 4. Results for predictors of Form Recall Test scores

	Wald Chi-Square	df	Sig.
(Intercept)	36.427	1	<.001
Textbook used	.586	1	.444
Minutes spent reading English books and magazines	31.345	1	<.001
Minutes spent watching English films	18.426	1	<.001
Hours spent on Social Media	.279	1	.597
Minutes spent listening to English songs	.300	1	.584
Time spent in an English-speaking country	3.141	1	.076
COCA frequency	111.199	1	<.001
Frequency in textbook used	14.421	1	<.001
Sense frequency order (from COCA) within phrasal verb	.719	1	.396
Sense frequency order (from textbook used) within phrasal verb	66.063	1	<.001

Dependent Variable: Form recall

4.5.2.2 Predictors of the form recognition knowledge scores

Essentially the same picture emerged as for the form-recall test, except that time in an English-speaking country becomes significant, albeit with quite a low Wald coefficient (Table 5). Again, there was, notably a great impact of COCA sense frequencies on form-recognition scores. Once that is taken into account, COCA based sense order within PVs has no significant effect. The size of the Wald chi square (65.4) suggests that the main single predictor of success on this test in our study is again actual COCA frequency, while textbook frequencies also played a significant but lesser role. Interestingly the impact of the frequency order of the senses within PVs in textbooks was greater than that of the actual number of occurrences making up the frequency in the textbooks.

Table 5. Results for predictors of Form Recognition Test scores

	Wald Chi-Square	df	Sig.
(Intercept)	13.604	1	<.001
Textbook used	.016	1	.898
Minutes spent reading English books and magazines	43.459	1	<.001
Minutes spent watching English films	20.770	1	<.001
Hours spent on Social Media	2.301	1	.129
Minutes spent listening to English songs	.665	1	.415
Time spent in an English speaking country	5.467	1	.019
COCA frequency	65.410	1	<.001
Frequency in textbook used	7.071	1	.008

Sense frequency order (from COCA) within phrasal verb	.178	1	.673
Sense frequency order (from textbook used) within phrasal verb	49.364	1	<.001

Dependent Variable: Form recognition

5.2.3 Predictors of the meaning recognition knowledge scores

Again, the significant findings are similar to above with respect to frequency effects, though with rather lower Wald values (Table 6). The impact of reported exposure variables however differs a little. Reading and watching films in English still have significant effects but are weaker and more similar than for the form test scores above. Interestingly here social media has a marginally significant effect ($p=.042$). However, on a follow up bivariate correlation analysis it emerged that, unlike all the other relationships revealed in this section, the relationship here was negative ($r=-.236$ $p=.018$). In other words, there was a weak but significant tendency for those who used social media more to do worse on this test. This could be perhaps because this activity was low in English input value and took up leisure time that could be spent on more valuable English input activities like reading. Indeed, with all three tests the effect of social media use was negative, albeit only significantly so for meaning recognition.

As is shown in Table 6, all predictors have quite low Wald statistics. That may be due to the fact that this test, tested only the most frequent meaning of the PVs in the easiest way (receptive

recognition), with a number of participants scoring 100% or close to that. Therefore, the variance in scores that was available to be explained by the predictors was reduced.

Table 6. Results for predictors of Meaning Recognition Test scores

	Wald Square	Chi- df	Sig.
(Intercept)	68.047	1	<.001
Textbook used	.005	1	.946
Minutes spent reading English books and magazines	11.343	1	.001
Minutes spent watching English films	10.435	1	.001
Hours spent on Social Media	4.144	1	.042
Minutes spent listening to English songs	.089	1	.765
Time spent in an English speaking country	2.154	1	.142
COCA frequency	56.310	1	<.001
Frequency in textbook used	11.041	1	.001
Sense frequency order (from textbook used) within phrasal verb	16.290	1	<.001

Dependent Variable: Meaning recognition

4.5.3. General comments bearing on Validity

First of all, when participants were asked if the form recall was a “good test” they all answered positively. Participants were also asked whether they thought that the form recognition test was more difficult than the form recall test to which the vast majority of interviewees answered negatively, stating that they found the form recognition test easier than the form recall test. This finding is not surprising since recognition tests are widely seen as easier than recall tests (Laufer and Goldstein 2004). There were three students, however, that stated that they had found the form recognition test more difficult than the form recall test as they found being given different options confusing. This could be due to individuals’ test preferences rather than test limitations although it is true that the multiple choice format used to assess recognition resembles real life language production considerably less than the open choice gap filling format used to assess recall (Schmitt 2010). The students were also asked whether they considered the form-recall test an easy test to take to which the majority answered affirmatively. Five students felt that some sentences were slightly difficult to complete. However, when we checked their scores on the form-recall test, we concluded that the participants performed quite well (compared to the average scores for the test). Overall, then, there was nothing in the participants' explicit responses about the tests that led us to seriously doubt that the tests effectively tested what they were intended to test, i.e. their validity was supported.

4.5.3.1 Steps participants followed while answering the test

We were also interested to investigate the steps students followed while completing the form recall test. Two interesting findings emerged from the think aloud part of the interview stage and researcher associated questions. Firstly, when participants knew, from the sentence context and the initial letters provided, the PV tested in each sentence, they rarely consulted the

definition in parenthesis at the end but rather moved on to the next item. When asked if the parenthesis had helped them, the majority said that they already knew the answer so the definition in parenthesis did not contribute anything to their knowledge. Secondly, when participants did not know the answer from the sentence context and initial letters, they always consulted the definitions provided in parenthesis and then looked at the first letter of the blank to help retrieve the missing PV.

This suggests two points. First, we had clearly made the items easier by providing multiple prompts rather than just a sentence with a gap or just a synonym. Scores would have been lower without the synonym in parenthesis at the end. However, the scores were still, as expected, lower than for the retrieval tests. Still it might be considered in future if all three prompts are really needed.

Second, it remains uncertain why the students chose to rely on the sentence context ahead of the synonym. It could be simply that that was what was presented to be read first. Alternatively it might be that they were more familiar with that format in textbook exercises. Again it could be that a sentence context was regarded as more helpful because it more closely resembles the situation in normal writing where one starts off a sentence and then hits a point where one cannot immediately retrieve the word for the meaning that one wants to express. By contrast a synonym clue within the target language is less likely to be available and, if it was, would simply be written instead of what could not be retrieved. This line of thought suggests that perhaps it would be better in future to rely on the sentence and omit the synonym, in the interests of approximating better to real life conditions (ecological validity). However, once again there appears to be no evidence that the answers were obtained other than by use of knowledge that the researcher wished to test.

4.6 Discussion

This study first sought to investigate the closeness to 100% of Greek-Cypriot learners' receptive and productive knowledge of polysemous PVs that were relatively frequent in NS corpora and which they had also met in class (RQ1). Notably (RQ2), it also looked at the effect of a number of linguistic (textbook and corpus frequency) and language exposure (reading in the L2, watching films in the L2, listening to music in the L2, time spent social networking and time spent in an English-speaking country) variables on PV knowledge at three different knowledge levels. Importantly, this study addressed learners' actual PV input by testing knowledge of PVs and PV meanings that learners had been previously exposed to in their textbooks.

Overall, taking into consideration that our participants had been exposed in class to the PVs in the senses tested, they scored quite low in the form recall and form and meaning recognition tests (averages 41.40, 54.18 and 66.80 respectively) (RQ1). The scores did fall in the predicted order, however (Laufer and Goldstein 2004), following normal expectations that production is routinely found to be harder than reception and recall harder than recognition. Meaning recognition yielded the highest scores since this is considered to be the easiest of the three and because in our study it tested only the most frequent PV senses. These results are congruent with past research that highlighted lack of PVs knowledge (Garnier and Schmitt 2016; Schmitt and Redwood 2011; Omidian et al. 2019). Omidian et al.'s (2019) participants knew an average of 64.24% of senses receptively which is similar to our participants' knowledge (66.80%). This might seem to present our participants as being very good since Omidian et al.'s were university students studying English literature and hence might be expected to have better overall English proficiency.

We will now discuss in more detail the factors affecting PV knowledge at the form-recall and form and meaning recognition levels (RQ2).

4.6.1 Discussion of factors affecting PV Form Recall

After assessing students' productive recall knowledge of polysemous PVs we also wanted to examine the factors affecting such knowledge. Our analysis showed that, of the factors that we included, NS (COCA) frequency was the strongest predictor of PV knowledge, a finding congruent with past results (e.g. Garnier and Schmitt 2016; Chen 2013; Schmitt and Redwood 2011). Interestingly, however, we found that COCA based sense order within each PV had no significant effect on PV knowledge while textbook frequency order of PV meaning senses had a significant effect on knowledge. This result is not surprising, if we consider Demetriou and Skoufaki's (in preparation) results that showed that textbooks include corpus based infrequent PVs meaning senses.

In addition to frequency the other two significant predictors of knowledge at the form-recall knowledge level are extensive reading and watching films/TV shows in English. These results are consistent with past findings by Schmitt and Redwood (2011), Garnier and Schmitt (2016), Gonzalez Fernandez and Schmitt (2015), Omidian et al (2019), and Zhang and Wen²³ (2019). Reading in English was also found to be a significant predictor of knowledge in Garnier and Schmitt's (2016) study and Macis and Schmitt's (2017) study. Past research has shown that reading is a facilitator of both vocabulary acquisition (e.g Horst et al 1998; Nation 2001; Macis 2018) and overall proficiency (e.g. Renandya et al 1999). Hence, this result is not a surprising one.

²³ This applies only to their advanced learners' mastery of high-frequency words.

In contrast with previous results social networking was not found to be a predictor of knowledge (e.g., Garnier and Schmitt 2016). Indeed, it even had a weak negative relationship. This is probably due to the fact that our participants mostly communicate in their L1 on the social platforms, rather than in English. What is more, listening to music was not found to have a significant effect on PVs form recall knowledge. Listening to music, is an aural entertainment mode and does not require the attention of learners to the words, which often even NS cannot decode. Therefore, unknown vocabulary may be left unnoticed (Garnier and Schmitt 2016).

Finally, time spent in an English-speaking country did not have an effect on our results, similarly to Garnier and Schmitt (2016b) and Omidian et al (2019). In our case, our participants had spent on average only one week in an English-speaking country which is arguably too little time for any learning to occur. Possibly, if they had spent more time, an effect could have been identified.

4.6.2 Discussion of factors affecting PV Form Recognition knowledge.

We also measured predictors of participants' productive knowledge at the level of a form recognition test. Overall, the same factors affecting PV knowledge at the form recall level were found to apply in a parallel way at the form recognition level: NS corpus frequency, textbook frequency, extensive reading and watching English films and movies. Interestingly, however, here time spent in an L2 country was found to be a predictor (albeit with a low Wald statistic). Hence, we may assume that while spending time in an English-speaking country may not promote productive recall knowledge of PVs, it may enable the development of knowledge at a form-recognition level.

4.6.3 Discussion of factors affecting PV Meaning Recognition knowledge

Again, the significant findings are similar to those for the form recall and form recognition tests with respect to frequency effects. The impact of personal English exposure variables however were found to differ a little. Reading and watching films in English still have significant effects, consistent with previous research (e.g. Omidian et al 2019). However, it is notable that although both those activities are receptive rather than productive, they were related to the receptive meaning recognition scores the least strongly. Interestingly, however, here social media was found to have a marginally significant effect ($p=.042$). Since the effect is negative, it implies perhaps that spending leisure time on social media takes away from time spent on processing richer English input with more benefit.

4.7 Conclusions and pedagogical implications

PVs are important for L2 learners as their acquisition can lead to sounding native like (Siyanova and Schmitt 2007). Nevertheless, PVs are considered to be one of the most challenging types of lexical item in the English language and past research has uncovered a widespread avoidance phenomenon (Dagut and Laufer 2007; Hulstijn and Marchena 1989; Laufer and Eliasson 1993; Liao and Fukuya 2004). Nevertheless, studies gauging learners' knowledge of PVs and factors affecting such knowledge have been scarce. To our knowledge the first study directly measuring PV knowledge was Schmitt and Redwood's (2011) study. Their study found that a number of factors such as corpus frequency and extensive reading can positively affect PV acquisition. Their study, while providing significant findings, did not however take into account polysemy. Garnier and Schmitt (2016) then measured L2 learners' knowledge of polysemous PVs and concluded that PVs are in this respect very challenging lexical items. Our

results confirmed the challenging nature of PVs and the lack of knowledge by L2 learners as our participants scored on average considerably lower than 100% on all three tests (form recall, form and meaning recognition). This is consistent with Garnier and Schmitt (2016) and is especially worrying if we take into consideration that participants had definitely been exposed to all the PV senses in the classroom.

Similar to Schmitt and Redwood (2011) the present research also found corpus frequency to be a strong predictor of PV knowledge. However corpus frequency of PVs is not necessarily the same as PV frequency in learners' EFL contexts (Durrant and Schmitt 2010; Koprowski 2005; Demetriou and Skoufaki in preparation). To take account of this, this study also looked at participants' textbook frequency as well as corpus frequency, so as to better decipher the role of frequency in PV acquisition. The finding was that the impact of NS corpus frequency was in fact greater than that of textbook frequency, and this was especially true where production knowledge was tested. The implication is that input from sources with NS frequency, presumably out of class, had more impact on PV knowledge than that from the textbook in class, where admittedly the number of occurrences of many PVs in particular senses was quite low.

Our results also showed that L2 engagement through leisure activities such as reading English books etc. and watching English films can have a marked positive effect on PV knowledge. Consistent with previous findings (e.g. Fernandez Gonzalez and Schmitt 2015), reading and watching English films was found to promote PV acquisition at all three levels of vocabulary knowledge (form-recall, form and meaning recognition). Extensive reading in particular has long been considered an effective technique to promote vocabulary acquisition (Horst et al 1998; Macis 2018; Pellicer-Sanchez and Schmitt 2010; Pigada and Schmitt 2006; Nation 2001).

This study also concluded that while spending time abroad may not be enough to develop productive PV knowledge (Adolphs and Durrow 2004), it may be enough to develop form recognition knowledge of PVs. Using social media however in our study yielded a result not matched in other studies, a low but negative impact on PV knowledge, possibly because it was done in Greek not English.

The results of this study have a number of teaching implications. First of all we highlight the need to teach separate meanings of polysemous PVs, as our participants had limited knowledge of different PV meanings. This is striking if we consider that these participants had definitely been exposed to these PVs in all the meanings tested. While PVs are mainly found in spoken speech and are considered colloquial in tone (Biber et al 1999) students need to learn them as their use can lead to native-like speech (Siyanova and Schmitt 2007). Therefore, teachers need to become aware of their importance and pay more attention to them in class.

This study also implies the need to adopt a more principled approach when choosing PVs to include in the textbooks and teaching materials in general. It is important for textbook writers to consider PVs' polysemous nature and adopt a more systematic and principled approach when choosing which senses to include in the text.

Finally, this study highlights the value of students engaging in leisure activities such as, especially, English reading, for PV acquisition and practice. Our findings even imply that this kind of activity may be more effective in improving knowledge of PVs than reading the textbook. Therefore, learners should be encouraged to engage in leisure activities such as reading and watching English films. At the same time our findings suggest that extensive use

of social media in L1 actually can have a negative impact, presumably due to the time it occupies, so should be limited.

4.8 Limitations and directions for future research

The results of this study must be interpreted with caution as there are a number of limitations to keep in mind. Firstly, the amount of out of class L2 engagement and exposure was measured based on a self-report questionnaire and hence it cannot be certain whether participant answers were accurate. Students may have overestimated or underestimated time spent in each activity. Future research should carry out similar research using a better measure of L2 engagement such as the Language Contact profile (Freed et al 2004).

Secondly, in the interests of keeping the scope of the study within manageable limits, we controlled, by holding constant, two factors already well known to affect PV acquisition. Our Greek Cypriot participants shared the same L1 (Greek), and hence we did not examine the effect of L1- L2 differences on PV knowledge. Future research should be carried out at the same detailed level as ours in terms of attention to different types of word knowledge and multiple PV meanings, but comparing PV knowledge of participants between an L1 such as Dutch (which possesses particle PVs) and an L1 that lacks the structure (such as Greek).

Furthermore, our group was deliberately homogenous in age group and proficiency level (B1+). Thus we did not provide any information on how proficiency differences can affect both PV knowledge and the factors that affect such knowledge at the level of detail we addressed. Future research again could compare L2 students from different proficiency levels to better understand the impact of proficiency level on PV knowledge.

Future research could also usefully investigate the additional effect on PV acquisition of other lexical factors besides frequency and L1 contrast, such as saliency and transparency of PVs, and how far their frequency occurs in input in a spaced or massed distribution pattern.

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Chapter 5

Teachers' beliefs about phrasal verbs: A qualitative study

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Abstract

Although teachers' beliefs have been extensively researched in language teaching research, there are a few studies on the effect of these beliefs on vocabulary teaching. To my knowledge, no study so far, investigated the effect of teachers' beliefs on teaching phrasal verbs, a very important yet challenging language feature. To fill in this gap, this study draws on a qualitative study and aims to reveal teachers' beliefs about phrasal verbs and the rationales underlying teachers' instructional decision. The database for this study consists of 20 interviews (30 hours of interviews) with second language teachers. This study hopes to shed some light on teachers' beliefs and on how this can be reflected in their teaching.

Keywords

Phrasal verb teaching, vocabulary teaching, second language classroom research, teachers' beliefs.

5.1 Introduction

Teachers' beliefs have been extensively researched in the educational and language teaching field from various perspectives and with different objectives (e.g., Philip & Borg, 2009; Borg, 2006; Pajares, 1992; Leder and Forgasz, 2002). One of the main findings of past research on teachers' beliefs was that there is a link between teachers' beliefs and their teaching practices (e.g., Attardo & Brown, 2005; Johnson, 1992; Yook, 2010; Borg & Al-Busaidi, 2012). Therefore, since, teachers shape to a great extent learners' learning experience, and as their instructional choices can have an impact on students' learning (Muijs et al., 2014), it is now widely acknowledged that teachers' beliefs need to be uncovered for change in language classroom to occur (Donaghue, 2003). Nevertheless, surprisingly, there is, little research into teachers' beliefs about vocabulary learning and teaching (Borg, 2006) in spite of the importance of vocabulary in second language acquisition (e.g., Schmitt, 2010). Furthermore, to my best knowledge, no study so far, investigated teachers' beliefs about phrasal verb learning and teaching despite of phrasal verbs being a crucial element of foreign language learners' language competence. Phrasal verbs are a challenging element of English language vocabulary and are known to be a source of hurdles for foreign language learners. In fact, past research has observed an avoidance phenomenon (Dagut & Laufer, 1985; Laufer & Eliasson, 1993; Siyanova & Schmitt, 2007). Therefore, taking into account the effect that teachers' beliefs have on their classroom decisions and practices (e.g., Harste & Burke, 1977; Kuzborska, 2011; Nation & Macalister, 2010; Williams & Burden, 1997), it worth investigating what are teachers' beliefs about phrasal verbs in order to better understand how these beliefs can impact their decisions about the in-class activities used and their various teaching practices.

II Background

5.2 Defining Beliefs

Defining beliefs is not a straightforward task as various definitions have been used in the teacher cognition research to refer them (Borg, 2006; Pajares, 1992; Rokeach, 1968; Leder & Forgasz, 2002). Pajares (1992: 307) labelled beliefs “a messy construct” and commented on the need for clearer ways of conceptualizing beliefs. For the purposes of the current research, Borg’s (2001: 186) definition is adopted that defines beliefs as:

“A belief is a proposition which may be consciously or unconsciously held, is evaluative in that it is accepted as true by the individual and is therefore imbued with emotive commitment; further, it serves as a guide to thought and behaviour”

5.3 Importance of Teachers' beliefs

Teachers' beliefs are closely related to personal assumptions that influence teachers' curriculum decision-making and teaching approaches (Borg, 1998; Pajares, 1992; Hofer and Pintrich, 1997).

5.4. Importance of phrasal verbs

Phrasal verbs have been found to be one of the most challenging word constructions by several researchers. Nevertheless, are important for learners to acquire and hence special attention should be given to the way teachers' view this construction as this would unavoidably affect their practices in the class. Knowledge of phrasal verbs is important for language learners for several reasons. First of all, phrasal verbs knowledge enables learners to develop native like fluency (Moon, 1997; Schmitt, 2004; Wray, 2000; Siyanova and Schmitt, 2007). Phrasal verbs are common in spoken English and in more informal registers. As De Cock(2005) comments native speakers use more phrasal verbs in informal speech rather than writing. This was supported from the findings of Biber et al(1999) study in which the researchers conclude that usage of PV's is more common in conversation and fiction rather than academic writing. Hence, failure of using phrasal verbs can possibly lead to unnatural speech (Siyanova and Schmitt, 2007). As Celce-Murcia and Larsen-Freeman (1999) commented knowledge of phrasal verbs "can be a great asset to learners in acquiring a new language".

In addition, phrasal verbs have been found to be very frequent in English Language. Research has shown that phrasal verbs make up one-third of the English verb vocabulary (Biber et al, 1999). A more recent study by Gardner and Davies (2007) concluded that language learners will encounter on average one PV in every 150 words of English they are exposed to. Apart from that, new phrasal verbs are constantly coined as phrasal verbs are a very productive

category (Bolinger, 1971). Therefore, knowledge of this fuzzy construction is very beneficial for language learners.

5.5 Teachers' beliefs and vocabulary instruction

Only a limited number of studies explored the link between teachers' beliefs about vocabulary and how these beliefs affect their classroom practices. Among these limited studies results showed that teachers' beliefs about vocabulary affect learners' learning (e.g. Hassankiadeh et al 2012). These findings further support the view that teachers' beliefs and view about learning will lead them to adopt specific techniques which will then affect their classroom practices and as a results students' learning (Harste and Burke, 1977).

Hassankiadeh et al (2012) explored leachers' lexicon teaching beliefs and how these beliefs can enhance learners' vocabulary intake. More precisely, the researchers divided teachers' believes into three groups; memory based beliefs, meaning based and function based lexicon teaching beliefs. 150 junior high foreign language learners and 30 teachers were recruited to participate in this study. A vocabulary test was administrated to the students while teachers completed a questionnaire that contain memory based, meaning and function-based questions. The researchers concluded that learners who were taught by teachers with higher level of function-based lexicon teaching beliefs had scored better than students that were taught by teachers with higher level of meaning-based or memory-based lexicon teaching beliefs. Secondly, learners who were taught by teachers with higher level of meaning-based lexicon teaching beliefs are superior in promoting their lexicon learning to those who were taught by

teachers with higher level of memory-based lexicon teaching beliefs. Lastly, the study concluded that the learners who were taught by those teachers with higher level of memory-based beliefs are in the lowest level of promoting their vocabulary learning in contrast with other groups.

In addition, Hedrick et al. (2004) investigated social studies teachers' vocabulary beliefs and instructional practices. The researchers administrated a self-reporting survey to explore and describe the vocabulary beliefs. The survey was completed by 73 teachers from grade 4-8. The researchers found some differences between what teachers stated their beliefs were and their actual instructional practices for supporting vocabulary learning in social studies. While their beliefs appeared to agree with current views on effective vocabulary teaching their practices mirrored more traditional views of teaching. In addition, while teachers' held many beliefs in common variations existed based on the grade level, the economic status and the years of teacher experience.

Therefore, limited research so far has been carried out to investigate teachers' beliefs and no study focused on teachers beliefs about phrasal verbs, a very challenging feature of language. In addition, Hedrick, et al (2004) found that teachers' beliefs varied based on some characteristics of the participants. Hence, it is worth investigating how the grade level and teacher experience can affect teachers' beliefs.

5.6 Research Questions

This study aims to fill in the existing gap in the literature by investigating the following research questions:

RQ1: What are the beliefs that teachers' hold about phrasal verb teaching and learning?

RQ2: How does language teachers' experience shape their beliefs about phrasal verb teaching and learning?

RQ1: How does the language teachers' L1 influence their beliefs about phrasal verbs.

The first research question includes teachers' beliefs about how they are teaching phrasal verbs and how phrasal verbs can be taught effectively. It also includes their beliefs about other teaching related issues, such as students' textbooks. The second research question examines whether the years of teaching experience shape teachers' beliefs about phrasal verbs.

III Methods

5.7 Research Approach

5.8 Participants

Following a selective sample strategy (Cohen et al., 2013) 20 teachers were recruited to take part in this study. Participants were chosen based on two criteria: 1) they had to have various degrees of teaching experience (both novice and experienced teachers were recruited for this study) 2) they had to be both native and non-native speakers of English.

Teachers were ranked as highly experienced if they had more than 10 years of teaching experience and inexperienced with less than five years of experience. In total, 20 participants took part in this study; 11 Greek-Cypriots and 9 British teachers. Recruiting both native and non-native English language teachers was deemed necessary, as I wanted to examine whether their views vary. As it was shown in this thesis, phrasal verbs are a source of hurdle for non-native speakers. Therefore, it is interesting to investigate whether non-native English language teachers exhibit different views for this challenging construction from the native speakers.

Gender was not a factor in selecting the participants (6 of the participants were females and 4 teachers were males).

Table 1 summarises the variable characteristics of the sample (referred to as T1-T20).

Table 1 Participants Characteristics

Participant	Qualification	Years of experience
T1	BA in English Literature	12
T2	BA in TEFL	No prior teaching experience

T3	BA in TEFL, MA in TESOL, CELTA	2
T4	BA in language and linguistics, MA in TEFL	
T5	BA in TEFL, MA in TEFL	2
T6	BA in English literature, MA applied linguistics, DELTA	14
T7	BA in English literature	12
T8	BA in TEFL	5
T9	BA in English language and Linguistics	4
T10	BA in English language and Linguistics	5
T11	BA in English language and Linguistics	9
T12	BA in English Literature	13
T13	BA in English language and Linguistics, CELTA	8
T14	BA in English language and Linguistics, MA in TEFL	10
T15	BA in English language and Linguistics	3
T16	BA in English language and Linguistics	No prior teaching experience

T17	BA in English Literature	6
T18	BA in English Literature	9
T19	BA in English Literature	12
T20	BA in English Literature	5

5.9 Use of Interviews

Interviews were used as the data collection measure as interviews “is one of the most common ways in which we try to understand our fellow human beings” (Fontana and Frey, 2000, p. 645), in this case the teachers. Interviews can be divided into structured, semi-structured and unstructured. For the purpose of this study, and in-depth and semi-structured interview format was used. Open-ended questions were used to elicit opinions and views from the participants. The less structured interview type allowed me to be flexible with the questions and explore issues that needed further clarification. The length of the interview varied depending on the participant’s willingness to further elaborate on some of the questions. Nevertheless, the interviews approximately lasted an hour.

All participants were asked whether they preferred their interviews to be conducted in English or Greek and they all preferred their interviews to be conducted in English. The interviews were conducted face to face either in the premises of the schools that teachers were employed or in coffee shops. Interviews were recorded using a digital recorder. The interviews were then recorded and transcribed by the author.

5.10 Pilot study

The pilot study took place two months before the main data collection and consisted of two stages. In the first stage the interview questions were given to two native speakers to ensure that the questions were clear. Based on their comments, the necessary improvements were made (the wording of certain questions changed)

The second stage of the pilot study took place in Cyprus and five teachers, from two language schools were interviewed. Based on their comments and responses to the questions were added. For example, one of the teachers stated that language teachers do not receive adequate training to deal with such a challenging construction. Therefore, I decided to add two questions asking participants questions about teachers' training.

5.11 Data Analysis

When the interview phase was completed, the data was typed into Microsoft word and then analysed using topic coding that involved organising the data into themes and categories. Interestingly, while prior to the interviews a set of themes based on the relevant literature on teachers' beliefs were identified, other themes emerged from the data analysis. Hence, with the emergence of these themes the data analysis adopted a more analytical approach in order to look for recurring and shared topics between the data of each participant. The software Nvivo was used for the analysis.

IV Results Discussion

The findings of this study will be discussed in relation to two variables:

- a) Teaching Experience
- b) Native language

V1 Teaching Experience

The main aim if this study was to explore teachers' beliefs about phrasal verbs. A striking finding of the interviews was the agreement among all 20 teachers about the lack of PV importance for language learners.

V.2 Native Language

V Conclusions and pedagogical implications

This study sought to examine teachers' beliefs about phrasal verb learning and teaching. Phrasal verbs are a challenging aspect of English vocabulary and a source of hurdles for foreign language learners. The results of this study shed some interesting findings about the differences in beliefs between in-experience and experience language teachers. It is clear that teachers, especially inexperienced ones, need further training. This study hopes to encourage language teachers to consider their teaching beliefs and how this can affect their classroom practice. Only then will change occur.

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Chapter 6

Conclusion

6.1 Chapter's outline

The present chapter aims to summarise the main findings of the three studies conducted for this thesis. Sub-sections 6.2.1, 6.2.2 and 6.2.3 provide a summary of the main findings of the studies reported in chapters 3, 4 and 5, respectively. Section 6.3 provides a general discussion of the main limitations of this thesis and provide directions for future research. As the limitations of each study have already been addressed in the individual chapters presenting each study, this section aims to discuss the main general limitations of the thesis as whole.

6.2 Summary of the main findings

Investigating phrasal verbs in EFL textbooks: Selection and repetition of high frequency polysemous phrasal verbs and phrasal verb meanings (Study 1)

The first study presented in this thesis (Chapter 2) examined the treatment of highly frequent phrasal verbs in six EFL textbooks (from two textbook series) commonly used in the EFL context of Greek Cyprus. The first aim of the study was to identify the phrasal verbs included in each of the six under investigation textbooks and examine how many of them are part of the 150 most frequent phrasal verbs in British and American English (based on native corpus frequency indications). The extent to which the two textbook series share this highly frequent

phrasal verbs was also investigated. The second aim was to examine which meaning senses of those high-frequency phrasal verbs (based on corpus frequency indications) were presented in each textbook. Lastly, the extent of recurrence of phrasal verbs and phrasal verb meaning senses was examined. Garnier and Schmitt's (2015) phrasal verb frequency list (the PHaVE list) was used as a reference for the identification of the high frequency phrasal verbs because 1) the list includes items previously identified by three research studies (Biber et al., 1999; Gardner and Davies, 2007; Liu, 2011) and includes the 150 most frequent phrasal verbs in both American and British English and 2) this was at the time of the research the only phrasal verb frequency list that listed the most frequent meaning senses of these 150 most frequent phrasal verbs in the COCA. The six EFL textbooks were manually identified and the phrasal verbs and phrasal verb meaning senses encountered were recorded in an excel sheet. The phrasal verb occurrences were then categorized as "focused" when they occurred in exercises aiming to teach phrasal verbs and "unfocused" in the other parts of each textbook.

The findings of this study demonstrated that the two-textbook series (Real English and Cosmic) contained a similar number of phrasal verb types (259 and 289 respectively). A closer examination of the phrasal verb types in each textbook series revealed that the majority of them were included in the PHaVE list (Garnier and Schmitt, 2015). Around 73 % of all the phrasal verb types in the Real English series (n= 191) and 69 % of all the phrasal verb types in the Cosmic series (n= 194) were high-frequency phrasal verbs (based on the PHaVE list (Garnier and Schmitt, 2015)). Therefore, it seems that both textbook series include phrasal verbs that are useful for the learners. Frequency of occurrence has been found to be a good indicator of usefulness (e.g., Boers & Lindstromberg, 2009; Milton, 2009; O'Dell, 1997). The Real English series seems to include more phrasal verbs at higher proficiency level. Real English B1 contains 70 phrasal verbs while in the next proficiency level (B1+) this number increases to 103 phrasal verb types and then slightly drops to 89 phrasal verbs in the B2 level (which is still a higher

number of phrasal verbs than in the B1 level). On the other hand, the Cosmic series, includes more phrasal verb types in the B1 level (n= 97) than in the B1+ (n= 82), while most phrasal verb types are found in the B2 level (n= 103). This finding, depicts the traditional belief that phrasal verbs, being a challenging element of the English language, should be taught on more advanced levels. However, this belief lacks scientific rigor (Jiménez-López, 2013).

Upon a thorough examination of the data, one striking finding is the lack of agreement between the two series. Only 15 phrasal verbs (14.02%) from the total of 107 high frequency phrasal verbs examined were shared by the six textbooks. When looking at the degree of agreement between textbooks of the same proficiency level, findings were disappointing. Cosmic B1 and Real English B1 shared only 38.37% of high frequency phrasal verbs (only 33 from the total of 86 phrasal verb were shared), Cosmic B1+ and Real English B1+ shared only 45.05% (41 shared out of the total 91) of the high frequency phrasal verbs, while, similarly, Cosmic B2 and Real English B2 shared only 45.65% (42 out of the 92 total phrasal verbs). This lack of agreement shows that there were not set criteria followed by the textbook designers when deciding which phrasal verbs to include in each level and as Koprowski (2005) also pointed out, it seems that their selection is mainly based on intuition rather than on fixed criteria. Qualitative analysis of the shared phrasal verbs indicates that most of these items were phrasal verbs commonly found in exercise instructions and were not aimed at explicit instruction (e.g., look back, fill in, find out, go out). However, Boers and Lindstromberg (2009) argue in favour of explicitly teaching phrasal verbs and state that it “would be naïve to count on students being able to acquire large number of chunks incidentally” (p. 68).

This study also looked at the extent that these high-frequency phrasal verbs (corpus findings) recur in individual textbooks. Research has shown that repetition facilitates vocabulary acquisition, as the more a learner encounters a word in the input the more likely it is for that word to be learned (e.g., Chen & Truscott, 2010; Rott, 1999; Waring & Takaki, 2003; Webb,

2007; Eckerth & Tavakoli, 2012). While there is no general consensus on the number of encounters needed for a word to be recognisable or for, it seems that at least 10 encounters with a word are needed (e.g. Webb, 2007; Pigada & Schmitt, 2006). This study has shown that the amount of phrasal verb recycling in the six textbooks is inadequate. In the Real English series, 30.37 % of the total phrasal verb types were only encountered while only 6.81 % of the total phrasal verb types were recycled more than 10 times. A similar picture is portrayed in the Cosmic series as 26.8 % of the total phrasal verb types are only encountered once with only 6.81 % recurring more than 10 times. This lack of repetition in the textbook is worrying since students have very low chance of learning this low-frequency phrasal verbs. Waring and Takaki (2003: 150) stated that “[i]f the word was met fewer than 5 times, the chance that its meaning would be remember] is next to zero”.

The first study also examined the treatment of the various phrasal verb meanings in the six textbooks. A striking finding was that only the Real English series at the B2 level explicitly addressed polysemy and included phrasal verb exercises that introduce more than one meaning. The study reveals that while textbook writers seem to present the highly frequent meanings of phrasal verbs as revealed by Garnier and Schmitt (2015), highly infrequent meanings (based on COCA search) are also presented. Infrequent meaning senses (based on a COCA search) were found for 16 phrasal verbs. Interestingly, a close examination of phrasal verbs with four meaning senses revealed that with the exception of the Real English B1 the fourth meaning senses is more frequently occurring than the second and third in all three proficiency levels.

6.2.3 Greek-Cypriot learners’ productive and receptive knowledge of phrasal verbs (Study 2)

The second study presented in this thesis (Chapter 3) looked at 100 EFL learners’ receptive and productive knowledge of highly frequent phrasal verbs and addressed the factors that affect

such knowledge. In particular, this study looked at the effect of corpus and textbook frequency, time spend watching TV in English, time spend listening to English songs, time spend on social media and time spend in an English-speaking country on phrasal verb knowledge. Past research concluded that corpus frequency is a predictor of phrasal verb knowledge: EFL learners tend to know more high-frequency phrasal verbs than low-frequency phrasal verbs (Garnier & Schmitt, 2016; Chen, 2013; Schmitt & Redwood 2011; Zhang & Wen, 2019). Nevertheless, a frequent item based on native speaker corpora indications may be highly infrequent in L2 contexts (Schmitt 2014; Zhang and Mai 2018; Boers and Lindstromberg 2009). Having this in mind, we decided to investigate the role of frequency in phrasal verb learning, taking into consideration both corpus frequency indications (based on the PHaVE list (Garnier & Schmitt, 2015)) and textbook frequency indications (based on the findings of the first study in Chapter 2). Since, the textbook is the main tool of instruction in an EFL classroom (e.g., Matsuoka and Hirsh 2010), the role of phrasal verb frequency of occurrence on phrasal verb knowledge was examined. Participants' productive knowledge was tested using a form recall cloze test, while their receptive knowledge was assessed using a form-recognition multiple-choice test. Both tests also examined participants' knowledge of the most frequent meaning senses of the phrasal verbs tested since a separate test item expressed each of these meaning senses. Participants were also asked to complete a questionnaire about the engagement with L2. To validate the test items 20 participants also took part in an interview.

The results of this thesis further highlighted the challenge phrasal verbs pose to EFL learners. Participants knew only about 42% of all the phrasal verb meaning senses tested productively and could recognize about 52% of the meaning senses in the form recognition test. These are worrying scores especially if we take into consideration the fact that participants were exposed to these meanings in their textbooks. The study also highlighted the key role of frequency in phrasal verb learning, as both corpus and textbook frequency has been found to be a predictors

of the participants' phrasal verb knowledge. This finding is consistent with past research that highlights the robust effects of frequency on both single word items and formulaic sequences (e.g., Garnier & Schmitt, 2016).

Furthermore, this study highlighted the important role of engaging in L2 leisure activities for phrasal verb acquisition. Watching English films and reading in English seems to have facilitated phrasal verb knowledge both productively and receptively. Time spent on an English-speaking country has been found to predict phrasal verb knowledge at a form recognition level.

In conclusion, this study shows that phrasal verb acquisition is a complex process and a number of factors affect phrasal verb knowledge. This study suggests that EFL learners should spend more time engaging in leisure activities as this seems to promote phrasal verb acquisition.

6.2.3 Teachers' beliefs about phrasal verbs (Study 3)

The third study of this thesis (Chapter 4) looked at the beliefs of 20 EFL language teachers about the teaching and learning of phrasal verbs. It is now widely acknowledged that teachers' beliefs influence to a great extent their in-classroom practices as beliefs tend to mediate their behaviour and decisions about the learning and teaching process (e.g., Borg & Al-Busaidi, 2012; Borg & Alshumaimeri, 2019; Bernat & Gvozdenko, 2005; Borg, 2003, 2006; Johnson, 2009; Kalaja, 1995; Kalaja & Barcelos, 2003). Nevertheless, only a limited number of studies explored the link between teachers' beliefs about vocabulary and how these beliefs affect their classroom practices. Among these limited studies results showed that teachers' beliefs about vocabulary indeed affect learners' learning (e.g. Hassankiadeh et al 2012). Therefore, looking into teachers' beliefs about phrasal verbs can help us gain a better understanding on how phrasal verbs are treated in the EFL classroom.

Data were collected via semi-structured interviews. Participants were selected on the basis of a number of criteria. First, participants had to vary in terms of teaching experience. Finally, participants should be using the textbooks examined in the first study of this thesis. As 11 Greek-Cypriots and 9 British teachers participated, we were able to identify differences between the teachers' beliefs of non-native teachers and teachers from a native background.

The results indicated that teachers held various opinions about teaching and learning phrasal verbs, but one recurrent view was that phrasal verbs are a challenging feature of English language; in a participant's words learners find phrasal verbs "dreadful and an element of the language that they always struggle with".

A striking finding of this study is that 11 teachers believe that phrasal verbs, being a feature of informal speech, do not require explicit instruction. This was especially true, for non-native speakers of English and inexperienced teachers. One Greek-Cypriot inexperienced teacher commented that "there is so much to teach to prepare learners for the end of the year exam that devoting a lot of time seems to be of secondary importance". By contrast, a British native teacher with more than ten years of teaching experience (ENSA) commented that while "phrasal verbs are very challenging for learners to acquire, especially in lower proficiency levels, mastery of them can not only help them score higher marks in the speaking part of their exams but can also help them sound more native like".

All teachers that I interviewed stated that they heavily depend on the textbook when it comes to teaching phrasal verbs. They mentioned two reasons for relying on textbooks: 1) teachers' workload does not allow them to create their own materials and 2) they believed that the phrasal verbs included in the textbooks were the most important of learners to acquire. However, the participants comment on the lack of guidelines in the textbooks for phrasal verb instruction.

6.3 Limitations

The limitations of each study have already been identified in Chapters 2, 3 and 4. Here I will discuss the general limitations of this thesis.

The first limitation concerns the limited number of textbooks examined. Due to time-constraints I looked at only six EFL textbooks mainly used in Cyprus and Greece. Therefore, the results of this thesis should be interpreted with caution as they may not be generalisable to other EFL textbooks.

The second main limitation is about the type of phrasal verb knowledge tested. Study 2 only assessed the form-meaning link as participants were tested at a form-recall and form recognition level. While the form-meaning link is thought to be the most important lexical aspect to be acquired (Schmitt 2010) other forms of vocabulary knowledge need to be tested.

Thirdly, in Study 2 self-report questionnaires were used to measure the number of participants' L2 engagement with the language. Hence, we cannot be sure about the reliability of participants' answers. Participants may have underestimated or overestimated the time spent in each activity. These the effect of this leisure activities on phrasal verb knowledge may have been overestimated or underestimated as a result.

The fourth limitation of this thesis is related to the way I dealt with polysemy. Due to time constraints, I used the term polysemy to refer to both polysemous and homonymous meaning senses. Therefore, I did not distinguish between semantically unrelated meaning senses (homonyms) and semantically related meaning senses (polysemes). The distinction, however, between homonymous and polysemous meaning senses can potentially have important implications for the teaching and learning of phrasal verbs.

The limited number of teachers interviewed in the third study is another limitation of this thesis. Due to time-constraints only 20 teachers were interviewed. Therefore, this study is exploratory and its results need to be interpreted with caution.

Lastly, my conscious decision to use only interviews to elicit teachers' beliefs about phrasal means that the results of the third study are based on what teachers' think about phrasal verbs rather than what how they teach them in the classroom. Replications of this study combining interviews and classroom observations as well as interviews with students would help to provide a more complete picture of EFL phrasal verb teaching in Greek Cyprus.

5.4 Suggestion for future research

This study has pointed out the importance of phrasal verbs for EFL learners and has further highlighted their challenging nature and Greek Cypriot intermediate-level EFL learners' low levels of phrasal verb knowledge. Moreover, it has also provided insights into teachers' beliefs about phrasal verbs and their views and practices in relation to phrasal verb instruction. Nevertheless, there is still a lot to be explored.

First, future research should examine a bigger number of EFL textbooks from different proficiency levels to investigate how polysemous phrasal verbs are treated. Also, the various phrasal verb exercises in the EFL textbooks need to be examined in order to gain a better understanding on the various ways that phrasal verbs are presented in EFL contexts.

Secondly, future research should further explore how EFL learners' proficiency level can affect phrasal verb knowledge. Furthermore, future research needs to be carried out assessing learners' knowledge of polysemous and homonymous phrasal verb meaning senses.

Lastly, more research needs to be carried out investigating teachers' beliefs about phrasal verbs and phrasal-verb teaching practices. Given that the classroom is an important source of English input in EFL contexts, how phrasal verbs are taught in the EFL classroom should be examined with a view to making recommendations for the instruction of this very challenging and omnipresent structure of the English languages

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Appendix A

Form-Recall Test

Name:

Thank you for participating in my study! This questionnaire will test your knowledge of English phrasal verbs. It is a fill-in-the-gap test.

Please read each sentence and then type the phrasal verb which you think is missing from the sentence. If you cannot think of the missing word, please leave the box blank and read the next question.

A definition of the missing phrasal verb is given after each sentence. **Please make sure you read each definition carefully. If you don't read each definition carefully, you are likely to give many wrong answers.**

The first letter of the verb and the particle of each phrasal verb are given inside the gap to help you.

Please keep in mind that some sentences are missing the same phrasal verb.

Please check your answers carefully.

You have 45 minutes to do the test. Good luck!

Before you start, please read these example fill-in-the-gap sentences and their answers.
Reading these examples will help you understand the test more.

Examples:

I. The teacher **g**_____ **o**_____ the tests. (handed)

Answer: gave out

II. You should not **g**_____ **o**_____ your personal details to strangers. (tell)

Answer: give out

III. Our main aim is to **b**_____ **d**_____ unemployment. (reduce)

Answer: bring down

Now is your turn!

1. He decided to **c**_____ **o**_____ and support the president. (tell the public his opinion)
2. The motorbike **b**_____ **d**_____. (stopped working)
3. When I **l**_____ **b**_____ now, I realize I was very unhappy. (think about what happened in the past)
4. The plane **t**_____ **o**_____ at eight o'clock. (left the ground and rose into the air)
5. The arrival of the president **s**_____ **o**_____ an argument between the members of the team. (started)
6. The teacher won't **p**_____ **u**_____ with your behaviour anymore. (be willing to accept)
7. There is a discussion **g**_____ **o**_____ right now between the two students. (happening)
8. The lights **w**_____ **o**_____ in the middle of the night. (stopped shining)

9. Don't forget to **t**_____ **o**_____ the rubbish. (remove)
10. Let's **t**_____ **u**_____ this topic again tomorrow. (discuss)
11. Maria **c**_____ **o**_____ holding two folders. (left a place, exited)
12. His sister **c**_____ **a**_____ to bring the children presents. (visited)
13. Stop talking and **g**_____ **o**_____ with your exercise. (continue)
14. She **t**_____ her boyfriend **o**_____ for lunch. (invited)
15. I am really sorry I am late, but something **c**_____ **u**_____ at work. (unexpected happened)
16. They are planning to **s**_____ **u**_____ a campsite near the lake. (build)
17. He could see a few hands **g**_____ **u**_____ in class. (raise)
18. Sugar is **b**_____ **d**_____ in the stomach. (divided into parts)
19. He **t**_____ **u**_____ late for work. (arrived)
20. The teacher **p**_____ **u**_____ a notice on the wall about the school trip. (attached)
21. Can you please **g**_____ **o**_____ the plane? (board)
22. We have **r**_____ **o**_____ of milk. (used all the quantity)
23. My daughter's birthday seems to **c**_____ **a**_____ quicker every year. (happen)
24. She **p**_____ **u**_____ Italian when she was in Rome. (learned)
25. He **t**_____ **u**_____ dancing lessons last week. (started)
26. The truth about the murder **c**_____ **o**_____. (became known)
27. We couldn't find a hotel so my uncle offered to **p**_____ us **u**_____. (let us sleep in his house)
28. John was running so fast it was impossible for me to **c**_____ **u**_____. (reach him)
29. She wanted to practice more, but she couldn't **g**_____ **o**_____! She was very tired.
(continue)
30. It looks like he is finally **c**_____ **a**_____ to our way of thinking. (changing his mind)
31. The children **p**_____ **o**_____ such an amazing show last week. (presented on stage)

32. When the school bell started ringing the children **r**_____ **o**_____ quickly. (left)
33. The children did not **c**_____ **o**_____ their promise. (do what they said they will do)
34. The plane **b**_____ **u**_____ mid-air. (exploded)
35. We need to **s**_____ **o**_____ really early in the morning. (start our journey)
36. Electricity prices have **g**_____ **u**_____. (increased)
37. He was **g**_____ **t**_____ a very difficult time. (experiencing)
38. She needs to **c**_____ **u**_____ with the money for the party. (find)
39. Maria is at the train station. Can you please **p**_____ her **u**_____? (give a lift)
40. His plan **w**_____ **o**_____ in the end. (proved to be successful)
41. She **t**_____ **u**_____ the volume of the radio and started dancing. (increased)
42. If you miss a lot of lessons it will be very hard for you to **c**_____ **u**_____. (reach the level of the rest of the class)
43. I like to **p**_____ **o**_____ the radio when I am driving. (play)
44. They decided to cancel the game when the storm **b**_____ **u**_____. (suddenly developed)
45. You shouldn't **b**_____ **u**_____ her health issues. (mention, start talking about)
46. He **w**_____ **t**_____ the pile of letters to find his letter. (looked carefully at, examined)
47. John **t**_____ **o**_____ when he saw Maria. (suddenly left)
48. I hope everything **w**_____ **o**_____ for them. (happens in a good way)
49. John has **p**_____ **u**_____ a new wall in the house. (built)
50. He was **b**_____ **u**_____ by his grandparents. (raised)
51. I didn't want to be late for dinner, but I was **c**_____ **u**_____ at work. (involved in something)
52. The lesson was **b**_____ **d**_____ into different parts. (divided)
53. Has the police search **t**_____ **u**_____ anything against him? (discovered)
54. We **w**_____ **o**_____ at the gym three times a week. (exercise)

55. I have to **t**_____ my bags **u**_____ to my bedroom. (move them to a higher level)
56. Her birthday party is **c**_____ **u**_____ soon. (happening)
57. Her new film will **c**_____ **o**_____ next month. (will become available to the public)
58. He likes **g**_____ **o**_____ a lot. (leaving his house in order to do something enjoyable)
59. They **s**_____ **u**_____ a new business. (created)
60. We **b**_____ **u**_____ all the balloons for the party. (filled with air)
61. She **t**_____ **o**_____ a loan from the bank. (obtained, got)
62. I **t**_____ **o**_____ my coat and went in the kitchen. (removed)
63. She hasn't **w**_____ **o**_____ all the details of the trip yet. (planned)
64. You need to **l**_____ **b**_____ on page 20 to find the correct answer. (check again)
65. The bookcase **t**_____ **u**_____ a lot of space. (uses)
66. His suggestion hasn't **g**_____ **t**_____. (been accepted)
67. You should **p**_____ **o**_____ your gloves. It's really cold outside. (wear)
68. Scientists are **c**_____ **o**_____ a lot of research. (doing)
69. They **b**_____ the picture **u**_____ to make a poster. (made the picture bigger)
70. The thief **s**_____ **o**_____ the alarm. (started)
71. His business has really **t**_____ **o**_____ in the last year. (become successful)
72. He **b**_____ **d**_____ when he heard the news. (began crying)

Appendix B

Form Recall Greek Instructions

Όνοματεπώνυμο:

Ευχαριστώ που συμμετέχετε στην ερευνά μου! Αυτό το τεστ θα εξετάσει την γνώση σας στα αγγλικά phrasal verbs. Είναι μια άσκηση στην οποία θα πρέπει να συμπληρώσετε τα κενά.

Παρακαλώ διαβάστε προσεχτικά την κάθε πρόταση και συμπληρώστε τα κενά. Αν δεν μπορείτε να βρείτε την σωστή απάντηση σε κάθε πρόταση, αφήστε κένο και προχωρήστε στο επόμενο παράδειγμα.

Για κάθε phrasal verb σας δίνεται ο ορισμός στην παρένθεση. Παρακαλώ διαβάστε κάθε ορισμό με προσοχή. Αν δεν διαβάσετε με προσοχή τους ορισμούς ίσως να κάνετε πολλά λάθη.

Σας δίνεται το πρώτο γράμμα του phrasal verb για να σας βοηθήσει.

Παρακαλώ να έχετε υπόψη πως κάποιες προτάσεις χρειάζονται το ίδιο phrasal verb.

Παρακαλώ ελέγξτε προσεκτικά τις απαντήσεις σας!

Έχετε 45 λεπτά να συμπληρώσετε το τεστ! Καλή τύχη!

Πριν ξεκινήσετε, διαβάστε προσεκτικά τα πιο κάτω παραδείγματα. Θα σας βοηθήσουν να συμπληρώσετε το τεστ!

Παραδείγματα:

IV. The teacher **g**_____ **o**_____ the tests. (handed)

Answer: gave out

V. You should not **g**_____ **o**_____ your personal details to strangers. (tell)

Answer: give out

VI. Our main aim is to **b**_____ **d**_____ unemployment. (reduce)

Answer: bring down

Και τώρα η σειρά σας!!!

73. He decided to **c**_____ **o**_____ and support the president. (tell the public his opinion)

74. The motorbike **b**_____ **d**_____. (stopped working)

75. When I **l**_____ **b**_____ now, I realize I was very unhappy. (think about what happened in the past)

76. The plane **t**_____ **o**_____ at eight o'clock. (left the ground and rose into the air)

77. The arrival of the president **s**_____ **o**_____ an argument between the members of the team. (started)

78. The teacher won't **p**_____ **u**_____ with your behaviour anymore. (be willing to accept)

79. There is a discussion **g**_____ **o**_____ right now between the two students. (happening)

80. The lights **w**_____ **o**_____ in the middle of the night. (stopped shining)

81. Don't forget to **t**_____ **o**_____ the rubbish. (remove)

82. Let's **t**_____ **u**_____ this topic again tomorrow. (discuss)
83. Maria **c**_____ **o**_____ holding two folders. (left a place, exited)
84. His sister **c**_____ **a**_____ to bring the children presents. (visited)
85. Stop talking and **g**_____ **o**_____ with your exercise. (continue)
86. She **t**_____ her boyfriend **o**_____ for lunch. (invited)
87. I am really sorry I am late, but something **c**_____ **u**_____ at work. (unexpected happened)
88. They are planning to **s**_____ **u**_____ a campsite near the lake. (build)
89. He could see a few hands **g**_____ **u**_____ in class. (raise)
90. Sugar is **b**_____ **d**_____ in the stomach. (divided into parts)
91. He **t**_____ **u**_____ late for work. (arrived)
92. The teacher **p**_____ **u**_____ a notice on the wall about the school trip. (attached)
93. Can you please **g**_____ **o**_____ the plane? (board)
94. We have **r**_____ **o**_____ of milk. (used all the quantity)
95. My daughter's birthday seems to **c**_____ **a**_____ quicker every year. (happen)
96. She **p**_____ **u**_____ Italian when she was in Rome. (learned)
97. He **t**_____ **u**_____ dancing lessons last week. (started)
98. The truth about the murder **c**_____ **o**_____. (became known)
99. We couldn't find a hotel so my uncle offered to **p**_____ us **u**_____. (let us sleep in his house)
100. John was running so fast it was impossible for me to **c**_____ **u**_____. (reach him)
101. She wanted to practice more, but she couldn't **g**_____ **o**_____! She was very tired.
(continue)
102. It looks like he is finally **c**_____ **a**_____ to our way of thinking. (changing his mind)
103. The children **p**_____ **o**_____ such an amazing show last week. (presented on stage)
104. When the school bell started ringing the children **r**_____ **o**_____ quickly. (left)

105. The children did not **c**_____ **o**_____ their promise. (do what they said they will do)
106. The plane **b**_____ **u**_____ mid-air. (exploded)
107. We need to **s**_____ **o**_____ really early in the morning. (start our journey)
108. Electricity prices have **g**_____ **u**_____. (increased)
109. He was **g**_____ **t**_____ a very difficult time. (experiencing)
110. She needs to **c**_____ **u**_____ with the money for the party. (find)
111. Maria is at the train station. Can you please **p**_____ her **u**_____? (give a lift)
112. His plan **w**_____ **o**_____ in the end. (proved to be successful)
113. She **t**_____ **u**_____ the volume of the radio and started dancing. (increased)
114. If you miss a lot of lessons it will be very hard for you to **c**_____ **u**_____. (reach the rest of the class)
115. I like to **p**_____ **o**_____ the radio when I am driving. (play)
116. They decided to cancel the game when the storm **b**_____ **u**_____. (suddenly developed)
117. You shouldn't **b**_____ **u**_____ her health issues. (mention, start talking about)
118. He **w**_____ **t**_____ the pile of letters to find his letter. (looked carefully at, examined)
119. John **t**_____ **o**_____ when he saw Maria. (suddenly left)
120. I hope everything **w**_____ **o**_____ for them. (happens in a good way)
121. John has **p**_____ **u**_____ a new wall in the house. (built)
122. He was **b**_____ **u**_____ by his grandparents. (raised)
123. I didn't want to be late for dinner, but I was **c**_____ **u**_____ at work. (involved in something)
124. The lesson was **b**_____ **d**_____ into different parts. (divided)
125. Have the police **t**_____ **u**_____ anything new? (discovered)
126. We **w**_____ **o**_____ at the gym three times a week. (exercise)
127. I have to **t**_____ my bags **u**_____ to my bedroom. (move them to a higher level)

128. Her birthday party is **c**_____ **u**_____ soon. (happening)
129. Her new film will **c**_____ **o**_____ next month. (will become available to the public)
130. He likes **g**_____ **o**_____ a lot. (leaving his house in order to do something enjoyable)
131. They **s**_____ **u**_____ a new business. (created)
132. We **b**_____ **u**_____ all the balloons for the party. (filled with air)
133. She **t**_____ **o**_____ a loan from the bank. (obtained, got)
134. I **t**_____ **o**_____ my coat and went in the kitchen. (removed)
135. She hasn't **w**_____ **o**_____ all the details of the trip yet. (planned)
136. You need to **l**_____ **b**_____ on page 20 to find the correct answer. (check again)
137. The bookcase **t**_____ **u**_____ a lot of space. (uses)
138. His suggestion hasn't **g**_____ **t**_____. (been accepted)
139. You should **p**_____ **o**_____ your gloves. It's really cold outside. (wear)
140. Scientists are **c**_____ **o**_____ a lot of research. (doing)
141. They **b**_____ the picture **u**_____ to make a poster. (made the picture bigger)
142. The thief **s**_____ **o**_____ the alarm. (started)
143. His business has really **t**_____ **o**_____ in the last year. (become successful)
144. He **b**_____ **d**_____ when he heard the news. (began crying)

Appendix C

Form-Recognition Test

Name:

Thank you for participating in my study! This questionnaire will test your knowledge of English phrasal verbs. It is a multiple-choice test.

Please read each sentence carefully and then select the right phrasal verb that can replace the verb/phrase in bold.

Please keep in mind that you will have to use a phrasal verb more than once.

Please, answer all multiple-choice questions in the test, even if you are unsure of the answer.

Please check your answers carefully.

You have 30 minutes to complete this test!

Before you start, please read the example below. Reading this example will help you understand the test more.

Example:

1) The teacher **distributed** the tests.

- a) set out
- b) laid out
- c) gave out
- d) bring out

Απάντηση: c (gave out)

Now is your turn!

1) She **raised** four children.

- a) brought up
- b) gave up
- c) sent out
- d) brought out

2) The price doesn't seem so bad when you **divide** it.

- a) turn it down
- b) put it down
- c) get it down
- d) break it down

3) The sandstorm suddenly **began to develop**.

- a) moved up
- b) broke up
- c) blew up
- d) pulled up

4) Can you **play** the CD?

- a) put on
- b) put back
- c) put out
- d) put down

5) The helicopter **departed** on time.

- a) went down
- b) got off
- c) went back
- d) took off

6) His wife did not attend the party, and this **started** a lot of rumours about their marriage.

- a) picked out

b) put off

c) set off

d) set out

7) There are a lot of people outside. What's **happening**?

a) going in

b) going along

c) going around

d) going on

8) The fire **stopped burning**.

a) stood out

b) started out

c) held out

d) went out

9) He **removed** his wallet from the bag.

a) put out

b) took out

c) open up

d) follow up

10) My uncle will **visit** as we are going on a long holiday.

a) look around

b) come around

c) come on

d) hold on

11) Let's **continue** with our work.

a) get on

b) take on

c) lay out

d) put out

12) Marina **invited** her parents for dinner.

a) took out

b) took back

c) took in

d) took over

13) John did not come to the party because something has **happened** at home.

- a) come on
- b) come down
- c) come through
- d) come up

14) The car is going to **explode**.

- a) go out
- b) wind up
- c) go in
- d) blow up

15) They are **placing** a number of chairs in the theatre.

- a) putting out
- b) setting out
- c) setting up
- d) putting in

16) Take the elevator to **move upwards** to the third floor.

- a) clean up
- b) sit back

- c) go up
- d) sit down

17) The substance is easily **separated** by bacteria.

- a) going off
- b) broken off
- c) gone down
- d) broken down

18) The teachers decided to **talk about** this issue with the head teacher.

- a) take in
- b) take down
- c) put down
- d) take up

19) The sun finally **appeared**.

- a) checked out
- b) filled out
- c) came out
- d) hung out

20) I **will not accept** your tone of voice.

- a) put up with
- b) set out
- c) come up with
- d) set up

21) I can't hear anything! **Increase** the volume, please.

- a) look up
- b) build up
- c) open up
- d) turn up

22) Don't forget to **display** the posters on the wall.

- a) put off
- b) put up
- c) play out
- d) pick out

23) Passengers are waiting to **board** the train.

- a) bring back

- b) get off
- c) move back
- d) get on

24) She **experienced** a horrible divorce.

- a) went off
- b) made up
- c) made out
- d) went through

25) She hates **exercising**.

- a) looking out
- b) turning out
- c) working out
- d) standing out

26) We had a lot of biscuits before but now we have **finished them**.

- a) ran out
- b) got out
- c) gone over
- d) gone around

27) Summer will **arrive** soon and you can go on vacation.

- a) come around
- b) come on
- c) turn around
- d) hang on

28) John **learnt** English from watching films.

- a) built up
- b) backed up
- c) looked up
- d) picked up

29) My first business didn't **develop in a good way**.

- a) work out
- b) pass on
- c) go out
- d) hold on

30) Don't **talk about** his problems, please.

- a) figure out
- b) bring up

- c) find out
- d) make up

31) He got **involved** in an argument between the players.

- a) caught up
- b) backed up
- c) given back
- d) given up

32) It **was revealed** that he was planning to divorce her.

- a) stood out
- b) broke out
- c) moved out
- d) came out

33) Do you have any question before I **continue**?

- a) come on
- b) hold on
- c) go on
- d) come along

34) The new school magazine has **become popular**.

- a) turned out
- b) broken off
- c) filled out
- d) taken off

35) I went to the post office to **collect** a package.

- a) pick out
- b) set out
- c) pick up
- d) make up

36) She **found** a new idea to solve the problem.

- a) cut off
- b) put up with
- c) paid off
- d) came up with

37) He accidentally **made** the alarm **ring**.

- a) laid out
- b) set out

c) put out

d) set off

38) After their fight, she **left suddenly**.

a) moved in

b) ran out

c) came in

d) stood out

39) Can you **make** the photos **bigger**?

a) set out

b) blow up

c) fill in

d) put out

40) He didn't **do** the task.

a) put out

b) rule out

c) carry out

d) set out

41) This is a new company and it will need some time to **reach the level of the others**.

- a) get out
- b) grow up
- c) look out
- d) catch up

42) Don't worry he will **provide accommodation** for the night.

- a) hold us up
- b) moved us on
- c) put us up
- d) hold us on

43) After his cat died, he **started crying**.

- a) broke down
- b) sat down
- c) sat up
- d) cleaned up

44) She will never **change her opinion**.

- a) come around
- b) stand out

- c) start out
- d) look around

45) Christos **began his journey** with a lot of excitement.

- a) came off
- b) came out
- c) broke off
- d) set off

46) Dorothy **wore** her dress and left.

- a) put on
- b) put out
- c) sent out
- d) put back

47) Their CD **was released** last month

- a) kept on
- b) hung on
- c) turned out
- d) came out

48) He decided to **create** a new political party.

- a) look up
- b) lay down
- c) set up
- d) lay out

49) His plan will not **be approved**.

- a) move on
- b) go through
- c) come on
- d) go over

50) We arranged to meet at two, but he never **came**.

- a) turned up
- b) held on
- c) followed up
- d) came on

51) The elections are **happening soon**.

- a) sitting up
- b) going up

- c) coming up
- d) cleaning up

52) We want to **attend that social event.**

- a) go out
- b) go back
- c) move out
- d) find out

53) He had to **get** some money from the bank.

- a) take down
- b) take on
- c) lay down
- d) take out

54) They **left** so suddenly that they forgot their bags.

- a) held on
- b) came on
- c) took off
- d) came off

55) My tyre went flat. I must **fill it with air.**

- a) blow it up
- b) build it up
- c) set it out
- d) pick it out

56) They **presented** an amazing show.

- a) filled in
- b) put in
- c) put on
- d) take on

57) He has **done** a study on people's use of social media.

- a) carried out
- b) worked out
- c) played out
- d) called out

58) She **searched** the rubbish to find the lost ring.

- a) went through
- b) set out

- c) threw out
- d) went off

59) All the missing documents had **been found**.

- a) turned up
- b) ended up
- c) moved up
- d) got up

60) As soon as he walked in, he **removed** his coat.

- a) put off
- b) took off
- c) paid off
- d) cut off

61) I **solved** the problem.

- a) worked out
- b) turned down
- c) checked out
- d) put down

62) The prices have **increased** this year.

- a) broken up
- b) gone up
- c) settled down
- d) shut down

63) He closed his book and **turned** to his notes.

- a) looked back
- b) gave back
- c) hung on
- d) came off

64) I decided to **move** the painting **to the second floor**.

- a) take up
- b) take on
- c) put out
- d) lay out

65) They are going to **build** a tent in the garden.

- a) put out
- b) put in
- c) put up

d) put back

66) He decided to **express his opinion** and not hide anymore.

a) come out

b) get up

c) get out

d) hang out

67) His marriage **stopped working**.

a) broke down

b) came down

c) went down

d) slowed down

68) **Thinking about everything again** now, I have also made mistakes.

a) looking back

b) looking out

c) looking up

d) looking down

69) Everything **went well** in the end.

a) moved on

- b) broke out
- c) moved in
- d) worked out

70) He decided to **start** cooking lessons.

- a) move up
- b) take up
- c) line up
- d) hold up

71) I know you are busy so I will not **use** much of your time.

- a) take up
- b) put out
- c) look up
- d) rule out

72) He stopped and waited for me to **reach him**.

- a) grow up
- b) catch up
- c) go back
- d) hold back

Appendix D



Participant information and Parental Consent Form

Project: Knowledge of Phrasal Verbs

This study aims to evaluate your knowledge of English phrasal verbs.

If you agree to participate in this study, you will

- a) take a 45-minute fill-in-the gap test of English phrasal verbs
- b) take a 30-minute multiple choice test of English Phrasal verbs
- c) fill in a 10-minute questionnaire on your language learning history

Please tick the appropriate boxes

Yes **No**

I have read and understood the project information given above.

I have been given the opportunity to ask questions about the project.

I will take part in the project. Taking part in the project will include the tasks a), b) and c)

I am aware that I should retain a copy of the Information Sheet and Consent Form for future reference.

Details of procedures and any risk have been explained to my satisfaction

I confirm that my participation is voluntary.

I understand that I can withdraw from the study at any time and I am free to decline particular questions.

Name of participant [printed]

Signature

Date

I certify that I have explained the study to the volunteer and consider that she/he understands what is involved and freely consents to participation.

Researcher's name.....

Researcher's signature.....**Date**.....

Researcher's contact details for further information:

Lizeta Demetriou

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Colchester

Essex

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Appendix E

Research Project Questionnaire

Project title: EFL learners' knowledge of phrasal verbs

About the questionnaire

This questionnaire is designed to elicit some background information about you. This information will help me interpret your scores in the two vocabulary tests you have taken. Please be assured that all information provided will be treated as confidential.

Please note that there are no right and wrong answers to the questions in the questionnaire, so feel free to provide the answers that you consider correct.

Questionnaire

Please take some time and respond to all the questions in this questionnaire. If any question is unclear, please ask for clarification.

Please answer the following questions by ticking the boxes or filling in the gaps.

You are also free to tick as many answers as you think appropriate in each question.

1. Is your native language Greek?

YES

NO

If you answered 'No', please write the name of your native language here: _____

2. Do you have more than one native tongues (that is, did you learn more than one language from your parents when you were a child)?

YES

NO

If you have answered "Yes", please write the names of your native tongues _____

3. At which age did you start learning English? _____

4. Please rate your *Reading Ability* in the *English Language* using the scale below:

No ability (0)

Low (1)

Fairly low (2)

Fairly high (3)

High (4)

Very High (5)

5. Please rate your *Listening Ability* in the *English Language* using the scale below:

No ability (0) Low (1) Fairly low(2) Fairly high (3) High (4) Very High (5)

6. Please rate your *Speaking Ability* in the *English Language* using the scale below:

No ability (0) Low (1) Fairly low (2) Fairly high(3) High(4) Very High (5)

7. Please rate your *Writing Ability* in the *English Language* using the scale below:

No ability (0) Low (1) Fairly low (2) Fairly high (3) High (4) Very High (5)

8. Have you ever travelled in an English speaking country? _____

If you answered "Yes", please name the country/ countries:

Please also mention how long you stayed there:

9. How many hours per week do you spend:

- reading books, magazines and newspapers in English or visiting English language web-sites? _____
- watching films, videos or TV in English? _____

- listening to music in English? _____
- using English to keep in contact with people? (Facebook, MySpace, Twitter, Skype, email, SMS, etc.) _____

10. Please indicate your gender **Male** **Female**

11. How old are you? _____

12. Please write your email address. This is to enable the researcher to contact you should there be need for you to provide us with more information.

Thank you for participating in our study!

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