

TEACHING L2 METAPHOR THROUGH AWARENESS-RAISING ACTIVITIES:
EXPERIMENTAL STUDIES WITH SAUDI EFL LEARNERS

by

RAWAN SAATY

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Department of English Language and
Applied Linguistics
School of English, Drama and American
and Canadian Studies
College of Arts and Law
The University of Birmingham
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ABSTRACT

Cognitive approaches to language teaching recognize conceptual metaphor awareness-raising activities as techniques that aid the understanding of metaphors in second or foreign languages (L2) such as English. However, the benefits of these techniques do not extend to the retention, production or interpretation of metaphors. These are important skills that could help language learners in their use of metaphor in the real world. This thesis focuses on the embodied nature of L2 metaphors through awareness-raising activities that incorporate bodily actions and tactile contact.

Through four experimental classroom studies with university-level female EFL Saudi learners, this thesis explores the impacts of employing awareness-raising activities of conceptual metaphors and embodied metaphors. The first and the second studies compare conceptual metaphor awareness to traditional semantic clustering and highlight the role of conceptual metaphor awareness in understanding metaphoric expressions. The third study introduces embodied metaphor awareness-raising activities through bodily actions and compares them to conceptual metaphor awareness and semantic clustering. The fourth study explores the benefits of using embodied tactile metaphor awareness-raising activities in the learning of linguistic and pictorial metaphors in advertising. The thesis finds that awareness-raising activities based on embodied metaphors have the potential to foster a deeper learning of metaphors in the L2.

Keywords: cognitive linguistics – conceptual metaphor awareness – embodied metaphor – linguistic metaphor – pictorial metaphor

DEDICATION

*Dedicated, with love, to my parents, Jihan and Adnan, who see me
reaching for the stars and give me their shoulders to stand on.*

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ABBREVIATIONS

Abbreviation	Definition
CMT	Conceptual Metaphor Theory
EFL	English as a Foreign Language
ELI	English Language Institute at King Abdul-Aziz University
ESL	English as a Second Language
KAU	King Abdul-Aziz University in Saudi Arabia
L1	First language
L2	Second or Foreign language
MI	Multiple Intelligences
MIP	Metaphor Identification Procedure
MIPVU	Metaphor Identification Procedure at VU
OOPT	Oxford Online Placement Test
PPP	Presentation, Practice and Production teaching methodology
TBLT	Task-Based Language Teaching methodology
TPR	Total Physical Response teaching methodology
VIP	Vehicle Identification Procedure

IDENTIFIERS OF EXPERIMENTAL GROUPS

	Group	Abbreviation
Study 1	Control Group	CG -1
	Metaphor Group	MG-1
Study 2	Control Group	CG-2
	Metaphor Group	MG-2
Study 3	Control Group	CG-3
	Metaphor Group	MG-3
	Embodied Action Metaphor Group	EAMG-3
Study 4	Metaphor Control Group	MCG-4
	Embodied Tactile Metaphor Group	ETMG-4

CHAPTER ONE

INTRODUCTION

1.1. Background and purpose of the research

This thesis is rooted in the cognitive linguistic approach to figurative language teaching in which researchers have attempted to create links between cognitive metaphor theory and the practice of teaching metaphor to learners of a foreign or second language (L2). It investigates the use of conceptual and embodied metaphor awareness-raising activities to foster the learning of metaphors in the L2. The purpose is to provide practical language teaching techniques that can aid language learners in understanding, retaining and extending metaphor in the L2.

In this introductory chapter, I start with a background of the extant research on conceptual metaphor and embodied metaphor and the applications of both to figurative language teaching. I also introduce the gaps that this thesis attempts to address with regards to embodied metaphor. I then discuss the context of the experimental studies of this thesis in Section 1.2, followed by the outline of the thesis and the research questions it aims to answer in Section 1.3.

Since this thesis explores the teaching of everyday metaphors in the foreign language classroom, it is important to start with a very brief history of metaphor which has been of interest to scholars since the Greek schools of poetry and rhetoric. The word *metaphor*, derived from the Greek ‘*metapherein*’ meaning ‘transference’, carries its etymological connotation through to the modern use of the word (McGlone, 2007). However, it was not until the publication of Lakoff and Johnson’s (1980) *Metaphors We*

Live By that metaphor became a prominent topic of investigation. In their conceptual metaphor theory (CMT), Lakoff and Johnson claimed that metaphor is not only a rhetorical transfer of meanings but also a conceptual phenomenon that is pervasive in language, communication and thought. From the perspective of CMT, metaphor is a conceptual process that involves treating an abstract entity (i.e. a target domain) in terms of a more concrete concept (i.e. a source domain) (Lakoff & Johnson, 1980). Thus, the term conceptual metaphor refers to the conceptual mapping between the source and target domains and it is always presented in capital letters i.e. A IS B, while the terms linguistic metaphor or metaphoric expressions refer to the individual linguistic expressions that are sanctioned by this mapping (Lakoff, 1993) (these terms are explained in detail in Section 2.2.1 of Chapter Two). For instance, in the sentence from the Corpus of Contemporary American English, henceforth COCA (accessed through <http://corpus.byu.edu/coca>):

- (1) I think that we are at a crossroads and between now and next year, the government really has to work hard towards improving the country for the benefit of the people.

the mention of '*crossroads*' by the speaker refers to time rather than physical location. That is, '*crossroads*' here communicates something other than the literal crossing of roads; specifically, it reflects a moment in time when a choice has to be made. Expressions like '*at a crossroads*' are everyday metaphoric expressions that are not exclusively poetic and can go unnoticed by even native speakers of a language. They are, nonetheless, motivated by more cognitive conceptualizations as explained by CMT. In this case, the linguistic metaphor '*at a crossroads*' is derived from the conceptual metaphor PROGRESS THROUGH TIME IS FORWARD MOTION. It is this conceptual and linguistic relationship that language learners should be aware of when they are

introduced to L2 metaphoric expressions. Section 2.2 in Chapter Two further addresses conceptual metaphor theory and the theoretical debates surrounding its claims.

Since the publication of Lakoff and Johnson's (1980) book, there has been a growth of interest in the study of metaphor; and we have witnessed a coming together of the cognitive and applied approaches to metaphor. What the cognitive approach brings to this partnership is a better understanding of the nature of conceptual metaphor and the mental processes that occur when understanding metaphor. Researchers have explored, for example, the relationship between metaphor and thought within different contexts (e.g. Gibbs, 1994, 2008; Kövecses, 1990, 2005) and have employed linguistic metaphors as evidence for metaphorical mappings occurring at the conceptual level. As Gibbs (2011a) has pointed out, conceptual metaphor has been employed to study a range of topics, such as emotions (Kövecses, 2000), the self (Lakoff & Johnson, 1999), cultural ideologies (Goatly, 2007), political issues (Musolff, 2004) and illness (Gibbs & Franks, 2002) among others. In addition, the linguistic approach has brought to the partnership a better understanding of the linguistic, multimodal and communicative uses of metaphor in the real world. It has focused on the systematicity and behaviour of metaphor and has provided insights into the use of linguistic and multimodal metaphor in authentic contexts such as educational discourse and political speeches (for example, Cienki & Müller, 2008; Cameron, 2003; Deignan, 2005; Musolff & Zinken, 2009; Forceville & Urios-Aparisi, 2009). The applied linguistic views on metaphor are further discussed in Section 2.3 of Chapter Two.

As Piquer Piriz and Alejo (2016) have observed, a major issue in past metaphor research was regarding the distinction between the cognitive and applied strands of metaphor research. This, however, is no longer a current issue as they now

work in combination. For example, applied researchers criticized the early CMT research for its emphasis on the conceptual significance of metaphor over the linguistic or multimodal manifestations of metaphor (e.g. Deignan, 2008) but this has since been resolved. Piquer Píriz and Alejo (2016) have noted that current metaphor research takes into account the findings from both the cognitive and applied strands when discussing metaphor in language and thought. Some researchers identifying with the applied strand of metaphor have employed CMT and its theoretical foundations while systematically describing metaphor in language and multimodal settings (e.g. Forceville & Urios-Aparisi, 2009). In addition, Deignan, Littlemore and Semino (2013, p. 10) have observed that many studies following the cognitive approach actually employ authentic metaphor use as their evidence for metaphor variation across languages and cultures; and that researchers following the applied strand “investigat[e] metaphorical and metonymic expressions in large language corpora in order to test the validity of existing claims about conceptual metaphors, and to place such claims on a firmer empirical footing (e.g. Deignan, 2005; Semino, 2005; Stefanowitch and Gries, 2006)”. The point here is that the cognitive and the linguistic strands of metaphor research are complementary; and together, they have enriched our understanding of metaphor in thought, language and communication.

This background review of the status of metaphor in thought and language links directly to the teaching of metaphoric expressions in the language classroom. The cognitive and linguistic views on metaphor have together provided valuable insights for figurative language teaching. While the cognitive approach has largely experimented with conceptual metaphor awareness-raising activities (e.g. Boers, 2000a, 2000b, 2001) which create links between conceptual metaphors and metaphoric expressions in the

teaching of metaphoric vocabulary, applied linguistic research has offered further opportunities for figurative language teaching in terms of authenticity and metaphor functions (cf. Littlemore, 2002; MacArthur & Littlemore, 2008), which allow learners to appreciate the sociocultural aspects of language in context. Littlemore and Low (2006a) stress that language learners should attend to the conceptual as well as the linguistic and social aspects of metaphor in order to promote their metaphoric competence, i.e. the skills that allow them to recognize, produce and extend metaphors in the L2. They argue that employing evidence-based applied metaphor research in the classroom is important because it provides learners with authentic figurative expressions directly from the world that they operate in.

Despite these recommendations, it has taken a long time for metaphor to be introduced into the design of foreign or second language teaching materials, including English (henceforth EFL/ESL). It was over twenty-five years ago that Pickens, Pollio and Pollio (1985) first critiqued the lack of attention to figurative language in EFL/ESL curricula which, in their opinion, reflects how metaphor has been overlooked in language teaching. More recent researchers (see for example, Littlemore & Low, 2006a) have recommended the provision of explicit metaphor teaching methodologies that may assist learners with EFL/ESL metaphors. Littlemore and Low's (2006a) book-length investigation into metaphoric competence stressed the centrality of metaphor in all of the areas of Bachman's (1990) model for communicative competence. Boers et al. (2006) also commented that producing metaphoric expressions makes students' speech seem more effortless and native-like. However, it could be argued that these recommendations have not been taken into consideration in EFL textbooks today. For example, Amaya-Chávez (2010) examined 21 EFL textbooks taught in two Spanish

schools for learners aged six to 18 focusing on three highly polysemous words ‘*hand*’, ‘*cool*’ and ‘*run*’ in these textbooks and found that the coverage of these three words was unsystematic and extremely poor. This is alarming because textbooks are one of the main sources of information about the target language for language learners.

In relation to the lack of attention to metaphor in EFL/ESL textbooks, vocabulary in textbooks is often presented in general semantic clusters. Wilcox and Medina (2013, p. 1057) defined semantic clustering as the presentation of vocabulary items as “groups of words that are related semantically, or groups of words whose meaning would fall under one superordinate concept” without further indication to their contextual uses or cognitive motivations. The concept of semantic clustering is based on the work of Tinkham (1993, 1997) and several experimental studies (cf. Papathanasiou, 2009; Wilcox & Medina, 2013) which presented evidence for the negative effects of semantic clustering on the learning of vocabulary. Tinkham (1993, p. 372) pointed out that textbooks often present new vocabulary under semantic clusters such as ‘*words for animals*’ or ‘*hobbies*’ mainly because “words comprising semantic clusters fit nicely into the open “slots” within structures targeted by substitution drills or tables, and thus allow students to alter the meaning, to a certain extent, of the sentences they produce”. The problem with this presentation technique is that learners end up successfully answering tasks based on substitution drills; they would then, however, find difficulties in differentiating between the meanings of individual words, learning the contextual meanings of these words, employing them communicatively or retaining them for longer periods of time. If applied to the teaching of metaphoric expressions, learners would find difficulties in grasping the individual meanings of metaphoric expressions such as ‘*to buy time, to save time, to invest time*’ without further knowledge of the

conceptual metaphor TIME IS MONEY which could, in turn, help them understand how each of these expressions came to be. Semantic clustering of metaphoric expressions is further addressed in Section 2.4.2 of Chapter Two as it is employed as a control measure in three of the experimental studies of this thesis.

In response to the need for cognitively-based teaching of metaphor, figurative language teaching research is providing explicit approaches to the teaching of L2 metaphors. Several experimental studies have employed CMT to promote awareness of the metaphoric nature of metaphoric expressions (for example, Boers, 2000a, 2001; Boers, Eyckmans & Stengers, 2007, to be reviewed in detail in Section 2.4 of Chapter Two). After surveying a number of these studies, Boers (2013) highlighted the benefits of conceptual metaphor awareness-raising activities; mainly that these activities help learners to understand metaphoric expressions. They also engage the learners' analytic abilities and encourage them to think of "why certain words collocate, how the meaning of an idiom is connected to its original use, how different uses of a word are interrelated, and so on" (Boers, 2013, p. 219). In reply to criticisms that conceptual metaphor lists confuse learners as semantic clusters do, Boers (2013) clarified that metaphoric expressions presented according to conceptual metaphor awareness actually group expressions that appear to be disconnected from each other, thus showing learners how a list that appears to contain a random set of vocabulary items is actually motivated by conceptual metaphors (e.g. *flex your muscles*, *lower your guard*, *throw in the towel*).

However, the research thus far has overlooked the problems in conceptual metaphor awareness-raising activities and the experimental studies exploring these activities. Boers (2004) illustrated that conceptual metaphor awareness-raising activities only illuminate the links between a set of vocabulary items and the conceptual

metaphors they derive from. They do not guarantee that learners will be capable of producing the metaphoric expressions they have been taught in natural contexts or retaining them for long periods of time. As to the experimental studies promoting these activities, Boers (2013) noted that the early studies had some methodological problems in their design and analyses. Examples of problematic methodologies include the lack of pretesting and delayed testing measures (e.g. Boers, 2000a), the high number of metaphoric expressions to be taught in a single session (e.g. Boers, 2000b) and the unparalleled cognitive effort employed by learners in control groups and conceptual metaphor groups (e.g. Beréndi et al., 2008). He advised that new studies should employ more rigorous methodologies for the design, administration and analysis of conceptual metaphor awareness-raising activities in order to overcome the issues of the early experimental studies (to be discussed further in Section 2.4.4 of Chapter Two).

With these benefits and shortcomings in mind, figurative language teaching research is yet to explore awareness-raising activities that go beyond conceptual metaphor awareness. In this thesis, I address this issue and propose two awareness-raising activities that promote the embodied nature of action metaphors and tactile metaphors, henceforth embodied action metaphor awareness and embodied tactile metaphor awareness. These approaches to the teaching of EFL metaphor draw on insights from embodied cognition research (cf. Barsalou, 2008, 2009; Gibbs, 2006a) which views embodied metaphor as part of a larger field of the grounded and situated human mind. Gibbs (2014) has described embodied cognition as a field that investigates language and actions as they are grounded in sensorimotor interactions with the universe. In this sense, Gibbs (2014, p. 169) has identified embodied metaphor theory as a theory that “specifically details significant links between bodily experience,

abstract thought, and metaphoric language and action”. In this definition, Gibbs describes embodied metaphor as being more fundamental to human nature than conceptual metaphor because it unfolds through human actions and interactions with the world. By raising awareness of these sensorimotor links when teaching metaphor in the EFL/ESL classroom, embodied metaphor awareness can be a valuable addition to figurative language teaching.

Embodied cognition research on embodied metaphor is discussed in detail throughout Chapter Three. In brief, researchers working on the influence of embodied metaphor on behaviour and social judgment (for example, Lee & Schwarz, 2012; Leung et al., 2012; Zhong & Leonardelli, 2008) suggest that there is an association between conceptual metaphors and behaviour, and that promoting awareness of the sensorimotor grounding of embodied primary metaphors influences peoples’ actions and behaviours. In support of this view, neuroscientific research has provided evidence for the dual activation of the sensorimotor and linguistic regions of the brain in the processing of metaphoric expressions (cf. Desai et al., 2011; Schaefer et al., 2015). These two fields indicate that employing the embodied nature of metaphors for the benefit of teaching metaphoric expressions can offer further support to their learning. In addition, research on the enactment effect on memory (cf. Cohen, 1981; Macedonia & Knösche, 2011) has indicated that enacting abstract words promotes their retention for longer periods than verbal or auditory modalities. The results from these fields are good starting points for the investigation of embodied metaphor awareness in the language classroom.

While Section 3.6 of Chapter Three provides a detailed look at embodied metaphor and the possibilities it has for the teaching of L2 metaphor, it is important

here to explain the two terms of embodied action metaphor awareness and embodied tactile metaphor awareness and what they mean in the context of this thesis. These are two ways of raising awareness of metaphor which engage the language learners with the primary sensorimotor motivations of conceptual metaphors. This involves having language learners perform actions and handle physical objects depending on the primary sensory meanings of the metaphors. In example (2) from the British National Corpus, henceforth the BNC (accessed through <http://bncweb.lancs.ac.uk>):

- (2) Oliver stood still, frozen with fear. A light appeared, then two men on the stairs, then a sudden bright flash, and a loud bang. Oliver staggered back.

teaching the expression '*frozen with fear*' could involve either embodied action metaphor awareness or embodied tactile metaphor awareness. First, an activity based on embodied action metaphor awareness could make use of motor actions like having the learners stand very still as they learn about the physical reaction of fear (i.e. being unable to move). On the other hand, an activity based on embodied tactile metaphor awareness could involve communicating the relation between temperature and fear by having learners touch ice cubes while the teacher explains the physiological relationship between fear and coldness.

By raising awareness of these fundamental sensorimotor links when teaching metaphor in the EFL/ESL classroom, embodied metaphor awareness-raising activities have the potential to promote the retention of metaphoric expressions and the extension of multimodal metaphors in advertising (as will be shown later throughout Chapter Six and Seven), thus expanding the focus of metaphor teaching research to nonlinguistic aspects of L2 metaphor. As discussed in Section 3.6, Lindstromberg and Boers (2005)

have attempted to teach action metaphoric expressions through enactment and mime, thus providing a basis for promoting awareness of the sensorimotor motivations of metaphoric expressions. However, cognitive linguistic research is yet to systematically develop the concept of embodied metaphor awareness or explore the range of its benefits and limitations in authentic language learning environments. The cognitive linguistic applications to language teaching seem to be restricted within the confined space of conceptual metaphor awareness. The focus can now be put on the retention of the metaphoric expressions rather than only understanding metaphoric senses. With the employment of multi-sensory teaching of embodied actions and touch we can also explore a further limitation of conceptual metaphor awareness which is the production of linguistic metaphors. This is based on the notion that conceptual metaphor awareness is not a generative teaching method and therefore does not promote the use of taught metaphoric expressions in speaking or writing (Boers, 2004). Embodied metaphor awareness, however, can reconnect the learners with their primary sensory experiences. So, when learners are asked to interpret nonlinguistic metaphors like those used in pictorial metaphors in advertising, their bodily experiences could, in theory, aid them to recreate the links between the source and target domains and then express these metaphors in writing or speaking.

Taking these issues into consideration, this thesis explores metaphor awareness-raising activities that do not only promote the awareness of EFL metaphoric expressions, but also address the understanding and retention of linguistic metaphors by learners in EFL Saudi classrooms. It also expands the limited focus of linguistic metaphors by developing awareness-raising activities that promote the extension of pictorial metaphors in advertising. It does this by first exploring the limitations of

conceptual metaphor awareness; and by addressing those limitations it then develops embodied metaphors awareness in the hopes of a better figurative language learning experience.

1.2. Context

The setting for this research project is King Abdul-Aziz University (KAU), a public university in Jeddah, Saudi Arabia. As the teaching for male and female learners in Saudi Arabia is separate this thesis takes place with only female learners. Before discussing the EFL teaching at KAU, I start with a brief look at the wider context of teaching English in Saudi Arabia and the roles of teachers and learners in the Saudi classrooms. These roles are important here because this thesis introduces new roles to the Saudi classroom environment by engaging the language learners in exercises that involve enactment, mime and touch.

English in Saudi Arabia is treated as a foreign language despite the fact that it is extensively used in the public and private sectors. It is considered an essential requirement for job applications and postgraduate education (Mahboob & Elyas, 2014). As a result, English is a mandatory subject in the Saudi educational system and the Saudi Ministry of Education supplies EFL teaching textbooks and guidelines to state schools so the English teaching in these schools tends to be centralized. Al-Seghayer (2015) describes the context of the EFL Saudi classroom as teacher-centred and text-centred in which teachers resort to traditional teaching methods like the audio-lingual method and the grammar-translation method and students attempt to memorize grammar rules, vocabulary lists and reading passages. More importantly, classrooms

typically have fixed seating plans and students do not move around or speak out unless they are asked to do so. The result of this traditional schooling system is that English is studied as ‘subject matter’ rather than communicatively (Al-Seghayer, 2014).

The gap in EFL learning becomes clearer when students reach the university level, where they are expected to use English as the medium for learning specialized subjects like medicine, business or engineering. Saudi universities address this need and provide intensive English programmes for foundation year (i.e. first year) undergraduate students aimed at raising learners’ communicative competence. As a language teacher at KAU’s English Language Institute (ELI), our aim at the ELI is to teach English as a means for communication and use more communicative teaching methods like Task-Based Language Teaching. However, I have observed that the teaching of vocabulary items involving metaphoric expressions is restricted to non-interactive vocabulary lists without further opportunities for practice. While the teaching of grammar is integrated within the main communicative skills, learners still receive vocabulary lists and many of them resort to memorizing and translating those lists in order to understand the meaning of the vocabulary items. In addition, the students’ role in the classroom is still to be a receiver of knowledge and they rarely move around or speak up unless they are instructed to do so as noted earlier.

With these issues in mind, the setting for this research project is the female campus at KAU. At KAU, the English Language Institute (ELI) provides modular courses to foundation year students. These courses are intensive 7-week courses which require students to take EFL classes for 18 hours per week. The ELI courses are designed according to the Common European Framework of Reference (CEFR) for Languages. Each course targets one of the CEFR levels A1, A2, B1 and B2. The course

of interest here is course-104 that teaches the B2 upper-intermediate level. In terms of textbooks, the ELI employs *English Unlimited Special Edition* (Rea, et al., 2015) textbooks published by Oxford Publishing and *New Headway Plus Special Edition* (Soars & Soars, 2011) published by Cambridge University Press.

For the purpose of the experimental studies of this thesis, I coordinated with ELI administrators and teachers to conduct four experimental studies for four consecutive time periods. I also made use of my experience as a language teacher at the ELI as I designed the interventional teaching sessions given to the students who took part in the studies. I recruited 223 female learners taking the 104-level course in the four studies.

Before the 18 to 22 year-old participants enrolled on the ELI courses, they took the Oxford Online Placement Test (OOPT), which placed them at the B2 level. Accordingly, they were enlisted in the 104-level upper-intermediate course. There are three reasons why this research project was aimed at female Saudi students at the B2-upper-intermediate level. First, as explained earlier, female students receive their education at an independent campus at KAU. Second, in experimental classroom research it is difficult to control for a homogeneous group of participants. Thus, performing the studies exclusively with female learners adds a control measure for gender. Thirdly, Boers (2004) suggested that intermediate level learners make for the most responsive target group in metaphor intervention studies. He suggested this because learners at the intermediate level may be more willing to take risks than advanced level learners. They should also have the level of lexical knowledge needed to interpret the figurative expressions as opposed to elementary-level learners. In terms of language production, learners at the B2 level should be able to say yes to the following

CEFR ‘can do’ statements (reproduced from the Council of Europe website: http://www.coe.int/t/dg4/linguistic/source/framework_en.pdf, p. 27):

B2 I can write clear, detailed text on a wide range of subjects related to my interests. I can write an essay or report, passing on information or giving reasons in support of or against a particular point of view. I can write letters highlighting the personal significance of events and experiences.

Taking these statements into consideration, if the participants are able to read and write clearly they should also be able to understand metaphoric language and possibly produce conventional and creative open-class metaphoric expressions. Littlemore et al. (2013, p. 26) surveyed a corpus of 200 essays written by Greek and German students and suggested the following descriptors to describe metaphor use by language learners at the B1 and B2 levels. Though the descriptors concern the skill required to produce metaphor in writing, they offer a guide to the possible needs of learners at the B2-level:

B1 ... [L]earners should be able to use a limited number of conventional metaphors, with appropriate phraseology to present their own perspective. They should also be able to make limited use of personification metaphors. They may be starting to use a small number of metaphor clusters.

B2 In addition to the above, learners should be able to make use of a limited number of conventional and creative open-class metaphors. They should be able to use metaphors for evaluative and discourse organizing purposes. They should be starting to use personification metaphors more extensively. Metaphorical clusters are more in evidence at this level. Some are coherent, whereas others contain mixed metaphors.

As to the four experimental studies, a member of staff at the ELI administered Study 1 on my behalf because I was attending courses at the University of Birmingham

and was unable to do so in person. As to Studies 2, 3 and 4, I went on three data collection trips to KAU Saudi Arabia to administer the experiments. The dates and number of participants for each data collection trip are illustrated in Table 1.1 in Section 1.3. The data collection for each study followed the ethical practice guidelines proposed by the University of Birmingham and KAU. The teachers of each of the participating groups delivered the main teaching materials. I then coordinated with the teachers to spend some class-time with the students per-teaching week to conduct the experimental studies. This time was spent on interventional teaching sessions and a series of tests and questionnaires. A detailed description of the methodology of each study will follow in Chapters Four, Five, Six and Seven.

1.3. Thesis structure and research questions

The first and second sections of this chapter presented a brief background of conceptual and embodied metaphor awareness as well as the context of the experimental studies. This section elaborates on the outline of the thesis, the research questions that this thesis seeks to answer and how the experimental studies were developed. The thesis is organized into two main parts: Part One consists of the literature review chapters and Part Two presents the four experimental studies carried out as part of this thesis. Each of the chapters in Part Two includes a rationale that elaborates on some of the specific literature relating to the study. Table 1.1 describes the contents of each chapter:

Part	Chapter	Description	
Part One: Literature review	Chapter Two	Background into conceptual metaphor awareness	
	Chapter Three	Background into embodied metaphor awareness	
Part Two: Experimental studies	Chapter and Research Question	Study and period	Participants
	Chapter Four addresses RQ 1	<u>Study 1</u> : Conceptual metaphor awareness Period: 1 March 2013 to 7 March 2013	Control group (CG-1) 15 students Metaphor group (MG-1) 14 students
	Chapter Five addresses RQ 1	<u>Study 2</u> : Conceptual metaphor awareness through TBLT teaching Period: 1 February 2014 to 25 February 2014	Control group (CG-2) 30 students Metaphor group (MG-2) 37 students
	Chapter Six addresses RQ 2	<u>Study 3</u> : Embodied action metaphor awareness through TPR teaching Period: 15 November 2014 to 18 December 2014	Control group (CG-3) 17 students Metaphor group (MG-3) 18 students Embodied action metaphor group (EAMG-3) 25 students
	Chapter Seven addresses RQ 3	<u>Study 4</u> : Embodied tactile metaphor awareness through MI-based teaching Period: 3 November 2015 to 26 November 2015	Metaphor control group (MCG-4) 30 students Embodied tactile metaphor group (ETMG-4) 37 students
	Chapter Eight	Discussion and conclusions	

Table 1.1: Description of thesis structure and chapters

With reference to Table 1.1, Part One of this thesis provides the theoretical background for the experimental studies in Chapter Two and Chapter Three. As a component of Part One, Chapter Two provides an overview of the cognitive and linguistic views of metaphor and the awareness-raising activities that have stemmed from conceptual metaphor theory, i.e. conceptual metaphor awareness. It elaborates on the limitations of conceptual metaphor awareness in terms of retention of metaphoric expressions and incorporation of other manifestations of metaphor. Addressing these limitations, Chapter Three introduces embodied metaphor awareness as a teaching technique that could promote awareness and retention of taught metaphoric expressions as well as the linguistic extension of pictorial metaphor. As embodied metaphor awareness is a newly proposed figurative language teaching technique based on primary metaphor, I start Chapter Three with Grady's (1997) primary metaphor theory discussing how basing this teaching on primary metaphors can promote awareness of the embodied nature of metaphoric expressions. I also offer psychological and neuroscientific support in favour of the benefits of embodied metaphor awareness.

Part Two of the thesis presents the experimental studies carried out as part of this thesis. It consists of a series of experimental classroom studies that were developed based on the results of the studies that preceded them. These four consecutive studies focus on a different aspect of metaphor awareness and they each employ different teaching methodologies and use different interventional techniques. In each experiment, the length of the interventional teaching sessions and the types of tests administered ranged according to the aims and objectives of the study. So, each chapter in Part Two is devoted to a particular one of those studies, its rationale, methodology, results and discussion. In detail, the chapters in Part Two are divided as follows: Chapter Four

reports on Study 1, Chapter Five reports on Study 2, Chapter Six reports on Study 3 and Chapter Seven reports on Study 4.

In terms of the research questions, the chapters in Part Two attempt to answer three main research questions. These have quantitative and qualitative dimensions which are addressed in detail in light of sub-research questions in each chapter. I outline both here. Taking this into consideration, Chapter Four and Chapter Five attempt to answer Research Question One:

RQ 1: How do the female Saudi EFL learners respond to awareness-raising activities to the teaching of metaphoric expressions when these activities are based on conceptual metaphor awareness versus semantic clustering?

Research Question One investigates the effects of conceptual metaphor awareness through Study 1 which is reported in Chapter Four and Study 2 which is reported in Chapter Five. The design of interventional teaching sessions for both studies follow the techniques suggested by conceptual metaphor awareness research which are described in Chapter Two. In Study 1, I explored the state of learner writing with minimal intervention. This was an exploratory study, in which a control group (CG-1) versus a metaphor group (MG-1) were taught about metaphoric expressions from conceptual metaphors for happiness and sadness according to conceptual metaphor awareness or semantic clustering. I collected data in the form of a free-writing posttest and analyzed the writing samples in terms of two sub-research questions:

4.3.1. In what ways do the taught metaphoric expressions of happiness and sadness appear in the writing of the control group (CG-1) and the metaphor group (MG-1)?

4.3.2. What kinds of non-elicited metaphors do the learners use in their writing?

Next is Study 2 which provided a teaching that promoted metaphoric expressions from TIME IS MONEY through conceptual metaphor awareness versus semantic clustering. I designed the interventional teaching session according to the task-based language teaching approach (TBLT). To compare between conceptual metaphor awareness and semantic clustering, I divided the participants into a control group (CG-2) and a metaphor group (MG-2). I provided the participants with pretests, immediate posttests and 2-week delayed tests. I also provided them with an evaluation questionnaire to receive their feedback about the teaching methodology. I analyzed the tests and questionnaires in terms of three sub-research questions:

- 5.3.1. What are the differences in the levels of retention of the 17 taught metaphoric expressions prior to and after the interventional teaching session in the pretest, the posttest, and the 2-week delayed test of the Saudi learners in the control group (CG-2) and the metaphor group (MG-2)?
- 5.3.2. In what ways does the teaching of metaphoric expressions affect the Saudi learners' use of metaphoric expressions other than those taught to the CG-2 and the MG-2?
- 5.3.3. How do the Saudi learners from the CG-2 and the MG-2 perceive the teaching of metaphoric expressions through TBLT?

The results obtained from Study 2 revealed a limitation of conceptual metaphor awareness regarding retention. Looking at this limitation, the next step was to find metaphor awareness-raising activities that could promote the retention of metaphoric expressions. Based on research in cognition and memory which highlighted the benefits of enactment on vocabulary retention, I developed embodied action metaphor awareness

(to be further described in Section 3.4 of Chapter Three). To this end, the following Research Question Two addresses the effects of embodied action metaphor awareness:

RQ 2: How do the female Saudi EFL learners respond to awareness-raising activities to the teaching of metaphoric expressions when these activities are based on embodied action metaphor awareness, conceptual metaphor awareness or semantic clustering?

Chapter Six reports on Study 3 and answers Research Question Two. It investigates the effects and limitations of embodied action metaphor awareness compared to conceptual metaphor awareness and semantic clustering. In Study 3, I taught LIFE IS A JOURNEY metaphoric expressions through embodied action metaphor awareness. In designing and administering the interventional teaching sessions of Study 3 I employed the language teaching methodology Total Physical Response (TPR). To compare between embodied action metaphor awareness, conceptual metaphor awareness and semantic clustering I divided the participants into three groups: a control group (CG-3), a metaphor group (MG-3) and an embodied action metaphor group (EAMG-3). I collected data in the form of metaphor understanding tests and free-writing tests. I also asked the participants to answer learning styles questionnaires and evaluation questionnaires. I analyzed the data in terms of four sub-research questions:

6.3.1. Are there any significant differences between the control group (CG-3), the metaphor group (MG-3) and the embodied action metaphor group (EAMG-3) in terms of understanding and retaining the taught metaphoric expressions as measured by a pretest, a posttest and a 2-week delayed test?

- 6.3.2. How do the students in each of the three groups use the taught metaphoric expressions in their productive writing activities, and how does this use differ prior to and after the intervention?
- 6.3.3. Is there a relationship between the students' cognitive learning styles and their performance on the metaphor understanding and production tests? Does the nature of this relationship vary across the three groups?
- 6.3.4. What are the attitudes of the students in each of the three groups towards the three different teaching methodologies (semantic clustering, conceptual metaphor-based teaching and embodied metaphor-based teaching)?

Study 3 revealed some limitations in terms of the learners' ability to produce taught metaphoric expressions after they had experienced the embodied metaphors through physical actions. Thus, I attempted to develop awareness-raising activities aimed at first, understanding the metaphoric expressions and second, extending pictorial metaphors in writing. The awareness-raising activity used here is embodied tactile metaphor awareness (to be further described in Section 3.4 of Chapter Three). To this end, I developed Research Question Three:

RQ 3: How do the female Saudi EFL learners respond to awareness-raising activities to the teaching of linguistic and pictorial metaphors when these activities are based on embodied tactile metaphor awareness or conceptual metaphor awareness?

Chapter Seven reports on Study 4 and addresses Research Question Three. It investigates the impact of embodied tactile metaphor awareness compared to conceptual metaphor awareness. In Study 4, I targeted temperature and texture metaphors to promote awareness of embodied tactile metaphors. The design of Study 4's

interventional teaching sessions followed the embodied metaphor research described in Section 3.4 of Chapter Three. To compare between embodied tactile metaphor awareness and conceptual metaphor awareness, I divided the participants into two groups: a control metaphor group (MCG-4) and an embodied tactile metaphor group (ETMG-4). I collected data in the form of metaphor understanding tests and pictorial metaphor interpretation tests. I also asked the participants to answer MI profile questionnaires and evaluation questionnaires. I analyzed the data in terms of four sub-research questions:

- 7.3.1. Are there any differences between the metaphor control group (MCG-4) and the embodied tactile metaphor group (ETMG-4) in terms of their performance in the pretest and posttest for conventional metaphor understanding?
- 7.3.2. To what extent do the students in the MCG-4 and the ETMG-4 interpret the three pictorial metaphors successfully, and does teaching them through conceptual metaphor awareness or embodied metaphor awareness improve the quality of their interpretations?
- 7.3.3. Is there a relationship between the students' MI profiles and their performance on the conventional metaphor understanding tests and pictorial metaphor interpretation tests? Does the nature of this relationship vary between the MCG-4 and the ETMG-4?
- 7.3.4. What are the attitudes of the students in the MCG-4 and the ETMG-4 towards conceptual metaphor awareness teaching technique and the embodied tactile metaphor teaching technique?

Lastly, Chapter Eight is dedicated to a discussion of the results of the experimental studies in light of the current research into figurative language teaching and proposes areas for further research. A list of references and several appendices referring to the student consent forms, worksheets, the tests and the questionnaires distributed at the experimental studies follow at the end of the thesis.

PART ONE
LITERATURE REVIEW

CHAPTER TWO

CONCEPTUAL AND LINGUISTIC METAPHOR

BACKGROUND AND PEDAGOGICAL APPLICATIONS

2.1. Introduction

Research studies conducted within the cognitive linguistic paradigm have established conceptual metaphor awareness-raising activities as valuable teaching techniques for figurative language teaching. Boers (2004) noted that when language learners become aware of the conceptual motivation behind metaphoric expressions they also become more aware of their metaphoric senses. Further, Kövecses and Szabó (1996) explained that these activities allow learners to categorize seemingly arbitrary expressions based on their source domains enabling learners to analyze the origins of metaphoric expressions. However, conceptual metaphor awareness, though beneficial in promoting the understanding of metaphoric expressions, is limited with regards to retention and reproduction of the metaphoric expressions. While researchers like MacArthur and Littlemore (2011) and Low (2008) have called for expanding the focus of figurative language teaching to include the sociocultural aspects of metaphor, the general trend of experimental cognitive linguistic research has not gone much beyond the benefits of conceptual metaphor awareness for the teaching of idioms.

The limitations of conceptual metaphor awareness are extensions to stronger limitations within Lakoff and Johnson's (1980) conceptual metaphor theory (CMT). As will be discussed in Section 2.2.3, CMT has been accused of circularity and of deriving conceptual generalizations from a short list of artificial linguistic examples (cf.

McGlone, 2001, 2011; Deignan, 2008). More importantly, because of its focus on describing the conceptual mechanisms of metaphor, CMT has overlooked the sociolinguistic aspects and nonlinguistic manifestations of metaphor in the real world. Deignan (2008) considered it ironic that although linguistic metaphors are given a secondary position to thought in the tradition of CMT, they are the most significant evidence for the conceptualization of metaphors. In response, applied linguistic research has shifted the focus towards the manifestations of metaphor providing a wider range of implications for figurative language teaching.

To elaborate on these issues, Chapter Two is divided into three sections: in Section 2.2, I address the developments of CMT and the criticisms it faced as a cognitive theory. Section 2.3 discusses how usage-based metaphor approaches have overcome the problems CMT faces with linguistic metaphor by systematically describing the occurrence of linguistic metaphor in academic discourse and corpora. Lastly, Section 2.4 evaluates the benefits and limitations of conceptual metaphor awareness-raising activities to teach metaphoric expressions in EFL/ESL classrooms.

2.2. Cognitive linguistic views on conceptual metaphor

In this first section, I discuss the tenets of CMT (Section 2.2.1) and the prominence of metaphor across languages regardless of their typological origins (Section 2.2.2). I follow this by discussing some of the theoretical debates surrounding CMT (Section 2.2.3).

2.2.1. Conceptual metaphor theory

Until the 1980s, classical scholars (cf. Black, 1962; Kittay, 1987; Searle, 1979) viewed metaphor as a poetic figure of speech used mainly for literary embellishment. As discussed in Section 1.1 of Chapter One, Lakoff and Johnson (1980) challenged this classical view and developed conceptual metaphor theory (CMT) in their seminal work *Metaphors We Live By*. Lakoff and Johnson argued that metaphor is pervasive not only in language but also, and even prominently, in thought, communication and action. In the CMT view, the conceptual metaphors governing human thought also govern daily language (Lakoff & Johnson, 1980; Lakoff, 1993a). On the language level, any language contains connected systems of conventional linguistic metaphors that are shared because they derive from common experiences with the world or conceptual metaphors (Lakoff & Turner, 1989). In this view, conceptual metaphors are abstract concepts that we think of as if they were more concrete concepts. They are the result of certain features being mapped from an abstract source domain to a more concrete target domain. Lakoff and Johnson (1980) described the source domain as “a structured whole within our experience that is conceptualized as what we have called an *experiential gestalt*” (p. 117, italics in the original). In this sense the source domain is embodied, meaning that it arises from bodily experience and is more salient than the abstract domain. On the other hand, linguistic metaphors are the linguistic manifestations systematically derived from the source-target-domain mappings. The following two examples from COCA are used to illustrate the CMT view of metaphor:

- (3) Parents can do a great deal to ensure their child doesn't go down that road.
- (4) We do better as a country when we go step by step toward the goal of reducing health care costs.

In examples (3) and (4), the expressions '*go down that road*', and '*step by step toward the goal*' are conventional linguistic metaphors derived from the conceptual metaphor LIFE IS A JOURNEY where features (e.g. travellers, vehicle, distance, etc.) from the source domain LIFE are mapped onto the target domain JOURNEY. Lakoff and Johnson (1999) developed a more advanced version of CMT, naming it the contemporary theory of metaphor (CTM), based on the integration of Grady's (1997) theory of primary metaphors (to be addressed in Section 3.2) and other advances in metaphor research. One of these developments involves correlation and similarity. Lakoff and Johnson (1980) initially claimed that metaphor is based on the similarity between concepts but in their 2003 publication, they demonstrated that metaphor is based on cross-domain correlations in our experience which in turn gives rise to the sense that there are similarities between concepts. As the basic tenets of CMT are the same in both versions I henceforth adopt the acronym CMT to describe both.

As shown above, Lakoff and Johnson (1980) focus their attention on metaphor in thought rather than in language, and to them "language is secondary" while "mapping is primary" (p. 208). Thus, when it comes to linguistic metaphors like '*go down that road*', and '*step by step toward the goal*', Lakoff (1987) provided a classification for conventional linguistic metaphors. These are: linguistically dead expressions whose original literal sense is not currently used, conceptually dead expressions whose conceptual mapping is no longer in use (e.g. *pedigree* may be of both types since its mapping and literal meaning are dead), one-shot metaphors whose mapping is quite

different from other instances of the expression, and lastly conventionalized metaphors whose conceptual mapping and literal senses are still very much alive (e.g. *grasp*). This classification places an emphasis on both the conceptual mapping and the contextual meanings of the linguistic metaphors. However, Deignan (2005) noted that it lacks the detail needed to account for the various manifestations of linguistic metaphors in language corpora, thus establishing a need for accounts explicitly drawn from and by linguistic data.

Moreover, an assumption behind CMT is that conceptual metaphors, along with conceptual metonymies and image schemas are a set of idealized cognitive models (ICMs); the latter two are defined next. Lakoff (1987) explained that people operate with certain ICMs or abstract categories that structure their thoughts and aid them in forming categories within the world. Starting with image schematic ICMs, Gibbs (2006b, p. 90) defined image schemas as experiential gestalts or “dynamic analog representations of spatial relations and movements in space”. These arise through recurrent sensorimotor activities and contribute to the formation of various conceptual metaphors (Johnson, 1991). This correlation between image schemas and conceptual metaphors led Lakoff (1993, p. 215) to further propose the invariance hypothesis, which states that “metaphorical mappings preserve the cognitive typology (that is, the image-schema structure) of the source domain in a way that is consistent with the inherent structure of the target domain”. For example, the conceptual metaphor ANGER IS HEAT preserves the CONTAINER image schema, in that the source domain HEAT represents a pressurized container for anger.

With regards to metonymy, it has received less attention by cognitive linguistic research. Metonymy involves using a concept to refer to an entity that is related to it

(Lakoff & Johnson, 1980). Just like metaphors, metonymies are pervasive in everyday thought, communication and language. For instance, in this example from the BNC:

- (5) Otis Griffith has always been a car fanatic, but when it comes to his own set of wheels, he admits he's never had much luck.

In example (5), '*set of wheels*' is a linguistic metonym that refers to a car by referencing its wheels. It is derived from the PART FOR WHOLE conceptual metonym. Although Lakoff (1987) considered metaphor and metonymy mainly as static ICMs, Ruiz de Mendoza and Mairal Usón (2007) clarified that both can actively engage in dynamic processes that function within and between existing ICMs. A reader can refer to Goossens (1990) and Geeraerts (2002) for a discussion on the interaction between metaphor and metonymy. While this interaction is beyond the focus of this thesis, it is important to keep in mind that metaphor is rarely devoid of metonymy.

As outlined in Section 1.1 of Chapter One, CMT has flourished into one of the most applied theoretical frameworks within cognitive linguistics with implications for non-linguistic fields such as gestures (Cienki & Müller, 2008), visual and multimodal metaphors (Forceville & Urios-Aparisi, 2009) and music (Zbikowski, 2008). Cognitive linguists have described conceptual and linguistic metaphors across different languages and disciplines (to name a few: Gibbs, 1994; Gibbs, et al., 1997; Lakoff, 1987, 1993b; Kövecses, 1990, 2000, 2005, see Gibbs 2011a for a review). While these areas of research are beyond the focus of the current investigation they point to the wide-ranging implications of CMT.

From a language learning perspective, the cultural variations between image schemas, metonymy, and conceptual metaphors in the L1 and the L2 may perhaps explain the difficulties in figurative language learning. Littlemore (2009) noted that the

acquisition of L2 ICMs can take a long time which may explain why language learners have difficulty acquiring metaphoric or metonymic vocabulary items. To target such difficulties, we need to provide especially designed interventions that promote the teaching of L2 metaphoric expressions systematically. This is where conceptual metaphor awareness comes in. Several cognitive linguistic studies (e.g. Boers 2000a, 2000b) have promoted the teaching of figurative language on the basis of CMT motivation, because it facilitates the learning of metaphoric expressions and provides some organization to a class of vocabulary that is difficult for learners. Taking one experimental study for example, Li (2002) performed four classroom-based experiments with adult EFL Chinese learners in which he targeted the teaching of EFL conceptual metaphors and image schemas. In his third experiment, a metaphor awareness group (29 students) and a control group (23 students) learned 25 metaphoric expressions motivated by six conceptual metaphors and the CONTAINER image schema like '*blowing off steam*' and '*bubbling with excitement*'. Li explained the conceptual metaphors behind each vocabulary item and had learners guess the relationship between the source and target domains. He also made the learners aware of CONTAINER image schema by having them draw diagrams of a human body and a vessel. While pretest results showed no difference between control and experimental groups, the differences in the immediate posttests and one-week delayed tests were highly significant ($p = .000$ and $p = .000$ respectively). In evaluation questionnaires, the participants even reported that conceptual metaphor awareness allowed them to structure what seemed like a random list of vocabulary items and to understand where the vocabulary came from. Section 2.4 elaborates on other studies employing conceptual metaphor awareness-raising activities.

2.2.2. *Universality and variation of conceptual metaphor*

Since conceptual metaphors are based on sensorimotor experience they are bound to be universal and co-occur in various cultures. The universality here refers to shared bodily experiences that lead to the emergence of similar conceptual metaphors in different languages, and ultimately similar linguistic manifestations. Kövecses (2003, 2005, 2007, 2008, 2010) hypothesized that conceptual metaphors for emotions, for example, HAPPY IS UP and INTIMACY IS CLOSENESS are near-universal because of their generic-level functioning. Also, Kövecses explained that all languages have a metaphor for anger as AN ANGRY PERSON IS A PRESSURIZED CONTAINER. Linguistic manifestations may then differ according to each culture when generic-level metaphors are utilized in culture-specific ways. For example, though the generic-level anger metaphors are shared by English and Japanese, Japanese uses a culture-specific level terms '*hara*' or belly, as anger rises from the belly to the chest or '*mune*' on its way to the heart (Matsuki, 1995). In addition, Maalej (2004) explained that in Tunisian Arabic the heart and nerves also act as containers for anger, yielding expressions that translate as '*my heart is going to explode*' and '*he burnt my nerves*'. Charteris-Black (2003) also investigated the cultural differences between English and Malay. He found that English treats higher emotions as matters of the heart while in Malay it is the liver that controls higher emotions (e.g. English *eat your heart out* versus Malay *Makan hati* or *eat liver*).

However, there are some problems with Kövecses' (2003) theory with regards to the universality of metaphor. First, like the early CMT research, the theory builds conceptual hypotheses from a small number of unauthentic linguistic examples. Moreover, as there is very little linguistic analysis, the theory does not touch upon the unpredictable behaviour of metaphor in the discourse of specific cultures. Therefore,

more linguistic evidence is needed to pin down the specific linguistic attributes of culture-specific metaphors. In response to this need for more reliable linguistic evidence, other studies on cross-linguistic variation have taken a corpus approach to reveal the culture-specific characteristics of conceptual metaphors. For example, Bratoz (2012) studied metaphors in a corpus of newspaper articles describing Slovenian and US elections. She indicated that while there is a certain degree of universality in election metaphors being realized as combat, battle, contest and journey in English and Slovenian there are some cultural variations as well. While American English viewed elections as extending to the point of combat or war this element is less salient in Slovenian which views embodied elections more as contests. This variation could be driven by political and cultural influences within each of these cultures.

From a language learning perspective, Kövecses' (2003) theory raised awareness amongst linguists not only of the conceptual nature of metaphors but also of the linguistic variations between both the L1 and L2 metaphors. For example, Boers (2003) warned that even if a conceptual metaphor is available in L1 and L2, subtle variations in the source and target domains caused by different value-judgments can cause difficulties in understanding for second language learners. These differences can lead to negative transfer and/or misinterpretation by EFL/ESL learners. For instance, in Boers and Demecheleer's (2001) study evaluating the influence of cross-cultural variations on learners' understanding of imageable idioms, French learners of English found it more difficult to predict the meaning of idioms such as '*to hang up one's hat*' and '*to wear one's heart in one's sleeve*'. Of the participants, 22% misunderstood the first phrase as its French equivalent '*to congratulate someone*', while 53% interpreted '*to wear one's heart on one's sleeve*' as '*being generous*' and neither of those interpretations relate to

the real meanings of the idioms. Thus, it is worth keeping such linguistic variations in mind when teaching EFL/ESL metaphoric expressions.

2.2.3. Theoretical debates surrounding CMT

As briefly discussed in Section 2.1, CMT has received its share of criticism as a cognitive theory and as a methodological approach. The theoretical debates surrounding it involve ambiguity of metaphoric representation, circularity of argument and reliance on artificial linguistic evidence for cognitive generalizations. While several other theoretical debates have been raised with regards to CMT, these three issues are important in the course of this thesis because they shed light on the need to provide further support in the teaching of figurative language.

Starting with the ambiguity of metaphoric representation, Murphy (1996, 1997) argued that CMT does not explain why only a small number of conceptual metaphors are used for abstract concepts. He charged metaphor scholars with not providing a thorough psychological model for metaphoric representation that explains how these representations are processed cognitively. Murphy (1996) provided strong and weak versions as alternatives to metaphoric representation. The strong version would indicate that abstract concepts could only be understood via metaphoric representations (i.e. in the case of EMOTION IS TEMPERATURE, emotions are only understood in terms of temperature). The weaker version suggests that there is an independent mental representation for emotions and that the source domain influences the content of the target domain (i.e. the domain of emotions is influenced by metaphors relating emotions to temperatures). McGlone (2001) agreed with this view and noted that although the

strong version is theoretically unsound, Lakoff and colleagues have made declarations that seem compatible with it. For instance, Lakoff and Johnson's (1980, p. 62) statement that "the essence of metaphor is understanding and experiencing one thing in terms of another" could be consistent with the strong view. In response, Gibbs (1996) argued that the idea of metaphoric representations should not be rejected based on Murphy's (1996; 1997) claims. He acknowledged the limitations of CMT and urged scholars to be careful in presupposing direct relations between language and thought. As to the metaphors for love exemplified by Murphy (1996), Gibbs (1996) proposed that this problem could be easily fixed by considering metaphors as "dynamic temporary representations" that rely on the context of situation rather than on fixed rigid representations.

The second criticism of CMT revolves around the circularity of its arguments with regards to the relationship between conceptual and linguistic metaphors. For example, McGlone (2001, 2011) claimed that since the only evidence for implicit conceptual metaphors is a handful of linguistic examples based on the intuition of CMT advocates then the theory provides circular reasoning and therefore is invalid. In addition, Murphy (1996) noted that there was an absence of psychological support for the claim of conceptual representation, because in his view, conceptual metaphors appear directly mirrored through linguistic metaphors. However, even before Murphy made his claims in 1996 a significant amount of psychological and cognitive linguistic research had investigated the connection between conceptual metaphors and their linguistic and nonlinguistic manifestations. For example, Gibbs and O'Brien (1990) investigated how conceptual metaphors motivate the tacit understanding of metaphoric expressions, including idioms, and they asked people to interpret metaphoric expressions such as '*spill the beans*' and '*let the cat out of the hat*' while forming

mental images related to revelation, anger, insanity and control. They found a remarkable degree of consistency in participants' mental images of the idioms, suggesting that their mutual understanding of idioms is motivated by shared conceptual metaphors. They found that such idioms are not 'dead metaphors' and are in fact processed metaphorically. Also, Gibbs et al. (1997) investigated people's understanding of anger idioms (e.g. *fuming with rage*). Results indicated that participants conceptualized anger as an internal pressure causing an abrupt explosion suggesting the shared conceptual metaphor ANGER IS A HEATED FLUID IN A PRESSURIZED CONTAINER. Results from both studies indicate that people have a tacit knowledge of the metaphorical basis of idioms and that such knowledge can be uncovered by examining people's mental images. Lastly, Cienki (2000) also demonstrated that gestures representing new images occur before creative metaphoric expressions and gestures representing conventional metaphors occur before dead metaphors. Together, these studies as well as others (see Gibbs, 2011a for a review) support the view that metaphoric expressions reflect pre-existing conceptual metaphor mappings that are manifested through language as well as gestures. More importantly, they provide psychological evidence that the CMT claims are not circular.

However, cognitive psychologists including Keysar et al. (2000), Bowdle and Gentner (2005) and McGlone (2007) have counterchallenged the cognitive linguistic findings by presenting psycholinguistic evidence that the activation of pre-stored conceptual metaphors does not occur during online processing. For example, Keysar et al. (2000) tested how metaphoric processing differs according to the level of conventionality of the metaphoric expression. They examined the time it took university students to comprehend conventional and novel metaphoric expressions while reading.

Results indicated that participants understood novel metaphoric expressions faster than conventional metaphoric expressions. However, they understood conventional metaphoric expressions in a similar time as their literal counterparts. Keysar et al. concluded from this that only novel metaphors led the participants to create analogies between source and target domains to help them understand those novel metaphors faster. Based on this evidence McGlone (2007) claimed that since the CMT approach does not recognize the processing variation between conventional idiomatic expressions and novel metaphors, it would, then, fail as an account for how metaphor is understood.

Further accusations have come from within the field of applied linguistics where a group of applied linguists questioned the treatment of linguistic metaphors in CMT (e.g. Deignan, 2008; Cameron, 2003). They criticized CMT for failing to account for the social dimensions of metaphor in use. Deignan (2008) noted that three problems are evident with CMT research from a corpus perspective: the use of invented data, the use of data with insufficient context, and the ambiguity of evidence. Cameron (2003) too noted that linguistic examples used for cognitive generalizations present idealized speaker-hearer speech and do not represent real metaphoric language produced in natural discourse. So, by relying on artificial linguistic evidence, the early CMT research did not employ systematic procedures capable of dealing with linguistic metaphor in authentic discourse. Because of these unsystematic approaches CMT became accused of ambiguity and circularity.

In reviewing these arguments there does not seem to be compelling evidence in favour of either side. While some of these claims are due to misunderstandings on the part of those who oppose the principles of CMT (e.g. ambiguity of metaphoric representation), others (e.g. reliance on artificial linguistic evidence) are important

indications that CMT theorists need to be careful with their generalizations and base their claims on stronger authentic evidence. Since CMT addresses vague cognitive issues we can never acknowledge its claims without hesitation. To avoid circular reasoning when adopting CMT for teaching it is best to avoid creating a direct cause-effect relationship between conceptual metaphors and metaphoric expressions. For instance, teachers can make clear to learners that one way of understanding vocabulary items is through conceptual metaphor themes, thus leaving room for other explanations to take place. That being said, no matter the critical views CMT faces as a theoretical construct it is still a valuable tool that can be used to promote the understanding of metaphors in EFL/ESL.

2.3. Applied linguistic views on linguistic metaphor

Departing from the cognitively focused CMT research, applied linguistic metaphor research has aimed to identify the behaviour of metaphor in real language. Applied linguists like Cameron (1999, 2003), Steen et al. (2010) and others took more rigorous theoretical and methodological approaches to the investigation of linguistic metaphor in discourse and corpora. I now discuss some of the research on linguistic metaphor in educational discourse as a genre where metaphor is pervasive (Section 2.3.1). I follow this with the classifications of conventionality in discourse (Section 2.3.2) and some patterns of linguistic metaphor (Section 2.3.3), discussing how we can employ the linguistic metaphor findings in figurative language teaching.

2.3.1. Linguistic metaphor in educational discourse

Investigations into linguistic metaphor as a research tool show metaphor to be particularly prominent in academic discourse. I draw attention to two equally important areas here: Cameron's (2003) discourse dynamics framework with its educational discourse implications, and the functions metaphor performs in classroom-management language. In terms of statistics, Steen et al. (2010) analyzed the distribution of metaphorically-used words in various registers. They found that metaphorically-used words make for 18.5% of academic texts, as opposed to 16.4% of news texts, 11.7% of fiction texts and 7.7% of conversation. Also, Low, Littlemore and Koester (2008) found metaphor to occur at a rate of 10-13% in three university lectures. The statistics in the two studies suggest that metaphors are highly used in two important aspects of education, lectures and academic texts. However, in terms of metaphor understanding by international learners studying at a British university, Littlemore, et al. (2011) found that 42% out of the difficult expressions produced by British lecturers were in fact metaphorically-used words. While the first two studies suggest a high occurrence rate of metaphor in educational settings, the third suggests that international learners at UK universities struggle with understanding the metaphors produced by their lecturers.

Taking one approach to metaphor in educational discourse as an example, Cameron and colleagues developed the discourse dynamic framework for metaphor over a number of projects. They investigated spoken genres such as reconciliation episodes (Cameron, 2007, 2013), terrorism focus groups (Cameron et al., 2009; Cameron, 2010; Cameron & Maslen, 2010) and more importantly, school classrooms (Cameron, 2003). As per the discourse dynamics framework, Cameron (2010, p. 82) noted that discourse is dynamic and that it should be "understood as the unfolding of the

complex dynamic system of the group of people engaged in interaction”. In this sense, metaphor constantly unfolds during the interaction as the discourse develops. Hence, the adaptation of metaphor by a group leads to an emergence of certain stabilities in the form, content, affect, and pragmatics of metaphoric expressions (Cameron & Deignan, 2006).

Cameron’s (2003) analysis of British primary classroom discussions is an example of the dynamic development of metaphor by a discourse group. The results indicated that metaphor did not only have a communicative role amongst learners, but it also incorporated most aspects of classroom-management language such as lesson framing, explaining scientific concepts, providing examples and giving feedback. It also had an affective function in that it promoted feelings of togetherness within the classrooms. More importantly, analysis revealed that 47% of teachers’ metaphors were in the form of verbs and 34% were prepositions, while nominal metaphors only constituted 15% of the total number of linguistic metaphors. This result is an example of how metaphors in authentic discourse do not fully conform to the nominalizing convention of CMT.

Although Cameron’s (2003) discourse dynamics framework is informed by CMT, it departs from its cognitive convictions by adopting a tool that allows for metaphor identification and analysis in speech i.e. the vehicle identification procedure (VIP). I briefly outline VIP here because the analysis of Study 1 in Chapter Five of this thesis employs VIP for learners’ production of metaphors. In comparison to the metaphor identification procedure (MIP) proposed by the Pragglejaz Group (2007) and the metaphor identification procedure at VU University (MIPVU) developed by Steen et al. (2010), VIP puts the focus on metaphoric expressions. It looks at ‘metaphor

vehicles' which are metaphorically-used words or phrases that are incongruous with the surrounding text or speech at the level of language use without making assumptions about their conceptualization. In this sense, the term 'topic' is used to describe what is being talked about. What is special about this procedure is that it identifies lexical units in terms of single words as well as phrases that are 'metaphoric together but not alone'. This is especially important in the case of learner production because learners sometimes attempt to explain their thoughts through stretches of texts which together can be metaphorical. Other identification procedures such as MIP and MIPVU take only metaphorically-used words as their lexical units for analysis. For instance, the example from Krennmayr (2011) '*she launched a counterattack in an argument*', '*launched*' and '*counterattack*' are treated as two independent lexical units in MIP and MIPVU. Employing VIP, we can flag the phrase as a metaphoric expression because together the words bring about the metaphorical image of the metaphor. Also, VIP does not account for the etymological background of linguistic metaphors which is an advantage when we employ it to analyze metaphors in learner language. This is because language learners may not have the vocabulary depth required to account for the historical development of a linguistic metaphor in the L2.

In addition to the previous roles of metaphor in education, metaphors also appear in lectures as part of classroom-management language. These types of metaphors are important because they constitute some of the few genuinely communicative uses of metaphor in the classroom. One study that investigated them in the context of university lectures is Littlemore et al.'s (2013) study. Their analysis indicated that linguistic metaphors served meta-discursive functions like summarizing, restating and evaluating taught material and helped to signal the development of the lectures and cohesively

connect parts of the lectures. For example, lecturers used statements like '*pass over a topic, run through a text, skate over an exercise*', which involve journey or travel domains. In addition, the study by Low, Littlemore and Koester (2008) mentioned earlier found that though linguistic metaphors were constantly used in university lectures, overarching metaphors were quite rare. In addition, linguistic metaphors were highly conventional and evenly spread throughout the lectures. With the prominence of metaphor in classroom-management language, it was necessary to investigate how the meanings of classroom-management metaphors are perceived. Low and Littlemore (2009) compared the perceptions of 37 non-native speaker (NNS) English teachers versus 37 native speaker (NS) teachers about classroom-management metaphors. The participants rated a set of classroom-management expressions involving verbs of movement with '*through*' and '*over*' according to how acceptable they perceived them. On the positive side, the questionnaire results revealed little disagreement between the NSs and NNSs' acceptability judgment of metaphoric phrases, with some mixed reactions to the meaning of '*run through*' and '*rapidly*'. However, the surprising result was the high variation in British and Canadian NSs' perception of the meaning of some expressions. This study highlights the importance of teacher training with regards to classroom-management verbs. This is because the British and Canadian teachers did not agree on the meanings of the classroom-management verbs and using such verbs without identifying their meanings might confuse EFL/ESL learners. However, it is impractical to suggest that teachers need to be careful when using classroom-management metaphors especially since metaphor functions in many aspects of the lectures (Low, 2011). The better alternative is to make learners who are NNSs more

aware of the roles that metaphor plays in the lectures not just as vocabulary to be taught in the classroom.

The studies of linguistic metaphor in university lectures are important because they highlight the problems facing international students as they attempt to understand the metaphoric expressions produced by their lecturers as strategic devices to explain the material at hand. To this effect, Littlemore (2003) investigated how Bangladeshi students interpreted the linguistic metaphors produced by their lecturers at a British university. Although high-level learners, the students interpreted the linguistic metaphors according to their cultural value-judgments rather than the lecturers' intended meaning. Neither lecturers nor students seemed to be aware of the misinterpretations taking place. Littlemore (2003) finally noted that misinterpreting a metaphor is more problematic than when learners are not aware of it. With lack of understanding, learners may ask for clarification, but with misinterpreting errors may persist, ultimately affecting the understanding of the subject matter. The recommendation here is that lecturers and learners should keep such cultural variations in mind when using metaphors that carry their own cultural value-judgments. In addition, in the previously mentioned Littlemore et al. (2011) study, the authors investigated how international students at UK universities faced metaphor comprehension problems in foundation year lectures. In the study, learners identified and attempted to explain difficult words in the lectures. The most alarming result was that 26% of the metaphors learners thought were familiar were in fact problematic and learners only expressed awareness of their difficulty in 4% of the cases. Both studies shed some light on the effects of cross-cultural variation on learner understanding of classroom-management metaphors.

2.3.2. Conventionality of linguistic metaphors

Several applied linguists have proposed classifications for metaphor conventionality in discourse (e.g. Deignan, 2005; Goatly, 1997; Müller, 2008). Open-class metaphoric expressions (i.e. metaphorically-used words including nouns, verbs, adjectives or adverbs) make for conventional and creative metaphors. From this point forward, I use the term metaphoric expressions instead of open-class linguistic metaphors to minimize confusion with conceptual metaphors. As discussed in Section 2.2.1, Lakoff (1987) classified conventional metaphors as dead, one-shot and conventionalized metaphors. However, Lakoff's classification does not adapt well for linguistic work due to its cognitive orientation. In fact, he did not account to how the surrounding context influences the level of metaphor conventionality. To this end, Müller (2008) observed that the activation of dead metaphors is actually context-dependent. She discussed how the source domains of dead metaphors could be activated or 'awakened' for certain speakers and hearers when the metaphors are surrounded by verbal, pictorial, or gestural contexts. Instead of 'dead' Müller used the term 'sleeping' to describe a metaphoric expression with a low degree of activation. She also used the term 'waking' for metaphoric expressions that show a higher degree of activation. In other words, what may seem like a conventional metaphoric expressions in one case would be more creative in a different situation. The example from the BNC illustrates this:

- (6) They tried to steal time from their employer, hurrying with assumed purpose when they caught sight of her or some other guard... Jezrael felt suspicious.

In example (6), '*steal time*' according to Lakoff's (1987) classification could be conceptually dead. However, in the context of the narrative, the meaning of the expression 'wasting valuable company time' seems to be awakened by Jezrael's doubts. From the perspective of language learners, the conventionality of a metaphoric expression can be different. Littlemore (2008) highlighted that a dead metaphor like '*steal time*' can be very much alive for language learners, especially if it does not have a metaphorical equivalent in their L1. In this case, learners may need to engage in some sort of metaphoric thinking in order to work out the new and contextual meaning of the metaphoric expression.

Littlemore et al. (2013) developed a classification scheme that seems appropriate for the analysis of learner language. In their investigation into essays written by language learners Littlemore et al. (2013) considered conventional linguistic metaphors to be those that are common in the use of English, that appear in the MacMillan Online Dictionary, and that have a high occurrence rate in the BNC. As to non-conventional or creative metaphors, they classified them as infrequent, do not appear in the MacMillan Online Dictionary and have a lower frequency rate in the BNC. This classification is employed in the context of this thesis because it adopts a dictionary-based as well as corpus-based classification. It takes into account the frequency of occurrence which is important for authentic EFL/ESL teaching. Also, if taken as a resource, language learners can easily refer to the MacMillan Online Dictionary for further understanding of the metaphoric senses of the taught conventional metaphoric expressions.

2.3.3. Patterns of linguistic metaphors

Discourse and corpus approaches to metaphor have uncovered several patterns of linguistic metaphors. In this short review, I discuss patterns involving open-class metaphoric expressions that come together in stretches of talk or text such as metaphor shifting, metaphor scenarios and metaphor clusters. These patterns are important here because they provide a further dimension to the behaviour of linguistic metaphors in discourse. Referring back to Cameron's (2003, 2010) discourse dynamics framework, Cameron discussed how vehicles tend to shift between different metaphors in the dynamics of talk which then leads to the emergence of metaphor patterns that promote the 'togetherness' of a group. Metaphor shifting occurs when a vehicle is reused with a different topic leading to outcomes such as punning or text cohesion. It also occurs when the vehicle is repeated, relexicalized or contrasted. This happens because linguistic metaphors dynamically change as people speak, negotiate for meaning and extend their ideas.

Another metaphor pattern that was observed through linguistic analysis is that metaphors can come together to form narratives or scenarios. For example, Musolff (2004) observed that political discourse is full of metaphor scenarios that describe the political status of the relationship between countries. Musolff (2006, p. 36) explained that metaphor scenarios "enable the speaker to not only apply source to target concepts but to draw on them to build narrative frames for the conceptualization and assessment of (e.g.) socio-political issues". Musolff (2004, 2006) examined the portrayal of the European Union by the press and for example, his investigations revealed that newspapers regularly referred to England as a 'mistress' that tries to break up the

‘married couple’ France and Germany. Journalists seemed to enclose the political situation in marriage and parenthood metaphor scenarios.

As to metaphor clusters or bursts, Kimmel (2009, 2010) observed that linguistic metaphors tend to mix together and cluster in concentrated stretches of talk. Kimmel (2010) explained that metaphor clusters occur when speakers produce a large number of metaphoric expressions from different root metaphors in close proximity to each other. They thus fulfill purposes related to the overall aim of the discourse. Kimmel’s (2010) corpus study on news discourse revealed that over 39% of the metaphors used occurred in clusters and that they were derived from different conceptual metaphors. Further, applied linguistic research has investigated metaphor clusters in different genres such as college lectures (Corts & Pollio, 1999) and reconciliation talks (Cameron, 2007, 2013). In their investigation of university lectures, Low et al. (2008) observed that metaphors tend to cluster around the end of lectures when teachers round up discussions. They suggested making English for Academic Purposes (EAP) and English for Specific Purposes (ESP) learners aware of this trait since metaphors are used at end of lectures to round up the most important information discussed during it. The linguistic metaphor patterns discussed in this section are in no way exclusive. They are however indicative of the new directions that figurative language learning research should take from now on.

To conclude this section on applied linguistic investigations into linguistic metaphor, the studies on metaphor in educational genres indicate the prominence of linguistic metaphors even in the most basic classroom-management language. With such prominence the focus of metaphor awareness should not be restricted to vocabulary teaching. As to the discoursal patterns of linguistic metaphors, it may be

counterproductive to bring awareness of the detailed patterns of linguistic metaphors like metaphor shifting, metaphor scenarios and clusters into EFL/ESL classrooms. Discourse analysts observe the occurrence of such patterns over large sets of discourse data and pointing to that might confuse the EFL/ESL learners. EFL/ESL teachers, however, should keep in mind that teaching metaphoric expressions as fixed lists to be used in certain situations is not a reflection of the reality of metaphor in discourse. Although such metaphoric lists may be helpful to learners in giving them some structure, we should suggest that linguistic metaphors are not static but continuously change with time. As to more specialized EAP and ESP teaching, it could be more rewarding to promote the learners' awareness of such patterns. This is because the purpose of EAP and ESP classrooms is to prepare language learners to use English as it is used in the real world and such metaphor patterns are in fact characteristics of real world metaphors.

2.4. Metaphor teaching through conceptual metaphor awareness

Several experimental studies following the cognitive linguistic paradigm have made use of conceptual metaphor awareness-raising activities in the teaching of metaphoric expressions in the L2 (to name a few: Beréndi, Csábi & Kövecses, 2008; Boers, 2000a, 2000b, 2001; Boers, Demecheleer & Eyckmans, 2004; Boers, Eyckmans & Stengers, 2007; Boers & Lindstromberg, 2008; Condon, 2008; Kövecses & Szabó, 1996; Li, 2002; Verspoor & Lowie, 2003). Boers (2011, 2013) has reviewed these publications and illustrated the benefits of conceptual metaphor awareness as discussed in them in three points: it promotes insightful rather than rote learning by revealing the conceptual motivations behind metaphoric expressions; it structures random vocabulary

lists making them easier to learn; and by stimulating mental imagery, it promotes deep learning. Here I describe metaphoric competence and how cognitive linguistic studies are yet to identify it in the context of EFL/ESL learning (Section 2.4.1). I then elaborate on conceptual metaphor awareness (Section 2.4.2) and the criteria for selecting metaphoric expressions for teaching (Section 2.4.3). I end with some of the experimental studies that have employed conceptual metaphor awareness-raising activities in teaching (Section 2.4.4).

2.4.1. Metaphoric competence in the L2

The notion of metaphoric competence in the L2 is a relatively new term and there is still no clear consensus as to what it is (Nacey, 2013) and whether it is possible to measure it through learner productions (Turner, 2014). Danesi (1995, p.4) noted that “the speech of SL [Second Language] learners is invariably characterized by an unnatural degree of ‘textbook literalness’”. He proposed the concept of ‘L2 conceptual fluency’ by which language learners acquire cognitive abilities like the metaphoric competence of native speakers. In Danesi's (1994, p. 454) view, to be conceptually fluent in a language is to know how that language "reflects or encodes concepts on the basis of metaphorical reasoning". His proposal implies that in order for learners to be competent in the L2 they need to adopt the fluency of native speakers and let go of their L1 conceptual structures.

On the other hand, Littlemore and Low (2006a, 2006b) provided a more plausible understanding of metaphoric competence. As outlined in Section 1.1 of Chapter One, they defined metaphoric competence as the abilities a learner needs to

recognize, process and produce metaphoric expressions in the L2. Working within Bachman's (1990) model for communicative competence, Littlemore and Low (2006a) demonstrated that metaphoric competence is fundamentally present in all components of communicative competence (grammatical, textual, illocutionary and sociolinguistic competences). This understanding of metaphoric competence accounts for the role of individual preferences on its development. In an earlier study, Littlemore (2001) highlighted that different aspects of metaphoric competence develop at different rates depending on variables such as the cognitive style preferences of the learners. Littlemore (2001) found that holistic learners might more easily find meaning in metaphor than analytic learners, which could affect the development of their metaphoric competence. The point to be made here is that even explicit teaching of metaphoric expressions may not offer satisfactory results without considerable attention to the learners' needs and abilities; because language learning is a complex phenomenon and metaphoric competence is just one aspect of it (MacArthur, 2010). As to whether metaphoric competence can be measured, Turner (2014) has provided some insight as how this might 'not' be done. Investigating the development of metaphoric competence in a 40,000 word-corpora made up of French and Japanese learners' CEFR exam transcripts, Turner (2014, p. 375) concluded that "metaphoric competence cannot be measured through an investigation of learner output alone, as metaphor use in text could be due to developing competence in a number of other areas, and given this, it is not useful to see it as its own separate entity".

The implications here are threefold: first, the ability to use metaphor appropriately is a crucial part of the language skills a language learner needs in order to be competent in the L2. Second, conceptual metaphor awareness-raising activities are

explicit teaching techniques aimed towards teaching metaphor in the L2. Third and more importantly, conceptual metaphor awareness should not be considered as a method that directly develops metaphoric competence. It is not clear from the current state of research how to identify, measure or promote the metaphoric competence in language learners and longer-term research is needed to target this issue.

2.4.2. Conceptual metaphor awareness-raising activities

Teaching metaphoric expressions through conceptual metaphor awareness-raising activities connect the linguistic form with the metaphoric meaning and contextual use. Boers (2004) illustrated that raising conceptual metaphor awareness for language learners involves four elements: to get the learners to recognize how common metaphor is in everyday language, to make them aware of the systematicity of linguistic metaphors, to introduce the conceptual metaphors (especially the source domain) motivating metaphoric expressions, and to make learners aware of the possible cross-cultural universality and/or cross-linguistic variations in the linguistic manifestations of these conceptual metaphors. Boers (2004) suggested designing vocabulary lessons by grouping metaphoric expressions under common metaphoric themes (i.e. conceptual metaphors). This is because thematic lesson planning for conceptual metaphor awareness can provide a framework for the integration of metaphoric expressions within conceptual metaphor themes.

As metaphors are a matter of cognition, various cognitive processes can be involved in metaphor understanding and retention in the L2. Even though this thesis makes no claims with regards to the processing of L2 linguistic metaphors it is worth

considering a few of the cognitive processing theories that take place when learning metaphoric expressions. Boers and Linstromberg (2008) illustrated a number of these theories that could pertain to the understanding of metaphoric expressions. These include dual coding theory, trace theory and levels of processing theory. Starting with dual coding theory, Clark and Paivio (1991) and Piavio (1986) held that the mental association of vocabulary items, in this case metaphoric expressions, and mental images could facilitate the recall of such expressions. This association occurs as part of a process in which verbal data are stored in the mind separately from visual data. Words and phrases are stored in sequences and are harder to retrieve than visual images which are stored in a parallel manner (Piavio, 1986). Even though they are stored separately, verbal and visual data are linked; and when a person associates new words with mental images, this association would aid the recollection of the words. The implication here is that words should be dually supported by mental images to ease their retrieval; and metaphoric expressions can be more easily learned when taught through linguistic and visual modalities rather than learning them exclusively through verbal clues.

In addition, trace theory (cf. Baddeley, 1990; Cohen, Eysenck & LeVoi, 1986) indicates that the repetition of a vocabulary item fosters its retention because the repetition leaves memory traces even at the neural level. Moreover, Craik and Lockhart's (1972) and Cermick and Craik's (1979) levels-of-processing theory suggests that in order to commit an item to long-term memory a learner needs to perform deep cognitive processing through elaboration (Barcroft, 2002). Boers and Lindstromberg (2008) explained that conceptual metaphor awareness involves two types of elaboration: semantic elaboration and structural elaboration. Semantic elaboration involves a focus on meaning. In conceptual metaphor awareness this involves associating a group of

metaphoric expressions with a conceptual metaphor and linking a metaphoric expression with a mental image. On the other hand, structural elaboration involves focusing on form, and this involves noticing the lexical or phonological features of metaphoric expressions. Boers and Lindstromberg (2008) noted that elaboration helps with remembering metaphors more than rote memorization because it does not put pressure on the learners' memory. This is why cognitive linguists targeting metaphor acquisition rely on semantic and structural elaboration through conceptual metaphor awareness. These cognitive processing theories are not exclusive but they indicate the psychological underpinnings of conceptual metaphor awareness.

Experimental studies promoting conceptual metaphor awareness have generally adopted semantic clustering as a control measure when testing the effect of conceptual metaphor awareness-raising activities. Tinkham (1993; 1997) differentiated between semantic clustering and thematic clustering. As previously mentioned in Section 1.1, Wilcox and Medina (2013) detailed that teaching vocabulary through semantic clustering would involve grouping vocabulary items according to general semantic groups like time, life or emotions. Thematic clustering, on the other hand, involves grouping vocabulary items according to themes like conceptual metaphors (Tinkham, 1993). If we were to teach phrases such as '*to feel up, over the moon, on top of the world*', semantic clustering would involve teaching them in a semantic group '*words for happiness*'. On the other hand, teaching them through thematic clustering would involve the conceptual metaphor HAPPINESS IS UP. Tinkham (1997) performed an experimental study with ESL learners and his results indicated that even artificial words were learnt more easily through thematic clustering than semantic clustering. Based on

his results, he suggested that semantic clustering impedes the learning of new vocabulary because learners find it difficult to create relations between sets of words.

2.4.3. *Criteria for metaphor selection*

As discussed in Section 2.3.2, open-class linguistic metaphors come in a range of metaphoric expressions. They include polysemous words, idioms, phrasal verbs, collocations, lexical phrases, etc., which are far too diverse to target for teaching all at once. Boers, Deconinck and Lindstromberg (2010, p. 239-240) indicated that metaphoric expressions can also be in the form of lexical chunks or (semi-)fixed expressions like:

strong collocations (e.g. *commit a crime*), social-routine formulae (e.g. *have a nice day*), discourse markers (e.g. *on the other hand*), compounds (e.g. peer pressure), idioms (e.g. *take a backseat*), standardized similes (e.g. *clear as crystal*), proverbs (e.g. *when the cat is away...*), genre-typical clichés (e.g. *publish or perish*), exclamations (e.g. *you must be kidding!*), and more.

With such a wide array of metaphoric expressions, selecting the right ones for figurative language teaching should follow a systematic approach. First, since cognitive linguistic research has extensively investigated the teaching of idioms (e.g. Boers, 2001; Boers, Demecheleer & Eyckmans, 2004), phrasal verbs (e.g. Condon, 2008) and proverbs (e.g. Li, 2002) it could be beneficial to widen the scope of new investigations to polysemous words, collocations and lexical phrases. This is because idioms are not necessarily common in multicultural interactions. MacArthur and Littlemore (2011) found some evidence to this effect in their analysis of conversations between English NSs and NNSs. They investigated metaphorically-used words in naturally occurring conversations and semi-structured interviews. Results indicated that idiomatic

expressions were rarely used in the conversations between NSs and the NNSs because such idioms present ‘insider talk’, which NNSs may not relate to and when they were used they caused comprehension problems between the conversationalists. Instead, the conversationalists repeated each other’s polysemous metaphors, mixed them and elaborated on them. For example, in a conversation about environmental issues, a NNS extended a NS’s expression ‘*three big bins*’ to develop the expression ‘*the biggest environmental thing*’.

As to polysemous words, they are more common in natural language than proverbs, clichés and idioms and they have various meanings that can involve figurative as well as literal senses. In terms of vocabulary depth (see Schmitt, 2014 for a review), learning the figurative and literal senses of polysemous words is important as it introduces learners to various contextual meanings of polysemous words. However, language learners may struggle with vocabulary depth as they may assume they know the meanings of expressions such as ‘*spend*’ and ‘*buy*’ but they may not have been exposed to those meanings in the context of *time*. Piquer Piriz (2008) highlighted that essential vocabulary lists (e.g. Nation’s (1990) vocabulary list) include many open-class core vocabulary items that have a number of metaphoric context-dependant senses (e.g. *head of the school*, *give me a hand*). She showed that language learners could understand and even produce polysemous words if they learned the core meaning of English polysemous words as well as ‘the regular principles of meaning extension’, i.e. metaphor and metonymy. In terms of teaching, Boers and Lindstromberg (2008) noted that raising awareness of a polysemous word involves illustrating the core meaning of the word as well as the chain of literal and/or metaphoric meaning extensions. However, studies targeting polysemous metaphoric words are still scarce. Among the few to

investigate them are Piquer Píriz (2008) who looked at ‘*mouth*’, ‘*hand*’, and ‘*head*’, Beréndi, Csábi and Kövecses’ (2008) who investigated the figurative senses of ‘*hold*’ and ‘*keep*’ and Verspoor and Lowie (2003) who looked at words like ‘*shatter*’ and ‘*nudge*’. This will be addressed further in Section 2.4.4.

In addition, metaphoric expressions in the form of collocations and lexical phrases are relevant here for a number of reasons. Findings for research in vocabulary studies (e.g. Meunier & Granger, 2008; Nattinger & DeCarrico, 1992; Willis, 2003; Schmitt, 2004) indicate that having a stock of ready-made fixed phrases is the key to fluency in the L2 because they make the learners’ production sound natural. This is because L1 speakers produce and learn language in collocations or chunks rather than single units. This links directly to Sinclair’s (1991) view of language in which he proposed two principles for language use by L1 speakers: the open-choice principle and the idiom principle. While the first views language as a series of slots to be filled by any single word, in the idiom principle, however, “a language user has available to him a large number of semi-preconstructed phrases that constitute single choices, even though they might appear to be analysable into segments” (Sinclair, 1991, p. 110). Sinclair argued that the lexical choices to be filled are restricted by social norms and knowledge of the world. Many formulaic sequences such as collocations and lexical phrases, which are governed by the idiom principle, are metaphoric in nature. They are “items made up of more than one word, but which are carried in the memory in the same way as individual words” (Willis, 2003, p. 48). Willis (2003) highlighted that some collocations and lexical phrases could be easy for L2 learners, while others are more likely to be problematic and should therefore be addressed explicitly in the classroom. From a socio-cultural perspective, Schmitt and Carter (2004) noted that using formulaic

sequences gives the L2 learners a sense of inclusion in the SL setting. This allows the L2 learners to communicate with the L2 group and therefore increases the learners' language input.

Now that I have justified the need to teach polysemous words, collocations and lexical phrases, I consider the criteria for choosing the metaphoric expressions that should be taught in the EFL classroom. Boers and Lindstromberg (2008) and Boers, Deconinck and Lindstromberg (2010) have put forward such criteria which involve frequency of occurrence, relevance, usefulness, coverage, range, and difficulty for the learners. First, they recommended choosing chunks with medium frequency rather than high frequency chunks because high frequency chunks have a higher chance for incidental learning. As to relevance and usefulness, we should choose metaphoric expressions that spark the interests of the learners' and that they can utilize in their everyday language. As to coverage, Boers, Deconinck and Lindstromberg (2010) recommended teaching items whose meanings are more general. For example, we should teach the senses for the word '*move*' before the more specific '*go*, *walk*, and *run*'. As to the range of vocabulary, it involves ranking how wide the range of the expression is in a discourse or text-type. The last criterion is difficulty or learnability. Boers and Lindstromberg (2008) recommended choosing metaphoric expressions of medium difficulty suited to the level of the learners. With regard to the number of metaphoric expressions, Boers (2011) specified that it might be counter-beneficial to teach a large number of new metaphoric expressions, because it may overwhelm learners. This shows that we need to balance between important variables when choosing which metaphoric expressions to teach. In practice, these criteria should be

guides for selection rather than strict rules as they help to systematically select which metaphoric expressions should be taught.

2.4.4. Experimental studies employing conceptual metaphor awareness

As briefly pointed out in Section 2.2.1, several cognitively oriented language-learning studies have employed conceptual metaphor awareness-raising activities as their research topic. Here I discuss some of those experimental classroom studies highlighting areas in need of further investigation. The early group of studies employed conceptual metaphor awareness to teach phrasal verbs. For example, Kövecses and Szabó (1996, revisited in Kövecses, 2001) performed a pilot study with 30 Hungarian adult learners of English who were divided into a control memorization group and a metaphor group and learned phrasal verbs containing the particles *up* and *down* as in ‘*speak up*’ and ‘*cut down*’. Cloze test results indicated that the metaphor group outperformed the memorization group by nearly 9%. As Kövecses and Szabó did not conduct a statistical analysis, Boers (2000b) developed Kövecses and Szabó’s (1996) methodological approach to teaching phrasal verbs with a larger number of learners. With 74 French learners of English, he taught a metaphor group some phrasal verbs according to their conceptual metaphors as opposed to a control group who received the list according to semantic themes. The two groups studied the lists and then completed a cloze test with 20 phrasal verbs. The results indicated that the metaphor group received a score of 5.65, outperforming the control group who achieved a score of 4.23 with a significant difference of ($p = .01$). While Boers’ (2000b) study was not oriented towards metaphoric expressions in context, he performed another study in 2000a which applied conceptual metaphor awareness to reading authentic economic articles. He chose

excerpts from *The Economist* and *The Financial Times* and prepared a glossary of metaphoric expressions that were explained according to their source domains. The participants were 85 adult French learners of English. They were divided into a metaphor awareness group (46 students) and a control group (39 students). As the learners read the articles they studied the meanings of metaphoric expressions from the attached glossary. Then, they received a text-based cloze test. Results indicated highly significant differences ($p = .001$). Boers concluded that by systematically drawing the learners' attention to the source domains of metaphoric expressions their understanding of the target vocabulary had improved. Together, the early experimental studies showed that grouping phrasal verbs according to their conceptual metaphors had a positive effect on learners' understanding of those verbs. However, as the first group of conceptual metaphor awareness studies set the road for CMT implications into language learning, Boers, De Rycker and De Knop (2010) have recently criticized the early metaphor awareness studies. They claim that the target metaphoric expressions of some studies are too specific to make for general claims, such as Boers' (2000b) work on idioms. More importantly, the absence of pretesting measures in the early classroom experiments made it difficult to predict the amount of improvement in learner performance. Later studies followed more structured measures in their selection of materials and testing methods.

Encouraged by the results of the early studies, Boers and colleagues (cf. Boers, Demecheleer & Eyckmans, 2004a, 2004b; Boers, Eyckmans & Stengers, 2006, 2007) conducted more systematic experimental studies that raised awareness of the etymological origin of idioms. Etymological elaboration includes promoting awareness of the literal, historical and cultural origins of idioms as well as the conceptual

metaphors behind them. They developed and employed an online teaching tool named ‘idiomteacher’ that consisted of exercises using over 400 idioms and their etymological origins. In the experiment conducted by Boers, Demecheleer and Eyckmans (2004a) the metaphor-etymology group outperformed the control group by 11% in comprehension tests. In a follow-up study, Boers, Eyckmans and Stengers (2007) added that introducing the etymological origin before conceptual metaphor awareness was more rewarding for the metaphor-etymology group as opposed to the metaphor group that learned the etymological origin after the awareness. This is because hypothesizing about the origin of the metaphor could have promoted dual coding on the part of the learners (See Section 2.4.2 for a discussion of dual coding theory). The authors explained that providing the learners with the etymological background could have helped them to call up images of concrete scenes representing the metaphors. These mental images could then be stored alongside the metaphoric expressions and subsequently helped with their recovery. This framework would allow students to explicitly refer to the literal and/or original meaning behind imageable idioms or other metaphoric expressions.

Other studies have employed learners’ problem-solving skills to promote awareness of conceptual metaphors. This includes providing the learners with meaning clues to help them guess the conceptual motivation of metaphoric expressions. This allows them to process the information deeply which could result in better understanding (Ellis, 1994). For example, Skoufaki’s (2008) experimental study with EFL Greek learners involved two metaphor groups who differed only in that the experimental group obtained meaning clues that helped them guess the relationship between the target idioms and conceptual metaphors. The results indicated that the metaphor-guessing group received higher scores than the metaphor-only group in the

cloze test (4.30 versus 1.60) as well as the comprehension test (62.50% versus 50%). Skoufaki concluded that the cognitive effort used in mental reasoning aids the understanding of metaphoric expressions.

Another conceptual metaphor awareness strategy involves pictorial elucidation of the literal senses. Experimental studies like Boers, et al. (2008), Boers, et al. (2009) and Alam and Oe (2012) tested the influence of supporting conceptual metaphor awareness with pictorial elucidation on the teaching of polysemous words, idioms and phrasal verbs. The authors made use of dual coding theory to associate figurative expressions with literal senses through pictures and images. For example, Boers et al. (2008) performed three studies on how pictures can aid the learning of metaphoric expressions. In their third experiment, Boers et al. asked 34 students to take online idiom tasks that were supported by pictures. They found significant results ($p=.02$) with regards to the supporting role of pictures in understanding idioms, especially for low imager learners who learn best through verbal modalities. This is promising because it indicates that pictorial elucidation aids learners who prefer images as well as those who are more verbal.

Cognitive linguistic research has promoted conceptual metaphor awareness as a beneficial teaching technique without thoroughly considering its limitations. Evaluating the limits of conceptual metaphor awareness, Boers et al. (2009) highlighted that conceptual metaphor awareness accompanied by pictorials did not promote the reproduction of metaphoric expressions. The participants were 38 Dutch learners who were given meaning and origin multiple-choice tests as well as gap-fill tests. The results of the gap-fill tests were low (mean scores 7.13 and 7.57 out of 30 metaphoric expressions) which indicates that employing conceptual metaphor awareness supported

by pictures may aid awareness and understanding but it may not promote recollection of the forms of the idioms.

In general, experimental metaphor studies mainly promote the awareness of idioms and phrasal verbs to adult language learners. Filling a much-needed gap in the literature, Piquer Píriz (2008) reported on three studies with Spanish children from across four age groups between five and 11 years. The studies investigated the acquisition of the EFL polysemous body-part words ‘*mouth*’, ‘*hand*’ and ‘*head*’. What is important about Piquer Píriz’s studies is that the students were given the polysemous words as parts of noun phrases (e.g. *the hands of a watch*), verb phrases (e.g. *hand it to me*) as well as multiword expressions (e.g. *give me a hand*). She identified figurative multiword expressions as “a string of words with a unitary non-literal meaning” (Piquer Píriz, 2008, p. 236) and noted that with such polysemous expressions the interaction between metaphor and metonymy is rather complex. In one of her studies, Piquer Píriz presented a situation (wanting a piece of paper) in which students had to decide which expression was suitable (e.g. *hand it to me* or *head it to me*). Instead of the prototypical written test measures the young participants provided oral answers as to which body-part was appropriate in each context. Results indicated that the students were able to identify the figurative extensions of the three body-part words. However, the learners across the age groups varied in terms of their understanding of the contextual senses of the figurative expressions. For example, 46% of the 7-year-olds, 52% of the 9-year-olds and 92% of the 11-year-olds correctly understood the figurative sense of ‘*give me a hand*’. Together, the three studies indicate that children’s understanding of the figurative extensions of polysemous words varies regardless of how fixed the expression is. This means that it is not idiomaticity or fixedness that motivates the

correctness of meaning but knowledge of the world and how salient the meaning is for the child.

To sum up, though the studies in this review are of small-scale and narrow focus, together they suggest that employing conceptual metaphor awareness-raising activities can benefit understanding of unfamiliar metaphoric expressions. Apart from Boers et al. (2009), experimental studies have not broadened the scope to discuss the productive and retaining limitations of conceptual metaphor awareness. As illustrated in this review, the early experimental studies lacked pretesting measures which raises questions about their results. More recent studies such as Boers, Eyckmans and Stengers (2007) seem to restrict themselves to teaching idioms and phrasal verbs. More importantly, there does not seem to be enough delayed post-test evidence supporting the claim that conceptual metaphor awareness-raising activities actually promote the retention of the form of linguistic metaphors. Although some studies such as Verspoor and Lowie (2003) investigated retention, their focus was mainly on retention of meaning not form. Verspoor and Lowie (2003) investigated retention of polysemous words two weeks after the intervention had taken place. However, their delayed test targeted retention of meaning as participants translated the English metaphoric expressions into Dutch. Moreover, it stands to reason that these experimental studies rely largely on one-off interventional teaching sessions which indicate that learner gains would not extend to retention of form and reproduction of taught metaphoric expressions (Boers, 2004).

Other authors have commented on the limitations in the scope of conceptual metaphor awareness-raising activities. For example, Littlemore (2009) noted that simply raising students' awareness of conceptual metaphors fails to address awareness of

discourse restrictions on metaphoric expressions and the suitable lexical and grammatical patterns that indicate figurative use of words in the L2. She noted that the approach is limited in promoting the understanding of other metaphoric expressions or producing conventional or creative metaphoric expressions. Low (2008) too observed that we cannot assume that teaching A IS B conceptual mapping would influence learners' recall during real-life interactions or help them in comprehending creative or new metaphors, or even allow them to produce rich native-like L2 utterances. Lastly, no matter the limitations of conceptual metaphor awareness it is a valuable technique for figurative language learning.

2.5. State of the research and applications for figurative language learning

Throughout this chapter, I have discussed three areas of cognitive linguistic research into metaphor: CMT and conceptual metaphors, applied linguistics and linguistic metaphors and conceptual metaphor awareness-raising activities in the L2. Here, I discuss the implications from each of those areas. Section 2.2 deliberated on CMT as a theoretical construct and as a methodological approach. The theoretical debates surrounding CMT highlight the need for careful consideration of its claims. In addition, though Keysar et al. (2000) and colleagues questioned the activation of conceptual metaphors while processing linguistic metaphors, CMT is still a powerful tool for figurative language teaching. In particular Gibbs (1994) acknowledged that it is not necessary for source domains to be activated every time a metaphorical expression is heard or read. Nevertheless, in the case of foreign language learners, this argument may not be as accurate. Conventional metaphoric expressions in the L2 can be more salient for EFL/ESL learners, especially if the metaphor is absent in their L1. Research

on idiom processing in L2 learners supports this view (Cieślicka, 2006; Cooper, 1999; Siyanova-Chanturia, Conklin & Schmitt, 2011). In addition, both sides of the debate acknowledge that novel metaphoric expressions are processed metaphorically. This is a point in favour of CMT being able to aid L2 metaphor comprehension. However, in the current investigation CMT is merely used as a teaching tool to promote awareness of metaphoric expressions. In doing this, I adopt Gibbs' (1992a, 1992b) view of conceptual metaphor which claims that conceptual metaphors allow for an understanding of metaphoric expressions without necessarily influencing or structuring the conceptual knowledge of the target domain. I also make no claims as to the processing of taught metaphoric expressions; nor make generalizations based on the conceptual/linguistic metaphor relationships. More importantly, throughout the thesis I employ authentic online corpora like the BNC and COCA in the selection of frequent metaphoric expressions and for developing the teaching and testing materials used for the main experimental studies in Chapters Five, Six and Seven.

As to Section 2.3 on linguistic metaphor, I have discussed how Cameron's (2003) VIP can be of help in analyzing metaphor production by EFL learners because of its focus on metaphorical vehicles. In terms of metaphor used in classroom-management language, the difficulties facing international students in university lectures discussed earlier indicate that we should promote awareness of how metaphor behaves in classroom environments in addition to the idiomatic vocabulary items. More importantly, Müller's (2008) ideas concerning the awakening of dead metaphors are particularly relevant to figurative language teaching. Promoting awareness of conventional metaphoric expressions can deliberately awaken their meanings. By employing relevant contexts and representative images when teaching dead metaphors

we can make the meanings of highly conventional metaphoric expressions more salient or ‘awake’. In addition, the applied linguistic patterns of metaphors reveal some of the inconsistency in the cognitive approach to CMT. The cognitive approach has foregrounded nominal metaphors which are in fact less common than verbal metaphors in discourse. In figurative language learning, we should reflect the true nature of linguistic metaphors, in that taught metaphoric expressions should vary between nominal and verbal metaphors.

Finally, although cognitive linguistic research has examined several important areas with regards to conceptual metaphor awareness there are still some issues yet to be explored. The limitations in the scope of conceptual metaphor awareness research have thus far led to adopting conceptual metaphor awareness as the main teaching method for L2 metaphors. This in itself is problematic because we need to explore further methodologies to promote the teaching of metaphoric expressions in the L2. Future studies should respond to these limitations by broadening their scope to include more than the prototypical idiomatic expressions like polysemous words, collocations and lexical phrases. In addition, research so far has overstated the implications of conceptual metaphor awareness with regards to retention. This thesis targets the issue of retention by employing the more mnemonically beneficial embodied metaphor awareness which is explored in detail throughout Chapter Three and is employed for teaching in Chapters Six and Seven. Moreover, in their attempts to incorporate conceptual metaphor awareness into language learning, experimental cognitive linguistic approaches to language teaching have mostly limited their scope to linguistic metaphors disregarding the pedagogical implications of visual and multimodal metaphors. We should also explore metaphor awareness-raising activities that allow

learners to extend the meanings of visual metaphors in speech or writing which could be beneficial for them in everyday interactions. To this end, this thesis also elaborates on the extension of visual metaphors in learner writing throughout Chapter Seven.

CHAPTER THREE
EMBODIED METAPHOR
BACKGROUND, POSSIBILITIES AND EFL/ESL APPLICATIONS

3.1. Introduction

While Chapter Two has discussed conceptual metaphor theory (CMT) and its pedagogical implications, Chapter Three examines the embodied nature of conceptual metaphors and how awareness of this embodiment could be a more fruitful resource for figurative language teaching than conceptual metaphor awareness alone. Chapter Two followed the argument that CMT, though influential in bringing attention to the bodily motivation behind many linguistic and multimodal metaphors is lacking in terms of theoretical foundation and pedagogical implications. From a theoretical perspective, CMT is criticized for its reliance on linguistic manifestations rather than cognitive evidence. It also appears to be limited to awareness of L2 metaphoric expressions and has no influence over the retention or production of metaphoric expressions.

In Chapter Three, I argue in favour of employing awareness-raising activities based on embodied metaphors, which could overcome both issues with CMT and its teaching technique - conceptual metaphor awareness. To explain, embodied metaphor awareness builds on Grady's (1997) primary metaphor theory which explains the sensorimotor motivation of conceptual metaphors and thus provides CMT with much needed theoretical support. In addition, from a pedagogical perspective, promoting awareness of embodied metaphor could foster a better understanding and retention of taught metaphoric expressions. As cognitive linguistic support is currently lacking, I

provide some evidence into the possible benefits of embodied metaphor awareness from the fields of cognition, behavioural psychology and neuroscience. Some of the studies discussed in this chapter have employed embodied metaphor awareness strategies in the form of action awareness (i.e. the use of the body in action), tactile awareness (i.e. the use of hands in learning) and imagination awareness (i.e. imagining actions and touch). The type of awareness-raising activities used in the classroom or in controlled experiments would depend on the sensorimotor basis of the embodied metaphors (e.g. enactment for action-based metaphors, touch for tactile-based metaphors, olfactory for olfactory metaphors, etc.). In Chapters Six and Seven I employ embodied metaphor awareness-raising activities to teach metaphors of journeys, textures and temperatures. So, in the current chapter I focus my discussion on studies that explore these metaphors with reference to other embodied metaphors as well.

First, where does the study of embodied metaphor fall within the larger study of embodiment in cognitive science? Gibbs (2006b) defined embodiment as understanding the role of bodily experiences in everyday extended and embodied cognition. Atkinson (2010, p. 599) added that “[e]xtended cognition conceptualizes mind/brain as inextricably tied to the external environment, while embodied cognition views cognitive activity as grounded in bodily states and action”. These two approaches to cognition are sometimes grouped together in the sense that the body connects the mind to the external environment through experiences and actions. Gibbs (2006b) clarified that in order for us to understand embodiment we need to investigate possible connections between the body, mind, environment and language that influence our higher-order cognition and self-conceptions. The sensorimotor experiences that we use to understand and communicate with the world, kinaesthetic and tactile experiences

included, provide a grounding for our language, thought and interaction with the environment.

Second, why should we expand the focus of metaphor awareness-raising activities to include embodied metaphors? While the long answer is presented throughout the current chapter, the short answer, according to Akpınar and Berger (2015), is that embodied sensory metaphors are based on shared sensory experience which makes them more successful over time than semantic equivalents or non-sensory metaphors. Exploring the popularity of sensory metaphors, Akpınar and Berger (2015) argued that sensory metaphors are culturally successful because they are associated with the senses and are, therefore, easier to retrieve from memory, which eventually leads to their increased popularity. In other words, embodied sensory metaphors are easily retrieved at an individual level which allows them to be shared more at the collective level as they facilitate social interaction. Investigating these claims, Akpınar and Berger (2015) performed a study on sensory metaphors with two aims: They observed the development of sensory metaphoric expressions over the course of 200 years in a corpus of five million books. After this, they asked 365 participants to rate sensory metaphors and semantic equivalents based on their ease of retrieval and their associative cues. In terms of corpus analysis, they found that the use of sensory metaphoric expressions had increased more sharply over the 200 years studied than had their literal equivalents (e.g. *sharp increase* versus *severe increase* – *warm smile* versus *kind smile*). In terms of participant ratings, the participants recalled sensory metaphoric expressions better than their literal equivalents because of the sensory nature of those metaphors. Participants reported more associative cues for the sensory metaphoric expressions which made them more memorable than the literal equivalents. Akpınar and Berger's study indicates

that embodied metaphoric expressions are more culturally successful and easier to recall than their literal counterparts.

Chapter Three develops as follows. I first present Grady's (1997) primary metaphor theory as it provides a deeper understanding of how primary metaphors develop into complex conceptual metaphors (Section 3.2). In Section 3.3 I outline Casasanto and Bottini's (2014) hierarchical mental metaphors theory which explains the cultural variations of primary metaphor. Following this, I elaborate on embodied metaphor and on how promoting awareness of the nature of embodiment can aid figurative language teaching (Section 3.4). I do this by discussing the links between embodiment, sensorimotor activity and behaviour as identified in the existing research in the fields of behavioural psychology and cognitive neuroscience. Together, findings from the two fields suggest that promoting awareness of embodied metaphor while teaching metaphoric expressions makes for more beneficial figurative language teaching. As few researchers within cognitive linguistics have explored the pedagogical implications of embodied metaphor I discuss the handful of studies they have provided and highlight areas for further exploration in Section 3.6. I also discuss the possible mnemonic benefits of embodied action and tactile metaphor awareness as suggested by research into memory and cognition in Section 3.6.1. I end the chapter with a holistic look into the state of the research and the need for embodied metaphor teaching in Section 3.7.

3.2. Primary metaphors and image schemas

As discussed in Section 2.2.1 and Section 2.2.3, while CMT is valued for grounding conceptual metaphors in bodily experience, some of its most basic claims are problematic. Gibbs (2006b) summarized these issues in a number of points. First, experiential grounding varies among different conceptual metaphors. For instance, AFFECTION IS WARMTH appears to be more grounded in bodily experience than LIFE IS A JOURNEY. Second, CMT fails to explain why certain source-to-target-domain mappings cannot occur. For instance, CMT does not explain why THEORIES ARE BUILDINGS motivates expressions like '*shaky foundation*' in the BNC example (7) but not examples with '**How then can religious certainty have no windows?*' for instance:

- (7) How then can religious certainty be based upon the inevitably shaky foundation of historical investigation?

Third, CMT also fails to justify the lack of a parallel relationship between certain conceptual metaphors. For example, CMT does not explain why some metaphors, like journey metaphors, lend themselves to inheritance (e.g. LOVE IS A JOURNEY, CAREER IS A JOURNEY, GRIEF IS A JOURNEY, etc.), but others are apparently less susceptible to elaboration. In response to these problems, Grady (1997) offered a more plausible explanation of the nature of conceptual metaphors as complex patterns of more embodied primary metaphors. His theory helped to modify CMT into the contemporary theory of metaphor (Lakoff, 1993a).

Grady (1997) explained that primary metaphors involve conceptual binding between the primary source and target domains. This conceptual binding is the result of primary scenes arising from our sensorimotor experiences and our cognitive responses to those experiences. In this sense, conceptual metaphors are complex or compound

metaphors consisting of a number of primary metaphors that come together. For example, the conceptual metaphor LIFE IS A JOURNEY is a complex metaphor that inherited its mappings from the more primary metaphors PURPOSES ARE DESTINATIONS, CIRCUMSTANCES ARE SURROUNDINGS, CONTROL IS UP, MEANS ARE PATHS and ALTERNATIVES ARE DIFFERENT AVAILABLE PATHS.

Grady (1997) further noted that primary metaphors are based on co-occurrence rather than similarity or analogy which is why they tend to be more cross-cultural and universal than complex metaphors. The universality of such metaphors stems from universally shared bodily experiences rather than innate predispositions. For example, the primary experience of warmth during childhood correlates with a mother's love and affection in various cultures, giving rise to the primary metaphor AFFECTION IS WARMTH. To explore the shared universality of primary metaphors, Gibbs, Lima and Francuzo (2004) asked American and Portuguese participants about their understanding of desire in terms of hunger. The results indicated that the two groups of participants shared a similar embodied understanding of desire as hunger. The differences between the two groups were revealed only at a specific cultural level, with the Americans rating statements like '*she drooled anytime she saw Bob*' as acceptable more often than the Portuguese participants. The study highlights that the primary metaphor DESIRE IS HUNGER is shared in the understanding of American and Portuguese speakers but due to localized bodily and cultural experiences, some hunger-desire correlations are more salient than others for each of those groups. The universality of primary metaphors can be an added benefit for teaching through embodied metaphors as language learners could share such experiences with speakers of the L2.

Grady's theory relies on the notion that primary source domains are structured by abstract patterns of image schemas. As discussed in Section 2.2.1, image schemas are gestalts that develop through sensorimotor activities and guide our knowledge of the world. These image schemas emerge through visual, kinaesthetic, tactile and other recurring bodily experiences as we control objects and position ourselves within the surrounding space (Gibbs, 2006b). So, their existence supports the argument that bodily experiences influence primary and complex metaphors. As per Lakoff (1990) and Turner's (1993) invariance hypothesis, complex and primary metaphors are constrained by the image-schematic structures of the source domain, which in turn indicates that primary metaphors are grounded in experience. For instance, the SOURCE-PATH-GOAL image schema develops throughout childhood as the child moves toward physical goals and guides the formation of primary metaphors. It underlies the primary metaphor PURPOSES ARE DESTINATIONS which in turn underlies the complex metaphor LIFE IS A JOURNEY.

Cognitive linguistic research has employed image schemas for the benefit of metaphor awareness-raising activities. Gibbs et al.'s (1994) experimental studies were among the first to elaborate the meanings of bodily-based polysemous words through image schemas. 24 participants in one experiment and 27 participants in a third experiment rated a number of phrases containing metaphoric and literal senses of the word '*stand*' based on their image schemas. To make participants better aware of the image schemas involved in the senses of '*stand*', Gibbs and colleagues had participants stand up, sit down, bend over and stretch up on their tiptoes before they interpreted the statements. Standing up in the first experiment facilitated the participants' intuitions about the image schema ratings. Participants provided five image schemas that are

related to standing and they are BALANCE, VERTICALITY, CENTER-PERIPHERY, RESISTANCE and LINKAGE. In addition, the results from the third experiment indicated that the image schema profiles for each of the 32 senses of ‘*stand*’ and the five image schemas was consistent among participants. For example, ‘*it stands to reason*’ and ‘*as the matter now stands*’ share the image schema profile starting with LINKAGE, BALANCE, CENTER-PERIPHERY, RESISTANCE and ending with VERTICALITY. In general, the experiments indicate that participants understood the different metaphoric senses of ‘*stand*’ because of their implicit understanding of the several standing-based image schemas underlying it. Though Gibbs et al.’s (1994) study was not pedagogically oriented it sheds light on how having people engage with image schemas can promote an awareness of them and help the participants to understand polysemous vocabulary. For example, if we were to apply this concept to LIFE IS A JOURNEY metaphoric expressions we could employ the SOURCE-PATH-GOAL image schema and have learners act out moving from one point towards a goal to make sense of the relationship between LIFE and JOURNEY.

3.3. Cultural variation of embodied metaphors

Though Grady (1997) explained the shared universality of some primary metaphors it is still not clear why some of them are more common in some languages than in others. In addition, as I discussed in Section 2.4, several problematic issues exist in Kövecses’ (2005) views on universality and variation of conceptual metaphor. Both issues call into question any theory claiming an experiential grounding of metaphoric thought and language. Casasanto and Bottini (2014) and Casasanto (2014) have recently developed a plausible explanation of the cross-cultural universality of primary

metaphors via the hierarchical mental metaphors theory (HMMT). Casasanto (2014) explained that correlational primary metaphors (i.e. Grady's (1997) correlation metaphors) develop universally through co-occurred childhood experiences. Casasanto (2014) posited that the source of cultural variation is the hierarchical order, as the metaphor manifests linguistically in some languages but remains linguistically dormant in others. With the influence of culture, language and bodily dispositions (e.g. right- or left-handedness) only a number of those universal mappings emerge and become strengthened, in turn weakening other mappings as a consequence. However, the dormant metaphors may still manifest themselves in behavioural, social and physical experiences. The linguistic metaphors that end up being used in adulthood are only portions of a larger family of mappings that a person experienced during childhood. The result is a relative universality in which some primary metaphors are language-specific, culture-specific and/or body-specific.

After having conducted studies into spatial metaphors for time with English, Greek, Indonesian and Spanish speakers (e.g. Casasanto et al., 2004; Casasanto, 2008), Casasanto (2014) proposed HMMT as a theory for cultural variation in metaphor. The earlier studies by Casasanto et al. (2004) and Casasanto (2008) investigated the cross-linguistic variations in time metaphors used by English and Greek speakers. Participants were invited to look at a screen that showed events, and then describe the length of each event. The results indicated that while English speakers expressed time in terms of spatial extent, (e.g. *a long time*) Greek speakers mostly expressed it in terms of volume (e.g. *a lot of time*). As children, both groups used and understood spatial extent and volume to describe time but as adults, however, each group described the events in their most linguistically prominent metaphor. A possible application for HMMT is to train

language speakers to activate the dormant embodied metaphors which were present during childhood but did not surface linguistically (Casasanto, 2016). However, it is important to note that HMMT is still in its infancy. As only Casasanto and his colleagues have experimented with HMMT it is too early to put his proposals into action in figurative language teaching research. More experimental work from neuroscience, experimental psychology and applied linguistics in a wide range of languages is needed before validation. For the time being, HMMT explains the flexibility and restrictions of primary metaphors and their variation in linguistic manifestations and compared to Kövecses' (2005) theory of metaphor universality and variation, HMMT provides a convincing explanation for how languages differ in their preference for primary metaphors.

3.4. Promoting awareness of embodied metaphors in figurative language teaching

One of the aims of this thesis is to investigate how promoting awareness of the sensorimotor grounding of embodied metaphors while teaching metaphoric expressions could be more beneficial than promoting conceptual metaphor awareness alone. Gibbs (2014) explained the notion of embodied metaphor as 'symbol grounding' where metaphor patterns and meanings are grounded in the body through sensorimotor experiences. These sensorimotor experiences act as the concrete source domains that structure and motivate the abstract domains. In addition, Grady's (1997) primary metaphor theory provides better understanding of the grounding of conceptual metaphor in some of the most primary bodily interactions. Many metaphoric expressions are motivated by conceptual metaphors whose source domains have image schematic structures arising from recurrent bodily experiences. With the aid of primary metaphors

and image schemas we can employ the most primitive bodily source domains of conceptual metaphors. For instance, we can promote an embodied version of the conceptual metaphor THEORIES ARE BUILDINGS when teaching metaphoric expressions like these examples from COCA:

- (8) Grinspoon and others were able to construct a theory of how life could survive in what most Earthbound creatures would find to be a very inhospitable place.
- (9) His youth and the cancer's rarity prompted his doctors at the Mayo Clinic ... to ask about his chemical exposures... When that theory fell flat... they asked about his diet, his supplements, and even his shampoo, deodorant, and hand lotion.

To do this, we first identify the primary metaphors underlying the source domain BUILDINGS: PERSISTING IS REMAINING ERECT and STRUCTURE IS PHYSICAL STRUCTURE. Then, we search for a possible method for promoting awareness of the embodied metaphor from those primary metaphors. Erectness and physical structures make for two possible methods to do this. For example, students can practise embodied tactile metaphor awareness while learning the metaphoric sense of '*to construct a theory*' by placing objects on top of each other; or they could perform embodied actions by falling to the ground when learning the metaphoric sense of '*the theory fell flat*'. Later on, teachers could prompt the learners to imagine performing the actions and handling the objects.

As stated in Section 3.1 there is a lack of figurative language teaching studies that employ embodied metaphor awareness. In addition, as Section 2.2.3 showed, CMT has been criticized for promoting the experiential grounding of metaphor using only linguistic evidence (cf. McGlone, 2007; Murphy, 1996). Primary metaphor theory may

indeed be charged with making non-linguistic claims based on limited evidence gathered via linguistic analysis. Luckily, over the past 20 years, a body of evidence from behavioural psychology and cognitive neuroscience has accumulated in support of the experiential grounding of embodied metaphor. In the following two subsections I present some of these studies in order to situate the embodied teaching of metaphor among the major findings of behavioural psychology and cognitive neuroscience. I focus on studies that imitate embodied metaphor in terms of embodied action, tactile and imagined metaphor awareness. Throughout the discussion, I consider the possible implications for figurative language teaching in terms of promoting awareness of embodied metaphor.

3.4.1. Behavioural and psychological support for embodied metaphors

Within the grounded cognition paradigm, Barsalou's (1999) perceptual symbol systems theory (1999, 2003, 2008) has encouraged research into the causal and constitutive roles of the body on primary metaphors. Barsalou's (1999) theory claims that cognition includes dynamic multimodal and perceptual symbols that interact with the body and the environment. These perceptual symbols are schematic neural representations that influence the construction of abstract concepts such as embodied metaphors (Barsalou, 2003). To investigate the embodiment of primary metaphor, research in behavioural and social psychology has taken one of two approaches: some studies have investigated the influence of behaviour and physical objects on metaphor, and others have explored how sensorimotor experiences shape people's social judgments and perceptions. Lee and Schwarz (2012) described the two trends as the bi-directionality of metaphor studies. They explain that we could employ embodiment to

manipulate concrete domains as well as social behaviours. Manipulating the concrete domain would influence the extent of the abstract domain ‘concrete-to-abstract’, and manipulating the abstract domain would influence the extent of the concrete domain ‘abstract-to-concrete’. Combining the two trends, Lee and Schwarz (2012) performed seven experiments on the olfactory experience of fishy smells and social suspicion. The results of experiment one indicated that exposing participants to fishy smells provoked suspicion and influenced their financial distrust. On the other hand, experiments 3-a, 3-b and 3-c revealed that suspicion improved the participants’ ability to identify fishy smells without improving their detection of other smells. Lee and Schwartz’ (2012) approach to the bi-directionality of embodied metaphor can be applied to behavioural studies employing embodied metaphors of texture and temperature. For example, just as social exclusion physically feels cold (Zhong & Leonardelli, 2008), experiencing physical warmth influences social perceptions and increases feelings of social proximity and interpersonal relationships (Ijzerman & Semin, 2009; Williams & Bargh, 2008).

In addition, research in social psychology indicates that tactile experiences (e.g. touching soft or hard textures and carrying light or heavy objects) can have an unconscious effect on unrelated decision-making and social judgments. Ackerman, et al. (2010) justified tactile-related influences by linking them to early-life sensorimotor experiences, the first of which is the sense of touch. These early life experiences shape the development of conceptual knowledge and influence the experiences that follow. Ackerman et al. (2010) emphasized that touching objects can cue two simultaneous mental processes: the first is the processing related to identifying the physical nature of the object itself (e.g. texture, temperature), and the second is the processing related to the conceptual interpretation of touch-related abstract concepts. In a series of texture

studies Ackerman et al. (2010) found that when participants touched rough objects as opposed to smooth objects social interactions seemed to be more challenging to them. This is because roughness is associated with metaphors of difficulty. Additionally, when participants touched hard objects their responses in an unrelated negotiation task were stricter than those of a group that touched soft objects. This is because hard textures are associated with metaphors of rigidity and strictness while soft textures are associated with metaphors of stability.

In addition, bodily sensorimotor experience seems to influence people's interpretation of time. Boroditsky and Ramscar (2002) performed experiments testing the way metaphor structures people's understanding of time in terms of space (i.e. the moving time versus the moving ego perspective). They asked students waiting in line at a cafeteria and travellers at an airport the following question: *'Next Wednesday's meeting has been moved forward two days. What day is the meeting now that it has been rescheduled?'* Students who were further down the line and the travellers who were about to fly off were more likely to answer with Friday rather than Monday. However, students who were at the end of the line and travellers who had just landed were more likely to answer the question with Monday. Although the participants in both experiments were in the same context, their spatial thinking influenced their perceptions of time. These results indicate that people's thinking of time is linked to their bodily spatial experiences.

Additional studies on the moving time metaphor suggest that personality factors play a significant role in the understanding of the Next Wednesday statement. For example, in addition to answering the Next Wednesday question, Duffy and Feist (2014) focused on how personality factors like lifestyle, procrastination and

extroversion can influence the answer given by university students and administrators. Their results indicated that students who had more control over their time adopted a moving ego perspective and replied to the question with 'Friday' while administrators who had more commitments to uphold were more likely to answer with 'Monday' and adopt the moving time perspective. They also found that individuals who scored higher on the procrastination scale were more likely to answer with 'Friday' as opposed to more consciously aware individuals. Lastly, they found that participants who identified themselves as extroverts adopted the moving ego perspective while introverts adopted the moving time perspective. Moreover, to further explore how personality factors influence the understanding of time metaphors in real life contexts, Duffy, Feist and McCarthy (2014) recruited people who were travelling to work, students who were submitting their assignments and people who arrived at appointments particularly late or early. They asked them the '*Next Wednesday*' question and found that people who were running late for their appointments were more likely to adopt the moving ego perspective and respond with 'Friday' as opposed to those who were early. The two studies suggest, in relation to Boroditsky and Ramscar's (2002) study, that people's understanding of abstract concepts like time is not only influenced by the embodied nature of these concepts but also by differences in personality and emotional experiences.

Consumer psychologists have also attempted to promote creative thought and action through a manipulation based on embodied metaphor. For example, Leung et al. (2012) hypothesized that embodiment could trigger cognitive processes that encourage the generation of creative solutions. Through a series of experimental studies they demonstrated that embodying metaphors for creativity (e.g. *thinking outside the box*)

promoted creative acts in 383 participants. For instance, in experiment 2-a participants were asked to stand inside or outside a box while they completed problem-solving tasks. Participants who were physically outside the box performed statistically higher in creative problem-solving tasks than those who stood inside the box. In another study, Marin, Reimann, and Castaño (2014) found that presenting participants with positive creative metaphoric images (e.g. an image representing *thinking outside the box*) promoted their creative production of product pitches, while presenting images symbolizing negative metaphors (e.g. an image representing *burned out*) hindered their creativity. Since cognitive linguistic studies on promoting creativity through embodied metaphor are rare these consumer psychology studies shed light on the possibility that embodied priming could produce creative results. It is important to note, however, that they employed a specific set of metaphors related to creativity and their results should not be generalized to other conceptual or creative metaphors and may not be true for real life EFL contexts. Nevertheless, the two studies provide evidence that there is more to the interaction between creativity and embodiment than is currently known.

The studies in this section indicate that we can manipulate sensory embodiment to raise awareness of embodied metaphors, influence social behaviour and perhaps promote the learning of linguistic embodied metaphors in EFL/ESL. However, despite the evidence that bodily experiences promote shared mental simulations and can therefore influence social behaviour, the process may not be as straightforward as imagined. In the body-specificity hypothesis Casasanto (2009, 2011) suggested that the differences in individuals' bodily characteristics indicate that their bodily experiences and interactions with their environment vary accordingly. People therefore develop different mental representations of the same actions and perceptions. To test this

hypothesis, Casasanto (2009) performed five experiments on the association of abstract concepts of positive/negative emotional valence (i.e. intelligence, honesty, happiness) with horizontal space in right-handed and left-handed individuals. He found that though primary space and valence metaphors like GOOD IS RIGHT and BAD IS LEFT are universally shared, this embodied understanding of metaphor can also be influenced by a person's bodily-specific tendencies (e.g. dominant hand). As the results indicated that while right-handed participants associated right valence with positive ideas and left valence with negative ideas, left-handed participants associated positive ideas with left valence and negative ideas with right valence. de la Vega et al. (2012) also investigated space and valence metaphors. In four reaction time experiments with German participants de la Vega and colleagues examined how participants made lexical judgments of valence linguistic metaphors '*right is good*' and '*left is bad*' by pressing right or left keys using their dominant hand. Thus, participants judged positive and negative metaphoric expressions that involve the word '*hand*' like '*Michael is the president's right hand*' and '*Susan has two left hands*' by pressing a right or left key. The results from experiments two and three indicated that participants judged positive words faster with their dominant hands while they judged negative words faster with their non-dominant hands. This also indicates a constraint over the embodied nature of valence metaphors which is that good is not always grounded as right for left-handed individuals. Casasanto's body-specificity hypothesis thus provides another dimension to how judgments based on embodied metaphors may be susceptible to individual differences arising from an individual's physical body.

The studies in this review are valuable because they provide empirical evidence in favour of embodied primary metaphor. However, there are a number of

methodological issues that we still need to account for. Behavioural psychology research seems to assume a causal relationship between embodiment and social behaviour or judgment. Casasanto and Gijssels (2015) argued that there is little evidence that the concrete source domain is in fact activated through modality-specific neural systems. Claims of embodied mental representations should be made only through neural-based research, as psychological approaches are incapable of supporting them. Gibbs (2014) also made a similar point that it may be possible that embodied metaphor unfolds in bodily action rather than being activated from memory of a previous social perception. He noted that the findings of social psychology research might not be exclusively due to sensorimotor experiences that have co-occurred with concepts like warmth or coldness. It may be possible that people developed this association from interacting with metaphoric expressions such as '*greeted warmly*' and '*a cold shoulder*' as well as embodied metaphors.

Another concern regards how much of the behavioural findings are due to training rather than to the sensorimotor basis of embodied metaphor. To investigate this possibility Slepian and Ambady (2014) taught participants two novel metaphors PAST IS HEAVY and PRESENT IS LIGHT in a controlled setting. They questioned the methodologies followed by behavioural metaphor research, as it seems many of the results that were obtained may be due to conditioning. They hypothesized that teaching the participants a novel embodied metaphor would lead to them providing social judgments based on these novel metaphors thus questioning the results of embodiment-based research. In their study two groups of students were indirectly taught to associate degrees of heaviness with either past or present time. The first group read passages supposedly written by a philosopher with sentences like '*the decisions of your past*

carry no weight', while the second group read passages with sentences like '*the decisions of your present carry no weight*'. After the training sessions, the two groups judged the weight of old and new books that were actually identical. The group that were trained in the PAST IS HEAVY condition judged old books as being heavier while the group that were trained in the PRESENT IS HEAVY condition judged the new book as being heavy. Slepian and Ambady (2014) explained that the results for the novel heaviness metaphor may not be as constant as bodily-based embodied metaphors but they do put into question the results of behavioural psychology research. From a language teaching perspective, the results of this study suggest that it could be possible to teach language learners novel metaphors and employ embodied metaphor awareness to aid with the understanding of their meanings.

3.4.2. Neural evidence for embodied metaphors

Though research in behavioural psychology lends support to the influence of embodied metaphors on judgment and social behaviour, limited evidence exists regarding the dual (i.e. linguistic and sensorimotor) mental processing of embodied metaphors. The next group of neuro-cognitive studies shed light on the neural behaviour of embodied metaphor. For example, Desai et al. (2011) compared the mental activation for literal, abstract and metaphoric sentences through the use of functional magnetic resonance imaging (fMRI). Participants were instructed to think of the meanings of sentences as they read them. Metaphoric sentences with action metaphors (e.g. *the jury grasped the concept – the council bashed the proposal*) were understood similarly to the physical action words (e.g. *the daughter grasped the flowers – the thief bashed the table*). fMRI results indicated that both literal and metaphoric sentences activated 'the

left anterior inferior parietal lobe', which is an area of the brain that is generally activated when planning concrete actions. In addition, metaphoric sentences also activated the 'left superior temporal regions' which are activated with abstract sentences. The study supports the view that the understanding of metaphorical actions mimics that of literal actions.

In addition, in support of the dual sensorimotor processing of embodied texture metaphors, Lacey, et al. (2012) investigated the processing of sentences containing conventional texture metaphors (e.g. *She had a rough day*) in comparison to literal synonyms (e.g. *She had a bad day*). Participants read the sentences and pushed a button when they understood it. The fMRI results for texture metaphors indicated an activation of both the verbal areas of the brain and the 'somatosensory cortex in the parietal operculum'. The somatosensory cortex is generally activated when perceiving tangible textures through haptic and visual stimuli (Lacey et al., 2012). The results, however, did not show a similar activation with the literal sentences indicating that it was the processing of texture metaphors that activated the motor areas responsible for tactile perception. Similarly, Boulenger, et al. (2009) compared fMRI images of participants processing idiomatic and literal sentences with hand and leg actions. The results indicated that conventional idiomatic sentences with hand actions activated a stronger 'lateral motor cortex' and leg idiomatic sentences activated a stronger 'dorsal motor cortex' than their literal counterparts. This study lends support for idiom processing through the motor and premotor cortex, which indicates the sensorimotor grounding of the examined idioms. In addition, to investigate MORALITY IS PURITY actions Schaefer et al. (2015) had participants act out scenarios either verbally or in writing. fMRI results indicated a somatotopical organization of activation as sensorimotor cortices in the

mouth areas were activated after verbal lies and sensorimotor cortices in the hand areas were activated after the written lies. Moreover, via event-related potentials (ERP) analysis of novel metaphors, Schmidt-Snoek et al. (2015) found different neural substrates for novel auditory metaphors (e.g. *his emails were an insistent knock*) and novel action metaphors (e.g. *the partnership was a financial tailspin*) as opposed to literal conditions. Together, these studies indicate that conventional or novel embodied metaphors can be processed in a similar way to their concrete source domains.

Though the first group of studies supports the neural activation of embodied metaphor, evidence for bilingual or second language learners is not as common. One study that investigated literal motor verbs in the L1 and L2 was conducted by De Grauwe et al. (2014) who compared the literal motor verb processing of Dutch advanced learners of German and native German speakers. When the participants were exposed to German verbs both the learners and native speakers showed similar activations in their motor and somatosensory regions. This indicates that the motor-related semantic representations were rich enough in L2 processing to activate the motor and somatosensory brain areas. In addition, investigating embodied metaphor processing, Xue, et al. (2014) conducted one of a few ERP studies comparing Chinese-English bilinguals' understanding of spatial-time metaphors. Because spatial-time metaphors contrast in Chinese and English, the researchers investigated whether L2 metaphors would be processed in a similar way to L1 metaphors or according to the participants' L2. The results indicated that the mental processing of L1 and L2 time metaphors involved different sensorimotor simulations for each language indicating that even in their L2, bilinguals do process metaphors through embodied grounding. The two studies thus indicate that even though research into the processing of embodied

metaphor in L2 is scarce, initial results suggest the existence of separate mental activations in the L2 than those in the L1.

3.5. Embodied metaphor in cognitive linguistic research

Having discussed both the social implications of embodied metaphor and its neural representations, I now review the handful of cognitive linguistic studies that have investigated embodied metaphor in language and how embodiment influences metaphor understanding. Starting with the textual investigations on embodied metaphor, studies exploring this issue in authentic discourse are scarce; one of the few available is a study by Gibbs and Franks (2002) on the narratives of cancer survivors. In this study, they interviewed six female patients on their experience with cancer and analyzed the linguistic metaphors in their speech. Their analysis was aimed at how embodied and sensorimotor experiences motivate the metaphoric expressions in the patients' narratives. After identifying them, the authors examined the source domains of the conceptual metaphors "to see to what extent these domains were rooted in enduring embodied experiences" (Gibbs & Franks, 2002, p. 144). They found that recurring embodied experiences from the patients' everyday lives served as primary source domains for many of the conceptual metaphors surrounding their metaphoric expressions. They described their illness as an obstacle that they had to overcome during their journey through life. Gibbs and Frank's (2002) study is important because it sheds light on how embodied metaphor can be manifested in language through physical source domains. However, it is limited methodologically because it does not provide a clear definition for 'embodied linguistic metaphor' and it does not illustrate an

identification procedure that identifies embodied linguistic metaphor in authentic discourse.

Most of the other studies in the cognitive linguistic paradigm investigate the understanding of embodied metaphors through awareness-raising activities. For example, Gibbs and colleagues have carried out a number of studies on how embodied action and imagined metaphor awareness can speed the comprehension of linguistic metaphors. For example, Gibbs and Perlman (2006) claimed that bodily actions, real or imaginary, could facilitate online metaphor understanding of metaphoric expressions. Having people act out or imagine '*grasping a ball*' can enhance the degree to which they understand the metaphorical action '*grasping a concept*', especially when the embodied action is done before hearing the metaphoric phrase. In addition, Wilson and Gibbs (2007) had participants imagine and perform matching and mismatching body movements (e.g. *pushing* or *chewing*) before they were presented with some relevant metaphoric expressions (e.g. *push the argument*). The results indicated faster reading times for the metaphoric expressions that were read after watching the matching actions than the ones read after watching or imagining mismatching actions. Moreover, Gibbs (2013) examined the embodied understanding of two groups of participants with regards to the metaphor LOVE IS A JOURNEY. He asked participants to walk across a field blindfolded after they had listened to successful and failing relationship stories. Those who listened to the successful love story walked faster and further than those who heard the failing love narrative.

In a similar vein, Gibbs, Gould and Andric (2006) examined how surface metaphoric expressions are rooted in bodily experiences that language speakers may imaginatively recreate in their daily language. They found that even watching someone

perform the actions resulted in superior metaphor comprehension. This study suggests that even imagining bodily movements or actions when learning a phrase containing an embodied metaphor could enhance the online understanding of an abstract concept. This is because watching someone perform an action leads to similar neural processing to performing the action personally. Further research on ‘mirror neurons’ in the ventral pre-motor cortex of macaques’ brains (cf. Gallese & Goldman, 1998; Rizzolatti et al., 1996; Stamenov & Gallese, 2002) has revealed that when these monkeys perform an action like grasping, when they watch someone perform an action, or when they hear a sound related to the same action, neurons in their premotor cortex fire in a similar manner. Similar results were observed with humans as well as Fadiga et al. (1995) found that mirror neurons in a human’s Broca’s area acted similarly whether the participant performed an action or watched someone else perform the same action. The results from these experiments indicate that even without direct expression of the metaphor, the participants’ metaphorical reactions were based on their imitations of the embodied metaphor. This may be helpful in the course of metaphor teaching if we were to use embodied metaphor awareness-raising activities as tools for linguistic metaphor comprehension.

To sum this section on the cognitive linguistic work on embodied metaphor, it appears that most studies investigate the understanding of metaphors through embodiment. As to the linguistic characterization of embodied metaphors, the lack of linguistic investigation creates a problem for any studies attempting to provide pedagogical applications for them. Currently, it is not clear whether embodied metaphor is a conceptual or abstract term that relates to conceptual metaphors through primary source domains, or that it can even be identified in language and multimodal settings.

As we will see later in Section 8.5 of Chapter Eight, it can be difficult to explore embodied linguistic metaphors in language teaching because cognitive linguistic studies have not yet clarified how to define what it is in real language.

3.6. Pedagogical applications of embodied metaphor

The discussion so far has focused mainly on embodied metaphor in the context of speakers' L1. Similar studies documenting the process of embodied metaphor understanding and retention in EFL/ESL are still scarce. This section focuses on the use of embodied action and tactile metaphor awareness in research into child language learning and cognitive linguistics. It then takes a detailed look at the possible mnemonic benefits of promoting an awareness of embodied metaphor while teaching metaphoric expressions as proposed by the research into memory and cognition.

Studies in child language education have made use of embodied action metaphor awareness. Classroom experiments employing enactment and touch in order to teach literal vocabulary are prevalent in children's L1 and L2. For example, Glenberg and Robertson (2000) proposed the indexical hypothesis which provides an explanation for children's understanding of unfamiliar words. The indexical hypothesis indicates that learning a word involves three processes: indexing or mapping unfamiliar words to physical or symbolic objects and actions; deriving affordances by considering the possibilities for the objects to be manipulated; and meshing or integrating the affordances with the actions as constrained by the context of the sentence and the environment. Glenberg (2008) explained that the three processes ground new and abstract vocabulary items in a sensorimotor representation allowing the child to form a

meaning for the novel word. This makes it easier for them to become familiar with unknown words by making the words more tangible. In support of the indexical hypothesis, Glenberg et al. (2004) performed three experiments with first and second grade children using miniature toys representing reading materials. Conditions for teaching varied in each experiment constituting four groups: tactile embodiment, imagined embodiment, reading and control groups. As the tactile embodiment group read passages about farms they touched and examined toys representing the scenario. The results indicated that the tactile embodiment groups performed significantly higher in recall and vocabulary comprehension tasks compared to the other groups. Glenberg (2008) justified this because the children had already indexed the words through touching and handling them and could therefore imagine these words more dynamically.

In a similar vein, Toumpaniari et al. (2015) carried out an experimental study with 67 participants, all 4-year old Greek children learning EFL. This study was not metaphor-based but it followed a similar approach to studies of embodied teaching of metaphoric expressions through action embodiment and gesture. During the 4-week period of the study children were taught animal vocabulary in either a control group, a gesture group or an enactment-gesture group. The enactment-gesture group acted and gestured the animal names. Statistical analysis of student recall of animal words indicated a significant difference between the performances of the enactment-gesture group and the gesture group ($p = .001$). The children in the enactment-gesture group also reported enjoying the enactment more than the other two groups. Since action and tactile embodiment are popular tools for teaching literal vocabulary to children it would

be interesting to see whether similar results would occur when teaching L2 metaphoric expressions to children through embodied metaphor awareness.

However, the teaching of L2 metaphors through embodied metaphor awareness is less popular for adult EFL/ESL teaching than for child education. To my knowledge, Lindstromberg and Boers (2005) have performed the only experimental study that employs embodied action metaphor awareness as a teaching tool for EFL metaphoric expressions. In a set of three experiments, they taught Dutch university learners English action verbs through enactment and mime. They employed Asher's (1969) Total Physical Response (TPR) teaching methodology in the design of their experiments (to be addressed in detail in Chapter Six). Experiment two involved 23 participants in the control group and 39 participants in the embodied action group. Intervention material involved 24 metaphoric action verbs (e.g. *leap*, *nudge*, *pounce*). Participants in the experimental group performed charades by acting out the verbs while the rest of the group guessed the verb. The control group tried to prompt guesses using only verbal clues. The participants received a cloze task as a pretest and a posttest and a translation assessment task. The results indicated a significant difference in both test forms ($p = .05$ and $p = .02$, respectively). In addition, to ensure similarity in the levels of learners, the third experiment employed Laufer and Nation's (1999) 3000-word level test as well as the materials of experiment two. With no differences in vocabulary level, participants in the experimental group (17 participants) outperformed those in the control group (12 participants) in the cloze tests ($p = .05$) and the translation assessment task ($p = .002$). In general, the three short-term experiments led to the conclusion that embodied action metaphor awareness aided the participants' recall of the action verbs. The students who acted out the verbs and students who observed the actions received better scores than

those who learned the vocabulary items verbally. The authors explained these results in terms of dual coding theory (Paivio & Walsh, 1993) and motoric imagery (Kosslyn, 1994), which could be true. However, with the aid of neuroscientific research, we can argue that a further justification for Lindstromberg and Boers' (2005) results involves the enactment effect on memory and understanding which are discussed in the following subsection. Lastly, though Lindstromberg and Boers' (2005) studies are valuable for the embodied metaphor awareness argument, pedagogically oriented cognitive-linguistic research is still in need of similar studies promoting embodied metaphor awareness for tactile, olfactory, optical and auditory metaphoric expressions. To my knowledge, experimental studies are yet to investigate the effect of embodied metaphor awareness on non-action sensory metaphors.

3.6.1. The enactment effect on memory

A significant advantage of employing embodied action metaphor awareness to teach metaphoric expressions is the possible mnemonic benefits it has for memory. Cognition research in L1 and L2 has several names for the general theory that enactment provides mnemonic benefits, e.g. 'the enactment effect hypothesis' by Engelkamp and Krumnacker (1980) and 'the self-performed task-effect' by Cohen (1981). The different theories agree that performing activities which correspond to the basic meaning of words and phrases helps in remembering them (cf. Duffelmeyer, 1980). In this sense, enactment involves using the human body to mime, enact and reproduce gestures that express the physical meanings of vocabulary items. In his discussion of the enactment effect on memory, Cohen (1989) identified three elements of enactment. First, enactment is a symbolic action performed by participants after

hearing verbal instructions or commands. Second, it involves handling real or imaginary objects (e.g. a real or imaginary pen), but whether the objects are real or imagined makes no difference in vocabulary recall. Third, enactments are responses to commands and verbal instructions and share a degree of similarity with gestures in terms of cognitive functions (Cohen, 1989). However, Macedonia and von Kriegstein (2012) noted that enactments and spontaneous (i.e. iconic) gestures are in fact two different processes and should not be used synonymously.

As to the enactment effect on memory, Engelkamp and Krumnacker (1980) and Englecamp and Zimmer (1989) were among the first to notice that physical movements and actions have mnemonic benefits on memory that are superior to that of verbal or auditory descriptions. In other words, we remember verbal phrases better when we perform related actions or gestures than when we apply only verbal and auditory modalities. This complements our discussion so far on the understanding of embodied metaphor through embodied action and tactile metaphor awareness-raising activities. A large body of research has investigated the value and range of the enactment effect hypothesis which can now be put into practice in the field of figurative language teaching. One of the first to test the enactment effect hypothesis was Cohen (1981) who performed experiments with four types of interventional conditions: subject-performed tasks (SPT), wherein the participants performed the actions that would correlate with the words (e.g. *break a toothpick*); experimenter-performed tasks (EPT), wherein the researcher performed the actions for the participants; verbal tasks (VTs) with solely verbal explanations of the vocabulary; and a control word condition. The results indicated that the SPT and EPT participants were more likely to remember the vocabulary than those who received the VTs or the control word conditions. The

enactment effect justifications for SPT's superiority can also be made in terms of Craik and Lockhart's (1972) levels of processing theory which indicates that embodied actions involve richer and more elaborative representations than verbal phrases. Additionally, enacted actions engage the motor system while verbal and auditory presentations do not. This engaging of the motor system means that encoding is processed differently and would, therefore, employ different neural processes than verbal or auditory modalities (Zimmer et al., 2000). As to the EPT participants' high performance, research on mirror neurons (as previously discussed in Section 3.4) indicates that the brain processes an observed action similarly to how it processes performing an action personally.

With regards to language learning, studies have demonstrated that iconic co-speech gestures help children to learn new foreign language vocabulary (e.g. Tellier, 2008) and adults (e.g. Kelly et al., 2009). For example, Macedonia et al. (2011) discussed how accompanying a word with an iconic gesture induces the enactment effect and therefore leads to better mnemonic benefits in L1 as well as L2. They found that using iconic gestures that depict aspects of the word's semantics to teach nouns from the artificial language Vimmi led the experimental groups to perform better in recall tests up to five days after the experiment as opposed to a control group that used meaningless gestures. The study also used event-related fMRI brain scans to assess the difference in mental processing in the two groups of participants. The fMRI results indicated that recognition of words encoded through iconic gestures coincided with brain activation in the premotor cortex, confirming that the representations of words encoded with this kind of gesture are coupled with motor images. In another study, Macedonia and Knösche (2011) showed that memory performance of abstract nouns at

six time points was significantly higher for enactment groups. Since metaphoric expressions are abstract in nature these results are important for teaching figurative versus more concrete vocabulary. Finally, Macedonia and Klimesch (2014) performed a longitudinal 14-month study testing the participants' ability to commit vocabulary from the artificial foreign language Tsesetisch to their long-term memory after a lesson that involved gesture and enactment. Memory performance was assessed at five time points. Across each time point enacted vocabulary items were remembered significantly more often than vocabulary items explained through audio-visual modalities. Specifically, participants achieved a high recall score for the enacted vocabulary in the immediate posttest results followed by a minor drop in the 1-week delayed test (means 64.56 and 58.62 respectively). Both results were highly significant in comparison to the posttest and the delayed test results for words received through audio-visual training (means 30.27 and 21.07 respectively). Since metaphoric vocabulary describes abstract concepts the enactment effect of foreign language learning studies serve as further evidence of the usefulness of enactment in figurative language teaching.

Lastly, Macedonia and von Kriegstein (2012) noted that the enactment effect of L1 would differ from that of L2 because in L1 the words would be associated with sensorimotor and motional experiences already embodied in the corresponding word. This is not the case in learning the vocabulary of a foreign language. However conventional or novel a word or phrase is, it would still be novel for language learners and the bodily associations would be partial at best. So, when learners learn a word merely by listening and translation the mental associations with bodily experiences are not direct. These associations would only be direct if the learner had experienced the word by grounding it in his/her bodily experiences. Macedonia and von Kriegstein

(2012) also noted that the process of embodiment differs according to the abstract/literal word, action/gesture and the sensorimotor experiences associated with the word. To illustrate, a real action for the abstract metaphoric phrase '*to take a step forward*' involves putting one foot in front of the other, while an embodied action for the phrase '*to climb careers*' would involve iconic hand gestures for climbing. To this end, they explained that the more real the actions are, the stronger the enactment effect on memory would be because the actions can reinforce the sensorimotor experiences associated with the learners' L1. They hypothesized that by binding the L1's sensorimotor information to the novel L2 word, learners could also make abstract concepts more concrete, which would enhance their learning. As discussed in Section 3.4.2, neurological research is yet to confirm how embodied metaphor is treated in L2.

3.7. State of the research and applications for figurative language teaching

Throughout this chapter, I have discussed how awareness-raising activities that rely on embodied action and tactile metaphor awareness can be rewarding additions to conceptual metaphor awareness. In summary of the important issues, this section addresses some of the major findings from research in cognition, behavioural psychology, neuroscience, child education and memory.

Starting with primary metaphor theory in Section 3.2, Grady (1997) illustrated how conceptual metaphors are experientially grounded through primary metaphors. Grady offers convincing interpretations of the relationship between the conceptual source and target domains. From a language teaching perspective, the implication of primary metaphor is that we can adopt the most primary physical state associated with

the cognitive response for teaching through embodied metaphor awareness. This primary motivation can be an advantageous source for communicating the embodied nature of metaphoric expressions. Even if teaching involves complex metaphors we can still use the most primary sources of bodily states to promote awareness of the embodied metaphor. For example, with the complex metaphor LIFE IS A JOURNEY we can employ PURPOSES ARE DESTINATIONS with metaphoric expressions like '*to follow in someone's footsteps*' to guide the awareness of action metaphors. We can also physically illustrate how to follow someone's career, for example by encouraging language learners to trail each other's footsteps before we introduce the metaphoric expression. Also, primary metaphors are more universally shared than conceptual metaphors. This universality may help embodied metaphor teaching as language learners share such experiences with speakers of the L2. However, it is still a problem that Grady's theory does not explain how primary metaphors are more prominent in some cultures than others. Although Casasanto and Bottini's (2014) hierarchical mental metaphors theory addresses the cultural aspect of universality and variation in Section 3.3, it is still in need of more research before its claims are confirmed.

After this, Section 3.4 elaborated on the neuro-psychological research that provides empirical support in favour of embodied metaphor awareness. Studies by Lee and Schwarts (2014) and Boroditsky and Ramscar (2002) suggest that embodied metaphor can influence behaviour and social judgments. However, as Slepian and Ambady's (2014) study questions the methodological validity of behavioural research, this implies that we could train participants to learn novel embodied metaphors which also could be an added benefit for figurative language teaching. Nevertheless, we should be aware that the psychological research is mostly focused on the influence of

L1 metaphor on behaviour. Whether similar results would occur with speakers in a second or a foreign language is a topic for future research. The most important issue here is that the four experimental studies in this thesis take place in authentic EFL classrooms. The participants are language learners who vary in their learning backgrounds, linguistic and personal abilities, motivations, and learning styles and strategies. These are factors which cannot be isolated in classroom experimental research as can be done in controlled behavioural research. This indicates that the work in behavioural psychology should support rather than guide the teaching of embodied metaphor in EFL/ESL classrooms. We may be able to employ behavioural research in support of the influence of embodied metaphor on behaviour and judgment, but we should not expect similar results, as the variables differ in each of those contexts.

Moreover, neurolinguistic studies of embodied metaphor have also focused on investigating its processing in L1 speakers. Though they provide evidence for sensorimotor activation few studies have addressed the processing of embodied metaphor in the L2. De Grauwe et al. (2014) and Xue et al. (2015) suggest that the processing of L2 embodied words occurs through separate sensorimotor activations to the processing of L1 embodied words. However, further investigations into the processing of embodied metaphors by second and foreign language speakers are needed. As the current experimental studies take place with foreign language learners we ought to keep in mind the different conditions and the scarcity of neural support for embodied metaphor processing in the L2.

As to the cognitive linguistic work on embodied metaphor presented in Section 3.5, apart from the claims of Gibbs and colleagues, very few investigations have been conducted into the behaviour of embodied metaphor in language or the necessary steps

that should be taken to identify its presence in natural discourse. Research is also needed into the influence of embodied metaphor awareness-raising activities to promote the understanding, memory and production of embodied linguistic metaphors. In designing the two embodied metaphor awareness studies in Chapters Six and Seven, I have drawn on the embodied metaphor research from psychology and neuroscience where the subject has been thoroughly investigated. However, the research gap in applied and cognitive linguistics, where authentic language is studied in action, makes it difficult to develop experimental designs for embodied metaphor awareness.

Lastly, though Lindstromberg and Boers (2005) have provided a launching point for future research on embodied metaphor awareness in EFL/ESL, further studies employing awareness-raising activities for embodied metaphors are still needed. The combination of conceptual metaphor awareness and embodied metaphor awareness may lead to a better figurative language learning experience. The view of embodied metaphor in the pedagogically oriented cognitive linguistics is not clear yet, but on the basis of the literature reviewed we can argue in favour of an embodied teaching of metaphor.

PART TWO

EXPERIMENTAL STUDIES

CHAPTER FOUR
THE USE OF METAPHOR IN THE WRITING OF
UPPER-INTERMEDIATE SAUDI EFL LEARNERS
STUDY 1

4.1 Introduction

This chapter reports on Study 1 which explores the potential benefits of conceptual metaphor awareness for teaching emotion metaphors with Saudi EFL learners. As discussed in Section 2.4.4 of Chapter Two, cognitive linguistic researchers (e.g. Boers, 2004; Low, 2008) have recognized the benefits of promoting awareness of conventional metaphoric expressions through the use of conceptual metaphors as themes for teaching. They have also acknowledged the limitations of conceptual metaphor awareness-raising activities in terms of production of the metaphoric expressions, but experimental work investigating these limitations is currently lacking.

Study 1 in this chapter was designed to evaluate the possible effects of organizing the teaching of metaphoric expressions that describe emotion metaphors for happiness and sadness according to their underlying conceptual metaphors as opposed to teaching them through semantic clustering. It involved two groups of Saudi female EFL learners; 15 of whom were treated as a control group (CG-1) and 14 of whom were treated as a metaphor group (MG-1). The target metaphoric expressions were 20 items which can be traced back to four conceptual metaphors for emotions; HAPPINESS IS UP, HAPPINESS IS LIGHT, SADNESS IS DOWN and SADNESS IS DARK. The CG-1 learned the metaphoric expressions clustered in general semantic lists as words that express

happiness and sadness without reference to their source domains. The interventional teaching session for the MG-1 highlighted the relationship between the source and target domains of these conceptual metaphors, thus raising the learners' awareness of them. They were then asked to write freely about their emotional response to a short clip that followed the vocabulary instruction. The analysis of the writing examined their use - or lack of - of metaphoric expressions. I looked specifically at these issues: their use of the 20 taught metaphoric expressions in their writing, their use of the metaphoric expressions related to the six taught experiential domains, henceforth 'metaphoric expressions that were similar to those taught', and the expressions they used that did not relate to those taught, henceforth 'un-elicited metaphoric expressions'.

In the context of this thesis, Study 1 is considered an exploratory study because it is the first experimental study aimed at setting the scene for learners' use of EFL metaphors following a minimal teaching intervention, and it is conducted with a small number of female Saudi university learners. Nonetheless, its significance lies in the fact that it is the first of a series of classroom experiments testing teaching techniques for metaphor in Saudi EFL classrooms. It highlights the potential areas of figurative language teaching that require further exploration in the following studies.

This chapter develops as follows: In Section 4.2 I begin with a rationale that reiterates the concept of conceptual metaphor awareness of emotion metaphors. I follow this in Section 4.3 with a presentation of the sub-research questions this chapter aims to answer. Then, Section 4.4 discusses the methodology that was used in designing, performing, and analyzing Study 1. In Section 4.5 I present an analysis of the learners' written samples in terms of their metaphor use. In the concluding Section 4.6 I discuss the implications of the findings for the design of the following study in Chapter Five.

4.2. Rationale

As this chapter is concerned with the implications of conceptual metaphor awareness for the teaching of happiness and sadness metaphors, I reiterate some of the issues discussed in Chapter Two in Section 4.2.1 on conceptual metaphor awareness. I then discuss some of the cognitive linguistic findings with regards to emotion metaphors in Section 4.2.2

4.2.1. Conceptual metaphor awareness

In Section 2.4.4 I have outlined the research supporting the idea that it is beneficial to teach conventional metaphoric expressions to EFL learners through activities that raise their awareness of conceptual metaphors (e.g. Boers, 2000a, 2000b; Boers, Eyckmans & Stengers, 2007). Conceptual metaphor awareness, as previously discussed in Section 2.4.2, involves drawing the attention of the learners' to the conceptual origin of the metaphoric expressions and their source domains (Boers, 2000b). This should help them untangle the layers of metaphoric meanings within those expressions and thus understand the metaphoric expressions. Promoting an awareness of conceptual metaphors for such lists goes beyond the arbitrariness of figurative expressions by finding motivation for their meanings in the underlying conceptual metaphors (Beréudi, 2006). For example, Beréudi, Csábi and Kövecses (2008) found that learners favour learning metaphors of anger through conceptual metaphor awareness because it makes it possible for them to associate the vocabulary list with the wider context that lies behind the metaphoric expressions. As to the limitations of conceptual metaphor awareness as a teaching technique that does not promote the

production of metaphor, Section 6.2.2 of Chapter Six will address those limitations in the context of Study 3.

In contrast to conceptual metaphor awareness which is employed for the teaching for the MG-1, semantic clustering is used for the teaching of the CG-1. Semantic clustering presents these vocabulary items altogether based on a general semantic grouping without indicating the relation between the constituents of that list which puts the pressure on retaining rather than understanding them. Tinkham's (1997) study, which was described in Section 2.4.4, discussed the shortcomings of semantic clustering as a teaching technique that does not help learners with vocabulary understanding.

Taking for example the metaphoric expressions '*in a black mood, dark days, dark thoughts, in a gloomy mood*' and '*dark times*', conceptual metaphor awareness-raising activities would involve highlighting the conceptual metaphor SADNESS IS DARK. On the other hand, semantic clustering of these metaphoric expressions would involve teaching them as 'words for sadness' without bringing the learners' attention to the conceptual metaphor or its source and target domains. As in the case of the above expressions, metaphoric expressions are sometimes quite distinct and it may be difficult to learn such phrases through semantic clustering. Study 1 here explores how the two teaching techniques influence the use of metaphoric expressions in writing.

4.2.2. *Emotion metaphors*

Section 2.2.2 elaborated on the ways metaphor shapes the perception of certain emotions such as happiness and sadness in several languages (Kövecses, 2000; Lakoff

& Johnson, 1980). For example, Kövecses (2000) discussed how shared bodily experiences are reflected in the near-universality of emotion metaphors like happiness and sadness. He noted that linguistic metaphors facilitate the discussion of emotionally charged subjects because speakers find it easier to express abstract emotions through metaphors. This makes emotion metaphors a suitable avenue for the teaching of metaphoric expressions. However, cognitive linguistic research has mainly focused on the teaching of anger metaphors (e.g. Boers, 2000b; Beréudi, Csábi & Kövecses, 2008; Gao & Meng, 2010). In this study I address metaphors for happiness and sadness as a starting point for the teaching of metaphoric expressions in the Saudi EFL classroom. These are HAPPINESS IS UP, HAPPINESS IS LIGHT, SADNESS IS DOWN and SADNESS IS DARK. Because they rely on primary experiences, these conceptual metaphors tend to be universal amongst different languages (Kövecses, 2000).

Designing the interventional teaching session for Study 1 with happiness and sadness conceptual metaphors could provide a relatively easier way of introducing figurative expressions to foreign language learners. This is partly because these emotion metaphors are shared in both English and the participants' L1 i.e. Arabic. Thus, the learners could appreciate the similarity between their L1 and the new metaphoric expressions in L2. Teaching them words for happiness and sadness could also provide an outlet for participants to help them communicate their ideas in writing.

In light of the discussion on conceptual metaphor awareness and the universality of emotion metaphors, Section 4.3 presents the sub-research questions addressed in this chapter.

4.3. Research questions

As discussed in Section 1.3 of Chapter One, Research Question One examines the impacts of conceptual metaphor awareness over semantic clustering and it is:

RQ 1: How do the female Saudi EFL learners respond to awareness-raising activities to the teaching of metaphoric expressions when these activities are based on conceptual metaphor awareness versus semantic clustering?

As part of the analysis for Research Question One, Study 1 investigates whether Saudi university learners would produce metaphoric expressions for happiness and sadness in a writing task when such expressions are taught to them through conceptual metaphor awareness as opposed to semantic clustering. This was performed in the context of King Abdul-Aziz University (KAU). As noted in Section 4.1, participants from the CG-1 and the MG-1 provided written samples describing their emotions. These written samples are analyzed in terms of the following sub-research questions:

4.3.1. In what ways do the taught metaphoric expressions of happiness and sadness appear in the writing of the control group (CG-1) and the metaphor group (MG-1)?

4.3.2. What kinds of non-elicited metaphors do the learners use in their writing?

4.4. Methodology

The study was conducted with two groups of Saudi EFL learners. They received an interventional teaching session that lasted for an hour. After the session, they wrote about their feelings regarding a short emotional video. The analysis of written samples explored the difference in the use of the taught and non-elicited

metaphoric expressions by the control group (CG-1) and the metaphor group (MG-1). This section discusses the participants (Section 4.4.1), the interventional teaching session and the posttest writing assessment (Section 4.4.2), the metaphor identification procedure used for metaphor analysis (Section 4.4.3) and the methods used in the analysis of data (Section 4.4.4). Copies of the materials given to the learners are provided in Appendices A1 to A2.

4.4.1. Participants

The participants of this study were two groups of EFL learners at KAU (between 18 and 21 years of age) in their foundation year. As discussed previously in Section 1.2 of Chapter One, the learners were placed at the B2-CEFR level after taking the OOPT language proficiency test. Group A who were taught together in one classroom were named the control group, henceforth the CG-1. They consisted of 19 students but as four of them did not agree to participate the final number of participants was 15 learners (mean age= 19.4). Group B were assigned as the conceptual metaphor group, henceforth MG-1. This classroom consisted of 23 learners and 15 of them agreed to participate in the study. As one participant from the MG-1 provided an irrelevant answer to the writing exercise and was excluded accordingly, the final number of participants for the MG-1 was 14 students (mean age= 18.9). Both groups signed a permission form which explained how the privacy of their identities would be protected and that their participation in the study was optional. As part of the ethical considerations for this thesis, the CG-1 received the same training as the MG-1 after the study had ended to ensure equal treatment for all participating learners.

4.4.2. Setting of the study

The experimental study consisted of three phases: the vocabulary lesson, the emotional video and the writing task, and it took 1.5 hours to complete. I discuss each of these phases here starting with two limitations in the design of the study. First, metaphor testing only consisted of the posttest writing task and did not include a pretesting measure. This limits our understanding of the learners' progress after the interventional teaching session. To make up for this limitation, all the following studies in this thesis employ pretesting measures for their investigations. Second, because I was attending courses at the University of Birmingham, the study was carried out by a member of staff at KAU. The teacher was given written instructions on how to perform the experiment and the learners' written samples were later sent to Birmingham. This was deemed manageable, as this study was an exploratory study. However, as the following studies of this thesis would involve more complex interventional teaching sessions and tests, I have administered the interventional teaching sessions in person.

Phase 1: The vocabulary lesson (60 minutes)

As stated in Section 4.2.2, the reason for choosing metaphors of happiness and sadness is partly due to them being semi-universal metaphors. Amongst metaphors of emotions, they also seem to suit the upper-intermediate level of the learners. In selecting the metaphoric expressions for teaching, I followed Boers and Lindsromberg's (2008) recommendations for metaphor selection for teaching which were discussed in detail in Section 2.4.3.

I first compiled a list of 35 metaphoric expressions related to happiness and sadness from Deignan's (1995) *Collins Cobuild English Guide to Metaphor* and Lazar's (2003) metaphor teaching textbook *Meanings and Metaphors*. I chose a mixture of metaphoric expressions including idioms, phrasal verbs, metaphoric word uses and prepositional phrases that related to the four conceptual metaphors HAPPINESS IS UP, HAPPINESS IS LIGHT, SADNESS IS DOWN, and SADNESS IS DARK. I ran the initial list against the BNC and COCA corpora to check for the frequency of occurrence. I then narrowed the list to the most frequent 20 metaphoric expressions and kept those that had a statistically significant occurrence rate. I employed the T-score measure of frequency which is readily available from the BNC web interface. I employed this technique for the selection of metaphoric expressions based on the methodologies followed by Walker (2008) and Turner (2014). Walker (2008, p. 293) argued that using raw frequencies as measures for strong collocates would make it "difficult to attach a precise degree of significance" to their occurrence together with the node. Instead, he recommended employing T-scores as more accurate measures of frequency. According to Walker, when the collocate has T-score of 2.00 or above, then the combination of words is statistically significant and did not occur by chance. The T-score method was also employed by Turner (2014) to identify conventional metaphoric expressions in her data of French and Japanese learner writings and was found successful.

The frequency of occurrence of the metaphoric expressions ranged from 2.01 for '*face lit up*' and 18.16 for '*gets you down*' to expose the learners to vocabulary items from various frequency levels. Table 4.1 illustrates the final list of metaphoric expressions and the frequency of their occurrence from the BNC:

	Metaphoric expression	BNC frequency		Metaphoric expression	BNC frequency
HAPPINESS IS UP	to feel up	15.24	SADNESS IS DOWN	feeling down	5.57
	over the moon	9.36		to drown in sorrow	5.99
	on top of the world	6.93		feeling very low	3.38
	Made my day rise	4.27		gets you down	18.16
	lift somebody's spirits	2.99		low spirits	3.52
HAPPINESS IS LIGHT	brightened	4.9	SADNESS IS DARK	in a black mood	2.75
	mood lightens up	3.59		dark days	7.18
	face lit up	2.01		dark thoughts	3.12
	light of my life	6.80		in a gloomy mood	2.40
	looking on the bright side	8.83		dark times	2.20

Table 4.1: Metaphoric expressions taught in Study 1 and their frequency of occurrence

The interventional teaching session for the two participating groups was carried out as follows (please see Appendix A1 for the vocabulary worksheet). First, in the design of the interventional teaching session, I made sure that the lesson provided for the CG-1 and the MG-1 was the same in terms of delivery and level of difficulty. The only difference between the treatments of the two groups was in the teaching of the 20 metaphoric expressions, as the CG-1 learned them through semantic clustering and the MG-1 learned them through conceptual metaphor awareness. In detail, the learners in the CG-1 received the same 20 metaphoric expressions but they were generally listed as happiness words and sadness words. The teacher only explained the metaphoric senses of the vocabulary items to the CG-1. They spent the remainder of the hour studying the vocabulary list. On the other hand, the MG-1 learners were given the list of metaphoric expressions classified under the four conceptual metaphors HAPPINESS IS

UP, HAPPINESS IS LIGHT, SADNESS IS DOWN, and SADNESS IS DARK. The teacher explained the meaning of each happiness and sadness expression in relation to the domains of height and light. The MG-1 learners then studied the list and the teacher answered their questions with regards to the vocabulary items.

Phase 2: The emotional video (10 minutes)

I chose a 2:18-minute video clip from The Oprah Show website. Oprah Winfrey is had a live talk show in which she surprised participants and audience members. This particular segment came from an episode that aired in 2009 (link: <http://www.oprah.com/spirit/Rwandan-Refugees-Reunite-with-Their-Family-Video>).

The video tells the story of two Rwandan girls, Clemantine and Claire Wamariya, who escaped the Rwandan genocide. Not knowing the fate of their family, the girls immigrated to the United States in the year 2000. They eventually discovered that their parents were alive but were unable to contact them and so sought the help of the Oprah Show staff. On live airtime, Oprah meets the girls and surprises them by reuniting them with their family and their reaction is caught live.

I chose this particular video because successful language learning can be influenced by affective factors like the learners' emotional responses to learning materials which generate empathy (Horwitz, 1995). Empathy, in the context of EFL, is defined as the willingness and the ability to identify with other people's situations (Nickerson, Butler & Carlin, 2009) and is crucial in the acquisition of L2 (Schumann, 1975). There is an age similarity between the participants and the two girls in the video.

Thus, feelings of empathy may elicit the learners' emotions which, in turn, could give an outlet for metaphoric expression through writing as noted earlier.

During the next 10 minutes of the interventional teaching session, the teacher provided a short background of the context of the video to the CG-1 and MG-1. She explained some of the difficult words and asked the participants to watch the video and try to imagine themselves as the people in it. She then played the video twice to each group.

Phase 3: The writing task (20 minutes)

The task was designed to promote the use of metaphoric expressions of sadness in the first part of the writing task and metaphoric expressions of happiness in the second part (please see Appendix A2 for a copy of the writing task). The task instructions read as follow:

Imagine yourself as one of the two Rwandan girls and you just reunited with your family after 12 years. Write about how sad you felt when you were alone in a new country? Then, write about your happiness when you saw your family for the first time. Use emotion words to describe your sadness and happiness?

After watching the video clip, the learners in the CG-1 and the MG-1 were asked to write of their impressions about the video. They were told to imagine themselves as one of the two Rwandan girls and to write freely about their emotions when immigrating to the United States and after reuniting with their family. They turned over the piece of paper that contained the vocabulary list as they worked on the task. They were told not to worry about grammar and spelling as they answered the task.

4.4.3. Identification of metaphoric expressions

While identifying metaphor use in the written samples, I generally disregarded grammatical and spelling errors. This is because the writing task was aimed at the use of metaphor rather than English proficiency. However, the examples used in this chapter have been corrected for grammar and spelling in a way that does not affect the content. Next, following Cameron's (2003) VIP which was described previously in Section 2.3.2 of Chapter Two, I established whether a word or a phrase was potentially incongruous with the surrounding context and marked it as a possible vehicle. For instance, in the sentence:

- (10) Being forced to leave my country is the worst pain anyone can feel (CG-1-14)

The phrases '*forced to leave*' and '*worst pain*' were tagged as two possible vehicles. There were also some instances of direct metaphors and implicit metaphors in the data, for example:

- (11) I was so happy. I felt like if I am over the moon. (MG-1-11)
(12) I would die if I were in their place. (MG-1-14)

To account for such metaphoric expressions I also used Steen et al.'s (2010) MIPVU which identifies direct and implicit metaphors. So, I tagged possible direct metaphors involving the form A IS B or A IS LIKE B and implicit metaphors (e.g. third person pronouns) as possible metaphorically-used words.

After this, I composed a list of the potential metaphorically-used words from the participants' writings and coded them individually as either potentially metaphoric or non-metaphoric (1 for metaphoric expressions and 0 for non-metaphoric expressions). Then, another researcher, who was a Masters student in Applied

Linguistics with experience in metaphor work, received the list of potential metaphoric and non-metaphoric expressions and rated each item independently using the same codes. I then set out to examine the inter-rater reliability between the two sets of scores through Cohen's Kappa in SPSS. The Pragglejaz Group (2007) proposed using Cohen's Kappa to check whether raters agree in their opinions as to the metaphoricity of words and phrases. They indicated that reliable ratings should have a Kappa score between 0.80 and 0.60. The test revealed that agreement between the scores of the two raters was 98%, with a Kappa score of 0.79 at ($p= 0.000$) which according to Landis and Koch (1977) suggests that the agreement is substantial. In other words, the two raters generally agreed in their opinions as to which expressions in the list were potentially metaphoric or non-metaphoric, and this agreement is statistically significant. After this, the second rater and I met to discuss the differences in our ratings and either agreed to adopt the word/phrase or disregard it.

The next step was to manually check for the use of taught metaphoric expressions. I took note of the taught metaphoric expressions listed in Table 4.1 and identified whether the participants used them correctly. If so, I counted the use as a taught metaphoric expression. Second, to identify the non-elicited metaphoric expressions, I looked for metaphoric expressions that were not taught but were possibly extended from the mappings of the four conceptual metaphors HAPPINESS IS UP, HAPPINESS IS LIGHT, SADNESS IS DOWN, and SADNESS IS DARK.

4.4.4. Method of statistical analysis

The first step in analyzing the metaphoric expressions was to calculate the density of metaphor use in relation to all the words in the texts for the CG-1 and the MG-1. It should be noted that the number of words written by learners in the CG-1 and the MG-1 varied. The learners in the CG-1 wrote paragraphs between 54 words and 360 words in length while the learners in the MG-1 wrote samples between 43 words and 233 words in length. The final set of taught and non-elicited metaphoric expressions consisted of 71 instances for the CG-1 and 55 instances for the MG-1. After I calculated the density of metaphoric expressions in the texts, which is reported in Section 4.5.1, I categorized the metaphoric expressions into taught metaphoric expressions and non-elicited metaphoric expressions and calculated the metaphoric density for each type.

To compare between metaphor use by the CG-1 and the MG-1, I performed statistical analysis using the SPSS-19 package. I used a series of the non-parametric Mann-Whitney U-tests because the number of participants in Study 1 was below 30 and the normality of distribution was not expected. However, to ensure the similarity of the distribution, I checked in the histogram plots and they appeared to be similar in shape. Section 4.5 discusses in detail the statistical differences between learners in the CG-1 and the MG-1.

4.5. Data analysis

This section presents the analysis of participant written samples in light of the sub-research questions in Section 4.3. It first presents a statistical analysis of the participants' use of taught metaphoric expressions in writing (Section 4.5.1). Then, it

elaborates on the use of non-elicited metaphoric expressions in their writing (Section 4.5.2).

4.5.1. The taught metaphoric expressions in the writing samples

Looking at the overall metaphor density in the writings of the CG-1 and the MG-1, the CG-1 ($n= 15$, $M= 4.21$, $SD= 3.04$) received a slightly lower score than that of the MG-1 ($n= 14$, $M= 5.87$, $SD= 3.13$). Figure 4.1 presents the difference in metaphor densities between the two groups:

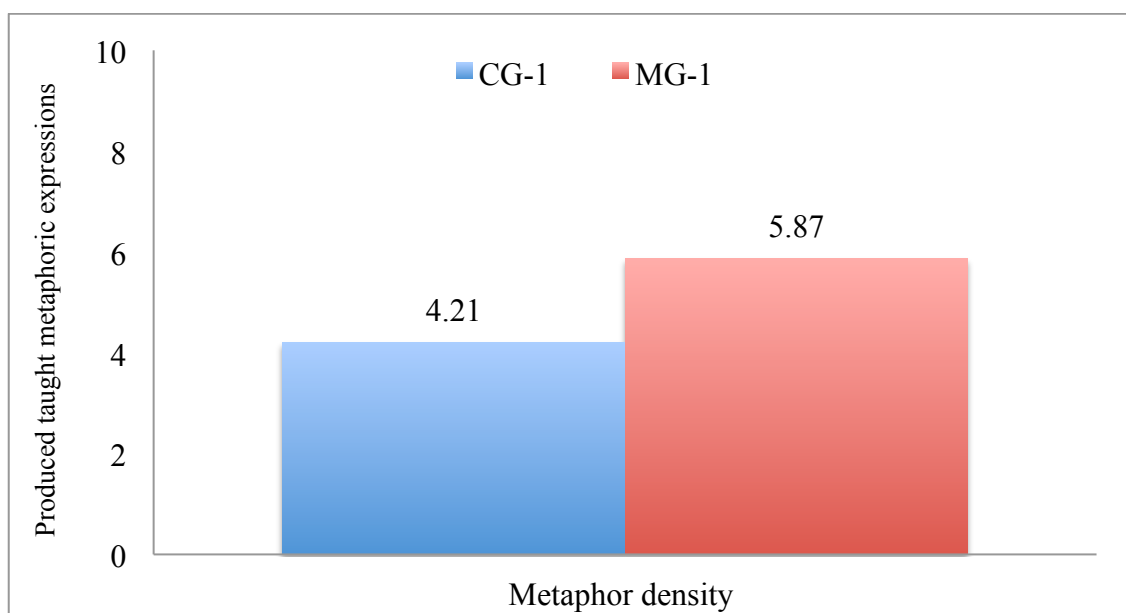


Figure 4.1: Means of overall metaphor densities that were found in the metaphor writing posttest of the learners in the CG-1 and the MG-1 in Study 1

In relation to the overall metaphor densities presented in Figure 4.1, the use of taught metaphoric expressions between the CG-1 ($n= 15$, $M= 0.40$, $Md= 0.00$, $SD=$

0.073) and the MG-1 ($n = 14$, $M = 1.28$, $Md = 1.00$, $SD = .91$) was higher for the MG-1 than the CG-1. A Mann-Whitney U Test revealed a highly significant difference of ($p = .008$) with an effect size of ($r = .49$) in the use of taught metaphoric expressions. According to Cohen (1988) this is a medium effect size. The following boxplot Figure 4.2 displays the differences in means and medians for taught metaphoric expressions:

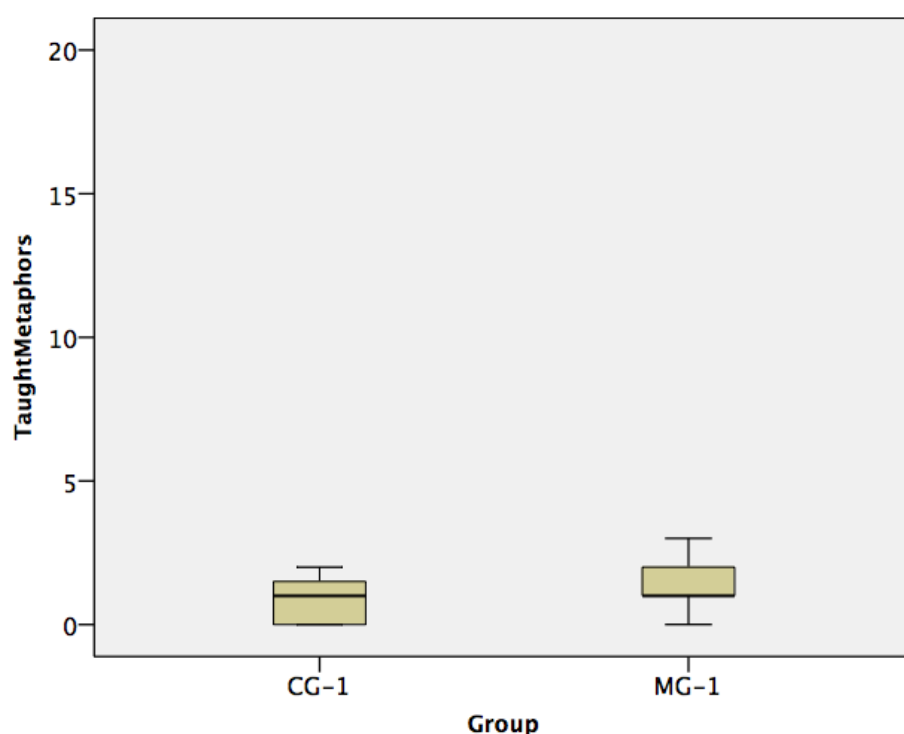


Figure 4.2: Means, medians and distributions of the taught metaphoric expressions that were produced in the metaphor writing posttest by learners in the CG-1 and the MG-1 in Study 1

In addition, in terms of the overall metaphor density, the learners in the CG-1 used the taught metaphoric expressions 9.5% of their overall use of metaphoric expressions. On the other hand, 21.8% of the metaphoric expressions used by the

learners in the MG-1 were the taught metaphoric expressions. These examples show the use of the taught metaphoric expressions by participants from the CG-1 and the MG-1:

(13) Words cannot describe the gloomy and dark days I've been through.
(CG-1-14)

(14) She had dark days without her family. (MG-1-13)

Lastly, the statistical results suggest that teaching metaphoric expressions through the conceptual metaphor awareness-raising activities could have aided the participants to use the metaphoric expressions in writing. However, with the absence of a pretesting measure, it would be difficult to determine that this result is due to the conceptual metaphor awareness intervention. In other words, learners in the MG-1 could have had previous knowledge of the metaphoric expressions which is why they performed better in the writing posttest. Section 4.6 discusses the implications of this and proposes a modification for it in the following studies of this thesis.

4.5.2. The non-elicited metaphoric expressions

This section explores the metaphoric expressions in terms of whether they were elicited or not. Since only 9.5% of those produced by the learners in the CG-1 and 21.8% of those produced by the learners in the MG-1 were taught metaphoric expressions, I explored what kinds of other metaphoric expressions they produced. There were two types of non-elicited metaphoric expressions: the first involved metaphoric expressions that were extended from the same domains, henceforth similar metaphoric expressions. As stated in Section 4.4.3, these were not taught to the learners but were related to the four conceptual metaphors HAPPINESS IS UP, HAPPINESS IS LIGHT, SADNESS IS DOWN, and SADNESS IS DARK. The second were metaphoric

expressions from other domains, henceforth untaught metaphoric expressions. Figure 4.3 illustrates the percentages in the use of taught, similar and untaught metaphoric expressions by the CG-1 and MG-1:

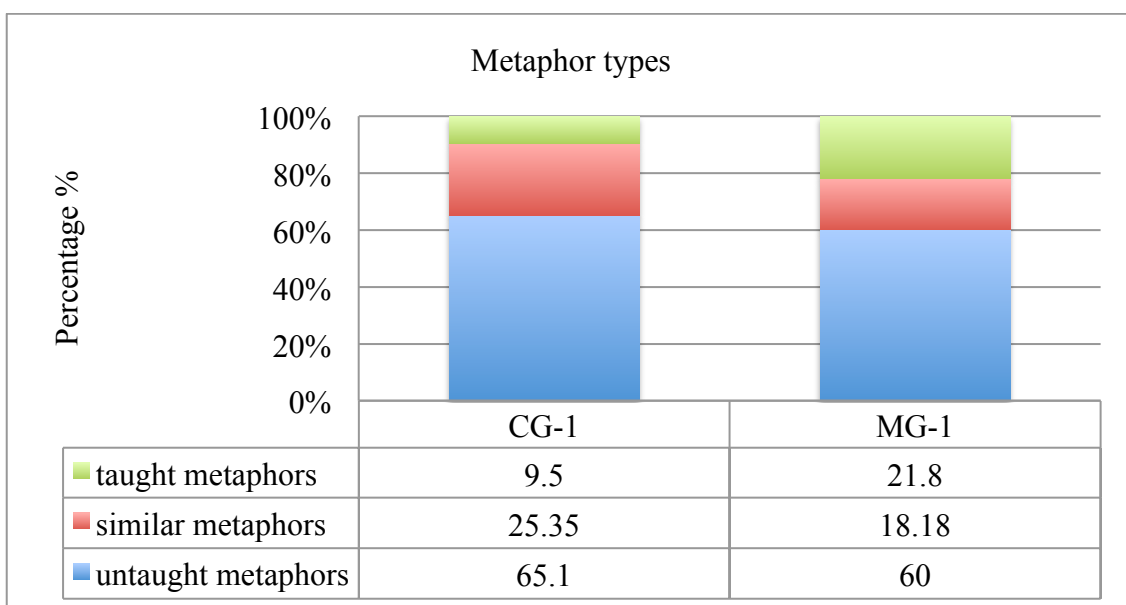


Figure 4.3: Percentages of the types of metaphoric expressions produced by learners in the CG-1 and the MG-1 in the writing posttest of Study 1

Figure 4.3 shows that 65.1% of the metaphoric expressions used by the CG-1 were not taught and did not appear to be extended from the four addressed conceptual metaphors. This is more than the MG-1 who employed untaught metaphoric expressions in 60% of instances. The same pattern appeared with the metaphoric expressions that were extended from the addressed conceptual metaphors. The learners in the CG-1 used 25.35% metaphors related to the four conceptual metaphors than the MG-1 who only used 18.18%.

Since the learners in the MG-1 used more of the 20 taught metaphoric expressions than those in the CG-1 it is understandable that the latter group used more non-elicited metaphoric expressions. Even though the CG-1 did not use the taught metaphoric expressions, 25.35% of these involved extensions from the four conceptual metaphors. This suggests that even though the interventional teaching session for the CG-1 did not promote awareness of the conceptual metaphors in an overt and direct manner, they still employed the source and target domains in their writing, for example:

(15) I saw this light of hope illuminating my thoughts through the dark broken and black window. (CG-1-15)

(16) I felt really disappointed but the truth should light someday soon. [*sic*]
(MG-1-8)

In example (15), the learner from the CG-1 described hope as a ray of light that would take away sadness. There appears to be a case of mixed metaphor clusters within this sentence which involves extensions of the domains of light and darkness to describe the domain of hope. Another extension of domains is noted in example (16) from participant MG-1-8 where she extended the domain of light to describe the truth.

As to the metaphoric expressions that were drawn from other domains, some of the learners from both groups described life in terms of a journey, for example:

(17) If I were in her place I would start over and let go of the past. (CG-1-11)

(18) I began a new life and killed the old one. I did not feel sorry at all. [*sic*]
(MG-1-9)

The metaphoric expressions in (17) and (18) are motivated by the conceptual metaphor LIFE IS A JOURNEY. The presence of this conceptual metaphor is perhaps due to the type of the task as the learners were asked to describe their emotions with regards to an old life and a new life, something which could elicit this type of metaphor.

Lastly, even though the learners from the MG-1 produced more taught metaphoric expressions the learners in the CG-1 appear to have extended the taught conceptual metaphors more than the other group.

4.6. Discussion

This chapter has described Study 1, a small exploratory study performed with 29 Saudi EFL learners. In this concluding section I discuss the results and their implications for the following studies in this thesis. First, it is important to note that Study 1 was carried out through a proxy at KAU while I was present at the University of Birmingham. Although instructions were provided to the teacher who performed the study there is no guarantee that the treatment of the CG-1 and the MG-1 was accurate. To avoid this possibility I conducted the following experimental studies in person.

Second, in terms of the taught metaphoric expressions, participants in the MG-1 employed more expressions than the CG-1. In reference to Section 4.5.1, statistical analysis revealed a highly significant difference between the groups ($p = .008$) with a medium effect size. This significant difference indicates that the teaching of metaphoric expressions through conceptual metaphor awareness appears to be more effective compared to semantic clustering. However, we should keep in mind two issues. First, the taught items consisted of 20 metaphoric expressions and participants from the CG-1 and MG-1 used a limited number of them in their writing (Means: 0.40 and 1.28 respectively). In addition, the absence of a pretesting measure may call into question the level of improvement in the learners' writings and it is difficult to determine the causes for this low metaphor use. There is a possibility that the difference between the CG-1

and the MG-1 was due to a difference in language level rather than the interventional teaching variable. Again, to avoid this possibility in the following studies of this thesis I employed pretesting measures for all administered tests. With regards to the non-elicited metaphoric expressions examined in Section 4.5.2, even though the CG-1 used the taught metaphors in 9.5% of the cases, 25.35% of the non-elicited metaphoric expressions were related to the domains of the taught metaphors. This suggests that learning metaphoric expressions without awareness of the conceptual metaphors may have had an implicit effect on their use of those domains.

In conclusion, Study 1 explored whether the explicit teaching of metaphoric expressions would be suitable for learners in the EFL context of KAU. The study suggests that conceptual metaphor awareness could aid the learning of conventional metaphoric expressions. However, because Study 1 did not have a pretesting measure, it is difficult to say with certainty that employing conceptual metaphor awareness has aided the learners' production of taught metaphoric expressions. The following Study 2 which is discussed in Chapter Five systematically integrates conceptual metaphor awareness-raising activities in a task-based teaching approach and it makes up for the shortcomings of this exploratory study by employing pretesting measures for its two tests.

CHAPTER FIVE
CONCEPTUAL METAPHOR AWARENESS IN A TASK-BASED SETTING
WITH SAUDI EFL LEARNERS
STUDY 2

5.1. Introduction

The pervasiveness of metaphor in language and thought means it is crucial for language learning programmes to integrate the teaching of metaphoric expressions systematically into EFL/ESL teaching materials. Low (2008) and Littlemore and Low (2006a) have suggested employing communicative language teaching methodologies such as Willis and Willis' (2007) Task-Based Language Teaching (TBLT) to carry out the conceptual metaphor awareness-raising activities in EFL/ESL. This is because TBLT involves communicative and goal-oriented tasks that engage learners in naturalistic language-use (Willis & Willis, 2007) which can aid with the understanding of metaphoric expressions in context. Study 2 in this chapter investigates whether increasing awareness of conceptual metaphor through TBLT would facilitate the understanding and the 2-week retention of metaphoric expressions in Saudi EFL classrooms.

Study 1 which was outlined in Chapter Four shed light on the use of metaphoric expressions related to happiness and sadness in the writing of Saudi female learners after an interventional teaching session based on conceptual metaphor awareness. Its findings suggested that language learners could gain some cognitive benefits from awareness-raising activities based on conceptual metaphor theory as

opposed to semantic clustering. However, the interventional teaching session consisted solely of an activity focused on the teaching of metaphoric expressions and did not integrate these metaphoric expressions into authentic tasks, which possibly dissociates them from everyday use. Second, the results indicated a significant difference between the metaphor group and the control group with a medium effect which is possibly because of the small number of participants (29 learners). Thirdly, the study did not employ a pretest which could in turn question the results of the posttest. Following on these issues, Study 2 takes a systematic approach to the incorporation of conceptual metaphor awareness-raising activities in the context of TBLT teaching methodology to further explore its impacts in the context of authentic language learning. In addition, it recruits a large number of 67 learners to better explore the impacts of conceptual metaphor awareness versus semantic clustering. It investigates their prior knowledge of the targeted metaphoric expressions through pretesting measures. It also investigates metaphor retention, because any vocabulary teaching method should promote not only the awareness of vocabulary senses but also their longer-term recall. As we saw in Section 2.4.4 of Chapter Two, little is known about how long the metaphoric expressions remain memorable after being taught through conceptual metaphor awareness-raising activities.

To address these issues, the aim of Study 2 is to promote awareness of the conceptual metaphor *TIME IS MONEY* in a 1-hour interventional teaching session that incorporated 17 metaphoric expressions into a TBLT-inspired lesson ‘the value of time’ and to observe the effects of conceptual metaphor awareness on the understanding and retention of these metaphoric expressions. The participants were upper-intermediate Saudi EFL learners. They were divided into a control group (CG-2) consisting of 30

students and a metaphor group (MG-2) consisting of 37 students. The interventional materials were designed to encourage conceptual metaphor awareness through the task-cycle by asking learners to fill a time-log (pre-task), solve time management problems by searching a magazine article on the importance of time (task-cycle), and practice metaphoric expressions (language focus) through different interventional treatments. While the intervention for the CG-2 focused on time management as a theme without making links to the conceptual metaphor, the intervention for the MG-2 focused on raising awareness of the source domain MONEY and the target domain TIME. The understanding of metaphoric expressions was tested through a pretest, posttest and 2-week delayed test in the form of cloze tasks. The study also gathered the participants' feedback with regards to their satisfaction with learning metaphoric expressions through TBLT methodology.

Chapter Five develops as follows: In Section 5.2 I reiterate what I mean by conceptual metaphor awareness and provide a background on TBLT and the need to shed light on learner evaluations of metaphor teaching techniques. Then, I outline the sub-research questions this chapter aims to answer in Section 5.3 and discuss the methodological issues of participant selection, design of treatment, and testing materials in Section 5.4. In Section 5.5 I present the analysis of results in terms of the learners' use of the taught metaphoric expressions, their use of metaphoric expressions other than those targeted and their attitudes towards the TBLT-inspired metaphor teaching methodology. I conclude with Section 5.6 which discusses the results and their implications for this thesis.

5.2. Rationale

As a helpful reminder of the issues discussed in Chapter Two and Chapter Four, Section 5.2.1 provides a brief overview of conceptual metaphor awareness and semantic clustering. After this, Section 5.2.2 discusses the importance of learners' evaluations of the teaching of metaphor and Section 5.2.3 discusses the use of Willis and Willis' (2007) TBLT to teach metaphoric expressions in language learning classrooms.

5.2.1. *Promoting awareness of the conceptual metaphor TIME IS MONEY*

In this study, conceptual metaphor awareness is employed as a tool to teach metaphoric expressions through a task-based teaching approach. As illustrated in Section 2.4 and Section 4.2.1, conceptual metaphor awareness involves raising awareness of the source and target domains of the conceptual metaphor through guessing strategies and repetition. Semantic clustering, on the other hand, involves teaching the metaphoric expressions without making links to their conceptual metaphors, and this is generally the teaching technique used in Saudi university EFL classrooms.

The studies described in Section 2.4.4 (e.g. Boers, 2000b; Boers, Eyckmans & Stengers, 2006; Skoufaki, 2008) which employed conceptual metaphor awareness have indicated highly significant differences between the metaphor groups and control groups in immediate posttests. What these studies lack, for the time being, is a focus on the possible drawbacks with regards to retention for teaching metaphoric expressions via conceptual metaphor awareness. So, Study 2 employed a 2-week delayed test to

investigate whether participants would retain the metaphoric expressions, after they had been taught.

The conceptual metaphor used as a theme for teaching in Study 2 is TIME IS MONEY which was selected partly because of its semi-universal nature. Section 3.2 in Chapter Three has discussed how conceptual metaphors are brought about by more primary metaphors (Grady, 1997) which connect target domains to more concrete images as source domains. In the case of TIME IS MONEY, Grady explained that it is motivated by the more primary metaphor OPPORTUNITIES ARE RESOURCES, and it is a primary metaphor that tends to be shared by different languages, among them English and Arabic. Comparative research (cf. Hamdi, 2008) on time metaphors showed that time tends to be conceptualized as something valuable in English and Arabic as well, which is the participants' L1. While this study uses the conceptual metaphor TIME IS MONEY as a theme for teaching, the main concern here is the 17 metaphoric expressions which range from nouns, verbs, collocations, lexical phrases, etc. chosen for the teaching. Section 5.4.2 continues with the details on the selection criteria employed in Study 2.

5.2.2. Learner evaluations of conceptual metaphor awareness

While figurative language teaching research has explored several teaching methodologies that promote awareness of metaphor, research is scarce with regards to the perceptions of learners with regards to these approaches. To this end, Juchem-Grundmann and Krennmayr (2010) emphasized the fact that the way in which learners evaluate metaphor teaching methodologies is one of the factors that would determine its

success or failure, meaning that conceptual metaphor awareness needs to have ‘face-validity’ in order to be fully effective in the language classroom. They indicated two issues that could undermine the face-validity of conceptual metaphor awareness-raising activities. The first is that the learners could question the efficiency of being made aware of conceptual metaphors by considering it a waste of precious class time or questioning how would this awareness help them during real communicative situations. The second is that the learners could fail to see how learning about linguistic metaphors might help their L2 acquisition.

To investigate these issues, Juchem-Grundmann and Krennmayr (2010) performed a pilot study with 32 Business English learners who were divided into a control group and a metaphor group. They conducted oral interviews with the learners after the interventional teaching session. The learners in the metaphor group reported that they found decoding the relationship between the source domains and the metaphoric expressions exciting and asked to learn through conceptual metaphor awareness in the following course as well. The evaluations from the metaphor group were highly positive and they even called the approach creative. However, it is possible that the reason behind their positive evaluation was that they liked the course and the teaching materials more than the control group especially that the researchers did not shed light on the perceptions of the control group in their study. If the evaluations from the control group were equally positive this would indicate that learning metaphoric expressions with or without conceptual metaphor awareness would be enjoyed by learners.

To my knowledge, the only other study that has shed light on learners’ evaluation of conceptual metaphor awareness is Li’s (2002) experimental studies.

Throughout his five experimental studies, Li asked 385 EFL learners to evaluate their respective teaching methodologies (i.e. conceptual metaphor awareness, image schema awareness and semantic clustering). He developed a Likert-scale questionnaire which he gave to the learners after the interventional teaching sessions and test materials. The questionnaire results indicated that they found the image schema approach the most favourable because it involved the use of schematic images which left room for imagination. The second favourable teaching method was conceptual metaphor awareness because it linked the metaphoric expressions with their conceptual metaphors. Semantic clustering was the least liked teaching technique because it did not provide an opportunity for imagination or creating links between the metaphoric expressions. Li's evaluation questionnaire is important for Study 2, Study 3 and Study 4 of this thesis because the evaluation questionnaire developed for this thesis relies in part on Li's Likert-scale questions. Section 5.4.5.2 describes the design of the quantitative and qualitative questions in the evaluation questionnaire for Study 2.

5.2.3. Task-Based Language Teaching (TBLT)

Before going further into the design of the interventional teaching session, this section offers an overview of Willis and Willis' (2007) TBLT methodology and the benefits it offers for conceptual metaphor awareness. I chose TBLT as a teaching methodology for this experimental study for the following reasons. First, Boers and Lindstromberg (2008) discussed how experimental classroom studies on conceptual metaphor awareness focus on improving vocabulary acquisition because the learning of vocabulary is a key factor in language proficiency. Proficiency is also a key element in TBLT as it teaches the L2 in context. In addition, Low (2008) recommended employing

TBLT because of its emphasis on the noticing of forms through the task-cycle, as it would integrate metaphoric expressions into real-life tasks, thereby making them more accessible to learners in authentic situations. Also, the TBLT methodology promotes recycling and repetition, which can aid with making learners familiar with the vocabulary items before explicitly addressing them. Another reason for choosing TBLT methodology for teaching metaphoric expressions is to bring together the theories of metaphor with the needs of teaching practitioners. There have been recent attempts to put metaphor research into practice, but it is yet to be fully integrated into formal EFL/ESL teaching programmes. However, the benefits of TBLT methodology would vary according to individual differences within learner-groups, affective factors, suitability of teaching materials, and the institution where the teaching takes place (Willis, 1996).

Researchers in favour of TBLT (cf. Willis, 1995; Willis & Willis, 2007) have argued that the most effective way to teach language is through real-life contexts that engage learners in communicative tasks. The definition of tasks adopted in this study follows Willis (1990, p. 127) who identifies a task as “an activity which involves the use of language but in which the focus is on the outcome of the activity rather than on the language used to achieve that outcome”. Tasks involve an exchange of meanings to reach a common goal. Applying this to the design of interventional teaching session of this study, the teaching unit ‘the value of time’ follows an approach in which TIME IS MONEY metaphoric expressions are incorporated into the general theme of time management.

The task-type adopted for this study is a problem-solving task in which learners seek advice for their time management problems. Willis (2003) explained that

problem-solving tasks have an independent goal from the language used to achieve it. Learners in a problem-solving task explore a problem and search for advice and recommendations in order to resolve it. These kinds of tasks draw learners' attention to the communicative uses of the vocabulary and stimulate discussions and proposals for solutions (Willis & Willis, 2007). By embedding the target metaphoric expressions in a problem-solving task, learners become exposed to the real world applications of these vocabulary items. Figure 5.1 (a photocopiable version from Willis, 1995, p. 38) illustrates the components of the TBLT lesson plan and Section 5.4.4 elaborates on these components in light of Study 2:

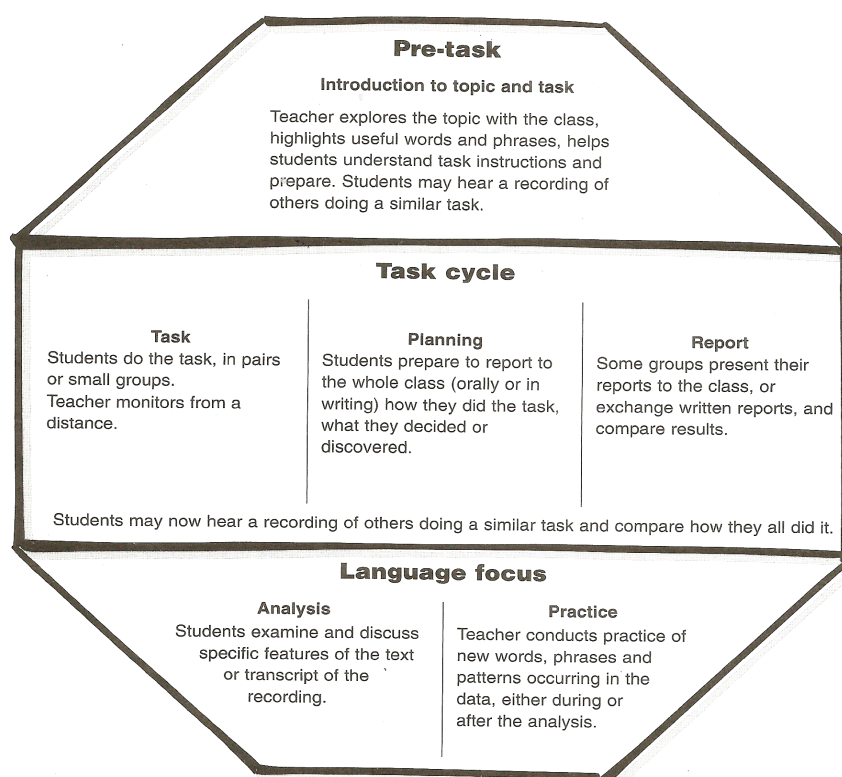


Figure 5.1: Components of the TBLT lesson plan, reproduced from Willis (1995, p. 38)

5.3. Research questions

As discussed in Section 1.3 of Chapter One, Research Question One examines the effects of conceptual metaphor awareness on Saudi EFL learners over semantic clustering and it is:

RQ 1: How do the female Saudi EFL learners respond to awareness-raising activities to the teaching of metaphoric expressions when these activities are based on conceptual metaphor awareness versus semantic clustering?

As part of the analysis for Research Question One, Study 2 investigates whether conceptual metaphor awareness in a TBLT context could facilitate the understanding and retention of 17 metaphoric expressions as opposed to learning them through semantic clustering. The TBLT interventional teaching session on ‘the value of time’ incorporated metaphoric expressions motivated by the conceptual metaphor TIME IS MONEY into the task-cycle. The treatment for the control group (CG-2) only focused on the theme of time management, while the intervention for the metaphor group (MG-2) involved raising awareness of the source and target domains of the conceptual metaphor. The study also explores the participants’ evaluations of the TBLT teaching methodology for learning metaphoric expressions. The analysis of the quantitative and qualitative data was performed in order to answer the following sub-research questions:

5.3.1. What are the differences in the levels of retention of the 17 taught metaphoric expressions prior to and after the interventional teaching session in the pretest, the posttest, and the 2-week delayed test of the Saudi learners in the control group (CG-2) and the metaphor group (MG-2)?

- 5.3.2. In what ways does the teaching of metaphoric expressions affect the Saudi learners' use of metaphoric expressions other than those taught to the CG-2 and the MG-2?
- 5.3.3. How do the Saudi learners from the CG-2 and the MG-2 perceive the teaching of metaphoric expressions through TBLT?

5.4. Methodology

This study followed an experimental approach in testing the efficiency of TBLT as a teaching methodology to promote conceptual metaphor awareness. The experiment took place during term time at the ELI at KAU and I travelled to Saudi Arabia conduct it in person. It consisted of a pretest, a TBLT interventional teaching session, a posttest, a 2-week delayed test, and an evaluation questionnaire with learners in the CG-2 and the MG-2. In this section, I discuss the participants of the main study (Section 5.4.1), the selection of metaphoric expressions (Section 5.4.2), the experiment timeframe (Section 5.4.3), the design of the interventional teaching session (Section 5.4.4) and the design of the tests and evaluation questionnaire (Section 5.4.5).

5.4.1. Participants

As discussed in Section 1.2 of Chapter One, the participants were two upper-intermediate EFL classrooms from KAU who were females between the ages of 18 and 21. Classroom A consisted of 48 students and Classroom B consisted of 45 students. During the introductory meeting with the learners I informed them that their personal information would be kept confidential and that they had the right to withdraw from the

study at any time (please see Appendix B1 for the consent form). The learners from both groups were under the impression that they were participating in an experiment for a new vocabulary teaching method that might help them learn new lexical items, thus shifting the focus away from metaphors and allowing for naturalistic language learning. 42 learners from Classroom A and 44 learners from Classroom B gave their written consents to participate in the study. They all had different EFL learning backgrounds ranging from six to 12 years of studying English (e.g. independent courses, home-use, travelling abroad, etc.). However, four weeks prior to the experiment, they had taken the OOPT exam which placed them at the B2 CEFR intermediate level. I randomly assigned Classroom A as the CG-2 and Classroom B as the MG-2. After the study, I excluded students who did not take part in one or more of the experiment items: the pretest, the interventional teaching session, the posttest, the 2-week delayed test or the evaluation questionnaire. The final number of participants consisted of 30 students in the CG-2 whose mean age was 19.54 and 37 students in the MG-2 whose mean age was 19.75.

As it was difficult to control for participants apart from gender and language level, I evaluated the normality of distribution of the participants' answers in the pretest, the posttest and the 2-week delayed test. Before running the parametric Independent Samples T-Test, I checked the histogram plots of the metaphor test scores of the learners in the CG-2 and the MG-2. The histogram plots seemed to follow a normal pattern of distribution and were shaped in a bell-curved shape so I did not exclude any of the participants from the two groups as outliers.

As per the ethical approval for conducting the experimental studies of this thesis, participants were made aware that their participation in this experimental study

would not count towards their course work. They were also made aware that their names would be collected during the testing stage but kept confidential during the analysis stage. This is because the analysis would be based on the progress of individual students and the presence of their names would prevent errors in comparison. Also, the ethical approval for this research project advised to have an equal treatment between the experimental and control groups. To do this, I went back to the learners in the CG-2 after the study was concluded and presented them with the same interventional teaching session given to the MG-2.

5.4.2. Selection of metaphoric expressions

Section 2.4.3 has offered a lengthy discussion of the selection criteria for the lexical phrases and collocations selected for this thesis. In short, based on the criteria provided by Boers and Lindstromberg (2008) and Boers, Deconinck, and Lindstromberg (2010), I chose metaphoric expressions of similar levels in terms of coverage, range, usefulness, and relevance. However, they varied with regards to difficulty and frequency. In making the choice for frequency, I referred to the BNC and chose time collocates of over 2.00 frequency band T-score. The minimum frequency band-score was T-score 2.41 for '*buy some extra time*', which is high enough to constitute a collocate but not as high as T-score 48.37 for '*spend time*'.

At the piloting stage, I prepared a list of 36 metaphoric expressions from the conceptual metaphor TIME IS MONEY from Wright's (1999) *Idioms Organizer* and Lazar's (2003) *Meanings and Metaphors*. Then, I checked for conventionality by referring to the BNC and the Macmillan Online English Dictionary. I excluded seven

expressions that were not mentioned in both sources with the same metaphoric meaning. I also excluded four expressions because they were close in range to other metaphoric expressions in the list. I then piloted the experiment using 25 metaphoric expressions with 26 EFL students from the same university and six British speakers. Based on the results of the pilot, I excluded the least answered eight expressions. The final list consisted of the most correctly answered 17 metaphoric expressions. Table 5.1 details the final set included in the study and their frequency in the BNC:

Metaphoric expression	BNC T-score	Metaphoric expression	BNC T-score
spend time	48.37	save time	16.27
waste time	29.82	afford time	2.23
worth your time	24.25	amount of time	20.15
make every second count	2.42	invest your time	6.22
buy some extra time	2.41	lost time	7.69
plenty of time	18.18	short time	34.45
rewarding experience	5.157	run out of time	6.78
spare time	21.37	valuable time	7.14
a waste of time	20.08		

Table 5.1: Metaphoric expressions in Study 2 and their frequencies in the BNC

5.4.3. *Experiment timeframe*

The study was designed as a 4-week experiment to run at the beginning of a 7-week teaching module at the ELI. Table 5.2 illustrates the timeframe for each of the participant groups:

	Control group (CG-2)	Metaphor group (MG-2)
Week 1	Consent form Metaphor pretest	
Week 2	The pre-task: time log and interview questions (15 minutes)	
	The task-cycle: reading an article for advice on time management (25 minutes)	
	The language focus: teaching 17 metaphoric expressions via the theme of time management (20 minutes)	The language focus: teaching 17 metaphoric expressions via conceptual metaphor awareness (20 minutes)
	Metaphor posttest	
Week 3	Evaluation questionnaire	
Week 4	Metaphor 2 week-delayed test	

Table 5.2: Timeframe for Study 2

With reference to Table 5.2, in week one the learners were introduced to the aims of the experimental study and signed a consent form. Those who agreed to participate took a 15-minute pretest to check their knowledge of metaphoric words. In week two, the learners in the CG-2 and the MG-2 underwent the interventional teaching session. The TBLT intervention involved the lesson ‘the value of time’ and took 60 minutes of instruction for each group. Immediately after the session both groups were given the 15-minute posttest. In week three, they filled the 10-minute evaluation questionnaire in which they provided their opinions on learning vocabulary through a task-based approach. Two weeks after the interventional teaching session the learners received the 2-week delayed test which also took 15 minutes to complete. Section 5.4.4 discusses the design of teaching materials for each participating group.

5.4.4. Interventional teaching session

The design of the interventional teaching materials followed Willis' (1996) TBLT methodology. The teaching materials for the CG-2 and the MG-2 are provided in Appendices B1 to B5. I designed two sets of teaching materials, one to be taught to the learners in the control group (CG-2) and the other for the learners in the metaphor group (MG-2). All the interventional teaching materials were piloted with 26 EFL students from the same university as well as six British speakers and modified accordingly. The piloting aimed to determine whether the interventional teaching worked and to discover possible limitations or problems while conducting the study. The results of the piloting sessions indicated that the lesson plan was effective and that the materials can be delivered in a 1-hour session. The participants of the piloting sessions suggested providing example answers for each of tasks. Also, as suggested by the TBLT teaching instructions, the six British speakers were asked to voice-record their sessions so that the learners in the main experiment would listen to these recordings and see how the exercises could be answered.

Both lesson plans for the CG-2 and the MG-2 followed the same TBLT methodology and involved the lesson 'the value of time' which was aimed at teaching the 17 metaphoric expressions in Table 5.1 related to the conceptual metaphor TIME IS MONEY (please see Appendix B3 for a copy of the lesson). The theme of the lesson was inspired by the learners' possible needs as foundation year university students who struggle with managing their time. Additionally, as discussed in Section 5.2.1, the theme feeds into the conceptual metaphor TIME IS MONEY. The theme was also related to the language lessons the students were covering during the weeks of the experiment, which included topics on education and employment. In accordance with the ethical

considerations for this thesis, I ensured that the quality of teaching received by the CG-2 and the MG-2 was the same. The difference in treatment between the two groups was only in their approach to the understanding of the metaphoric expressions during the ‘language focus’ stage.

In the process of designing the materials for the study for both groups I referred to the following resources for task design: Wright’s (1999) *Idioms Organizer*, Lazar’s (2003) *Meanings and Metaphors*, the BNC, news articles from *The Huffington Post Online*, and various blogs on time management. The interventional materials were designed to emphasize the communicative function of the metaphoric expressions and encourage conceptual metaphor awareness through the TBLT task-cycle. The 1-hour lesson consisted of three goal-oriented stages: the pre-task, the task cycle and the language focus. This section overviews each stage carried out with the CG-2 and the MG-2. As the difference between the two groups occurred at the last stage of the lesson I discuss them together here and make reference to any differences between the treatments of each group when that occurs.

In the pre-task stage, I introduced the lesson to the learners in the CG-2 and the MG-2 by talking about the significance of time. They were asked to fill out a time-log and interview each other about problems which they had with time management. The purpose of this was to uncover their time management problems and prepare for the main task. The pre-task stage lasted for 15 minutes. I did not highlight the new metaphoric expressions at this stage.

Following the pre-task was the task-cycle stage which consisted of the problem-solving task, the planning stage and the reporting stage. The task cycle continued for 25 minutes. Starting with the problem-solving task, this was designed so

that learners would achieve a real outcome of finding time management advice. The pre-task aimed at revealing their problems with time management as noted above. In the main task, they searched for time management solutions in a magazine article entitled ‘*Dear student: You have more time than you think*’. I compiled this article from materials taken from The Huffington Post Online and online blogs on time management so it was only in part an authentic magazine article. I made sure it would introduce metaphoric expressions of time in a way that suited the intermediate level of the learners. The article is rich with metaphoric expressions derived from the metaphor TIME IS MONEY, amongst which are the 17 metaphoric expressions to be explicitly taught at the language focus stage. To make sure the reading article still sounded authentic I asked two British speakers to edit it for fluency and authenticity. These are the first lines of the article:

Dear student: You have more time than you think

From the first day of college, we are told to do our assignments on time, to not waste any precious time, to go to class on time, to invest our time in things that matter... etc. Such sayings give a sense that time is valuable, and how we must spend it well. The problem, however, is that freshman college students usually feel frustrated by the fact that they do not have enough time for school and family, let alone sleep or eat!

During the lesson, I instructed the two groups to read the article and to search for advice that could help them with their time management issues. The learners in the CG-2 were asked to underline words relating to time without any reference to the source domain of money. The MG-2 learners, on the other hand, were asked to underline words and phrases that had to do with time or money (e.g. *to not waste any precious time*).

In the planning stage the learners carried out a communication task in pairs

using the language they already have to discuss their findings from the magazine article. In the post-task listening activity they listened to two British speakers doing a similar task and compared their answers with those of the British speakers. Having focused on the speakers' language, the students were able to reflect on their answers and then go back into the task cycle to modify their answers accordingly. In the reporting stage, each pair shared their time management advice on the best methods to manage their time with the rest of the class.

The last stage was the language focus stage which consisted of the analysis phase and the practice phase. This stage put the emphasis on metaphoric expressions and it ran for 20 minutes. In the analysis phase, the learners in the CG-2 and the MG-2 received explicit instruction on the 17 metaphoric expressions of time through two different interventional treatments. The CG-2 learners dealt with the metaphoric expressions through the theme of time management, meaning that I did not make references to the domain of money or the idea of conceptual metaphors. Instead, I explored the meanings and contexts of the phrases for time. The instructions to the CG-2 were as follows:

When we think of time in English, we think of how valuable it is and what we can do to save it. We say things like *I cannot afford to lose any time*, *I ran out of time*, and *we should make every minute of our day count*.

In contrast, the teaching delivered to the learners in the MG-2 was designed to promote awareness of the conceptual metaphor by having the learners make connections to the conceptual motivation and the literal meanings of the target metaphoric expressions. The MG-2 learners identified the words and phrases in the reading that might be useful in describing time. I then explained the idea of conceptual metaphors

and raised the learners' awareness of the source domain MONEY and its relation with the target domain TIME for these lexical items. This was accomplished with the following explanation which was based on conceptual metaphor interventions provided by Juchem-Grundmann (2009) to German Business English learners:

English is full of metaphors, which means that words and phrase for one concept are used to explain other concepts. In English, '*time*' is described as '*money*'. It is *valuable, saved, spent, wasted and lost*. When we think of time, we usually think of it in terms of a valuable commodity. For example: *We need to buy more time for our assignment*. Due to the underlying metaphor TIME IS MONEY, many of the words we use with *money*, we also use with *time*.

The learners in the MG-2 were then asked to guess the relationship between time and money and each of the vocabulary items. Lastly, in the practice phase, both groups did pair-work on multiple-choice activities to practice the metaphoric expressions. This gave them the opportunity to recycle the vocabulary in light of the time management theme for the CG-2 and in light of conceptual metaphors for the MG-2.

5.4.5 Metaphor tests and evaluation questionnaire

This section discusses the design and method of analysis of the metaphor cloze tests followed by the evaluation questionnaire. The cloze tests and evaluation questionnaire are provided in Appendices B2 to B5. The cloze metaphor pretest, posttest and 2-week delayed test as well as the evaluation questionnaire were piloted with the previously mentioned 26 EFL students and six British speakers and modified accordingly.

5.4.5.1. Metaphor cloze tests

To test the students' use of the 17 metaphoric expressions I designed two cloze tests with missing metaphoric expressions, the first to be given as a pretest and again as a 2-week delayed test (please see Appendix B2 for a copy of the pretest and the 2-week delayed test) and the second as a posttest (please see Appendix B4 for a copy of the posttest). The cloze tests aimed to test the development in the learners' metaphor understanding and retention skills. They were designed in a way that did not flag up to the participants that the taught metaphoric expressions were being tested to allow a natural linguistic production. So, they hedged the 17 expressions taught to the students by having half of the metaphoric collocate or the phrase as a keyword before the blank. The tests were piloted multiple times to ensure they were of a similar level and that they did hedge the target metaphoric expressions. The following is a sample of the first lines of the pretest:

A working mom story

I've been a teacher for 10 years. I used to love my job but now I wish I could quit. Being a teacher means that you have to take your work home with you, but I can't do that because I have four children and I want to (1) _____ time with them too. My kids are Tommy and Jimmy (10 years), Sara (6 years), and little Bobby (3 years). I am always running (2) _____ on time at work and at home and I feel guilty.

Each test took 15 minutes to answer. During the tests, students were instructed to answer what felt right to them without worrying about grammar or spelling. The reason for this is because they were intermediate level learners, and I did not want concerns over grammar or spelling to hinder their answers on the tests.

To prepare the data for analysis, I coded the answers to the tests following these general rules. First, I disregarded errors in verb tense or spelling (e.g. *I can't found the time to be with them*). In cases where the learners filled a blank with two choices, I coded the more correct answer.

Second, I coded the pretests, the posttests and the 2-week delayed tests in terms of two categories: intended (taught) metaphoric expressions and other correct metaphoric expressions. To illustrate the items in each category, the taught metaphoric expressions include the 17 metaphoric expressions in Table 5.1 that the lesson promoted and the test was built around. For example, this sentence in the pretest hedged the verb phrase 'to invest time': '*I (10) invest a lot of hours in my career at the expense of my family*'.

The second category of other correct metaphoric expressions includes instances where learners filled the blanks with other words that can be considered metaphorical. For example, in the pretest the learners were asked to fill in the blank '*I sometimes try to (9) _____ a couple of extra hours by waking up at 4:00 am to have a head start on the day*' with the verb 'buy'. Instead of *buy*, some participants filled the blank with the verbs '*spare, add, make, take, have, get*' and '*invest*' which also carry metaphoric connotations. To decide between these instances, I followed two rating criteria. First, I followed the inter-rater reliability procedure from the Praggeljaz Group's (2007) MIP. After performing the rating independently, I had another metaphor researcher look at the learners' answers that were not taught to them and rate whether these answers make for possible correct metaphoric expressions or not (codes were 1 for metaphoric expressions and 0 for non-metaphoric expressions). I then compared the two independent ratings of the possible other correct metaphors using Cohen's Kappa. The

test revealed that agreement between the scores of the two raters in the pretest was 95%, with a Kappa score of 0.78 at ($p = 0.000$), in the posttest it was 95.5%, with a Kappa score of 0.79 at ($p = 0.000$), and in the delayed test it was 97%, with a Kappa score of 0.81 at ($p = 0.000$). The first two Kappa results suggest that the agreements between the scores of the two raters are substantial and the third suggests that the agreement is almost perfect (Landis & Koch, 1977). These scores suggest that the two raters generally agree in their opinions as to which collocates were potentially metaphoric or not, and that this agreement is statistically significant. After this, we discussed instances we did not agree on until we reached an agreement on the different items. For example, the second metaphor rater considered ‘*add time*’ to sound unnatural. After taking this into consideration I removed ‘*add time*’ from the list of other correct metaphoric expressions. Second, I checked the frequency of the remaining ‘*spare, make, take, have, get*’ and ‘*invest*’ collocations with time through the BNC. I considered collocations of a T-score of above 2.00 to indicate a statistically significant collocation and, therefore, to belong to the other correct metaphoric expressions category. Table 5.3 indicates the collocation frequency of *time* with the verbs ‘*spare, make, take, have, get*’ and ‘*invest*’ in all of the BNC:

Collocation	BNC T-score	Collocation	BNC T-score
get time	20.68	spare time	8.34
invest time	3.77	make time	1.85
add time	-3.02	take time	19.27
have time	3.65		

Table 5.3: Sample frequency of verb-time collocates

Based on the collocation frequencies in Table 5.3, I considered '*spare, take, have, get*' and '*invest*' as other correct metaphoric expressions. I then excluded '*make*' and '*add*' due to their low T-scores in the BNC and categorized them as incorrect.

To analyze the students' responses in the cloze metaphor tests, I ran a series of Independent Samples T-Tests which is the parametric statistical test for comparing two independent groups who appear to be normally distributed in the statistical package SPSS-20. The first group of analyses concerned the taught metaphoric expressions used in the pretest, the posttest and the 2-week delayed test. I ran the test for the use of taught metaphoric expressions between each individual test between the two groups. I then ran a second test for the difference in improvement between the pretest and the posttest (i.e. the posttest score minus the pretest score). The third test was to calculate the difference in improvement between the posttest and the 2-week delayed test (i.e. the 2-week delayed test score minus the posttest score). The results of these analyses are reported in Section 5.5.1. The second set of analyses concerned the other answers that were correct but were not taught to the learners. Again, I compared the learners' answers in the pretests, posttests, and 2-week delayed tests independently and then compared the differences in improvement between the pretest and the posttest, and between the posttest and the 2-week delayed test. The results of the second set of analyses are reported in Section 5.5.2.

5.4.5.2. Evaluation questionnaire

To explore if the teaching methodology had face-value the participants were also asked to fill out a 10-minute evaluation questionnaire (please see Appendix B5). I

designed the questionnaire to assess their perceptions of the new vocabulary teaching method. The questionnaire did not ask them directly about metaphor learning because they were under the impression they were learning new vocabulary rather than specific metaphoric expressions. Instead, it consisted of three parts. The first part concerned bibliographical questions on the participants' past EFL learning experience and age. The second part consisted of four open-ended questions which asked about the advantages, drawbacks and suggestions for improving the TBLT teaching methodology. The last part of the questionnaire consisted of five items employing a Likert-scale which were adapted from Li (2002). They ranged between (strongly agree= 5) and (strongly disagree= 1) and asked about the teaching materials, vocabulary learning and general satisfaction level.

The learners received an Arabic version of the questionnaire because I wanted them to express their opinions regarding the interventional teaching session freely without worrying about a language barrier. To make sure that the Arabic version of the questionnaire mirrored the original English version I used a double translation method. I first translated the English version into Arabic. A second person translated the Arabic version back to English. I then addressed the differences between the original version and the back-translated version and modified the Arabic version accordingly.

To analyze the closed questions of the questionnaire I calculated the means of the Likert-scale items. I then used an Independent Samples T-Test to compare between the ratings of the learners in the CG-2 and the MG-2. As to the open-ended questions, I first translated the evaluations into English. I then performed content analysis using the Nvivo package, in which I categorized the answers of each group according to codes. Following the recommendations of Dörnyei (2003), I reduced the diverse responses to a

handful of key issues by taking each response and marking the distinct key points. Based on this, I formed broader categories to describe the content of the responses and these categories are: positive evaluations, negative evaluations and suggestions for improvement. Section 5.5.3 reports on the results of both aspects of the questionnaire.

5.5. Data analysis

Study 2 employed an experimental approach to examine the effectiveness of teaching 17 metaphoric expressions through a teaching methodology based on Willis' (1996) TBLT. The Saudi learners in the CG-2 learned the metaphoric expressions in terms of 'the value of time' theme, while those in the MG-2 received the TBLT lesson paired with conceptual metaphor awareness. To compare the results of these two conditions, this section looks in detail at the results of the tests and evaluation questionnaire in terms of the sub-research questions presented earlier in Section 5.3.

5.5.1. The use of taught metaphoric expressions in the cloze tests

The learners from the CG-2 and the MG-2 answered the metaphor cloze tests with some of the taught metaphoric expressions. To compare between their understanding and retention in the metaphor pretests, posttests and 2-week delayed tests, I used a number of Independent Samples T-Tests. Table 5.4 illustrates the number of participants, the means, the standard deviations and significance values of the taught metaphoric expressions. Following this, Figure 5.2 illustrates the difference of means in the three tests:

	CG-2 - n= 30	MG-2 - n= 37	2-tailed significance
Pretest	M= .60 SD= .67	M= 1.16 SD= 1.3	$p= .027$
Posttest	M= 4.73 SD= 1.78	M= 8.68 SD= 1.82	$p= .000$ eta squared= .54
2-week delayed test	M= 2.17 SD= 1.89	M= 2.32 SD= 1.81	$p= .73$

Table 5.4: Study 2 statistics for pretests, posttest and 2-week delayed test

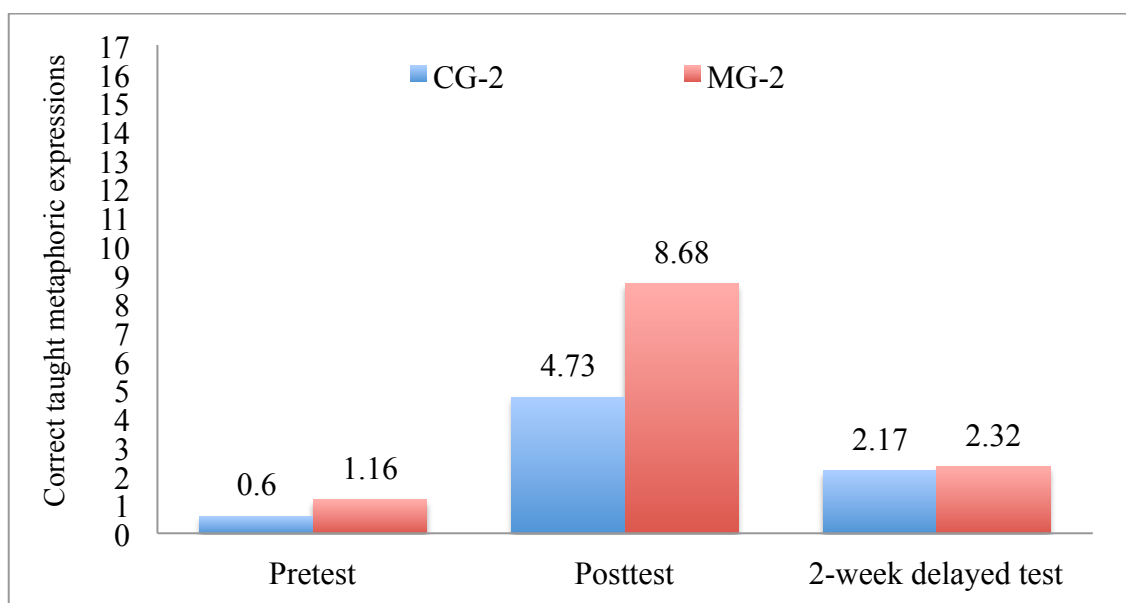


Figure 5.2: Means of the taught metaphoric expressions that were remembered in the cloze pretests, posttests, and 2-week delayed tests by learners in the CG-2 and the MG-2 in Study 2

Looking at Table 5.4 and Figure 5.2, the learners from the CG-2 received a mean score of ($M= .6$, $SD= .67$) in the pretest while the MG-2 received a mean score of ($M=1.16$, $SD= 1.3$) in their use of the 17 metaphoric expressions to be taught to them.

The significance value for the pretest may at first sight indicate a significant difference ($p = .027$) between the results of the learners in the CG-2 and the MG-2. However, since I performed the Independent Samples T-Test three times I applied the Bonferroni adjustment to avoid false positive results. I divided the alpha value by the number of tests ($0.05/3 = 0.017$) and treated 0.017 as statistically significant at the 0.05 level and I treated 0.003 as statistically significant at the 0.01 level ($0.01/3 = 0.003$). Therefore, the corrected significance value of the pretest ($p = .027$) indicates no difference between the CG-2 and the MG-2 before the intervention.

After the pretest, the MG-2 learners were given a teaching based on conceptual metaphor awareness as opposed to the CG-2 learners who received a metaphor teaching based on semantic clustering. After the interventional teaching session the results of the posttest in Table 5.4 indicate a highly significant difference ($p = .000$) between the posttest results of the CG-2 ($M = 4.73$, $SD = 1.78$) and the MG-2 ($M = 8.68$, $SD = 1.82$). This is supported with an effect size of ($\eta^2 = .54$) which according to Cohen (1988) is very large since it is more than ($\eta^2 = .14$). This result suggests that conceptual metaphor awareness has aided those in the MG-2 to understand the 17 metaphoric expressions better than semantic clustering with those in the CG-2. Figure 5.3 shows the detailed results for the CG-2 learners and the MG-2 learners in the posttest in a boxplot form:

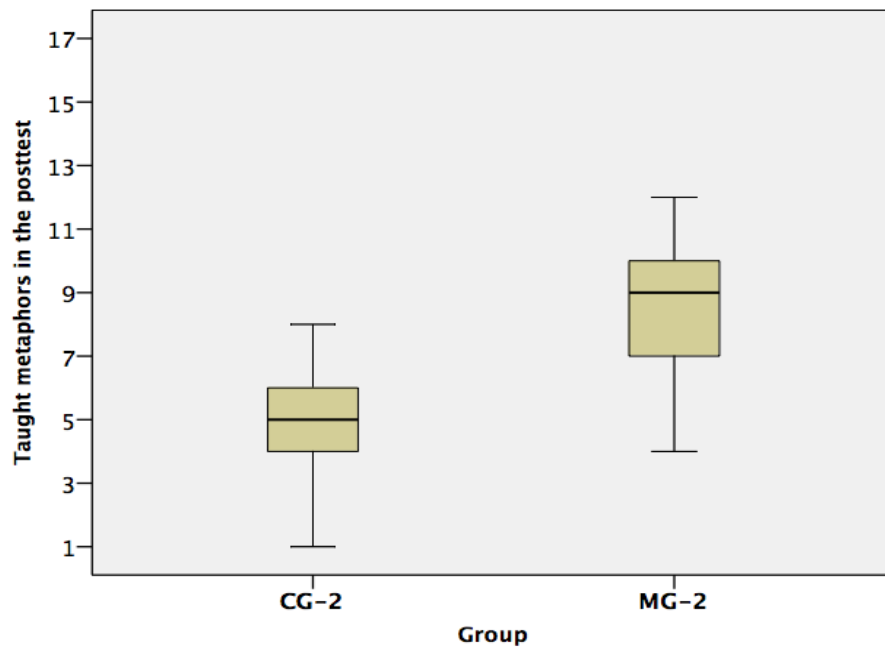


Figure 5.3: Means, medians and distributions of the taught metaphoric expressions that were remembered in the posttest by members of the CG-2 and the MG-2 in Study 2

However, two weeks after the interventional teaching session, a large drop in retention followed for the CG-2 and the MG-2. With reference to Table 5.4 and Figure 5.2, the Independent-Samples T-Test revealed that there is no difference ($p = .73$) between the CG-2 ($M = 2.17$, $SD = 1.89$) and the MG-2 ($M = 2.32$, $SD = 1.81$) in the 2-week delayed test. This indicates that conceptual metaphor awareness, though helpful as a teaching technique, did not aid the longer-term retention of the metaphoric expressions.

In addition to the previous analysis, I investigated the difference in improvement between the pretest and the posttest, and between the posttest and the 2-week delayed test through another set of Independent Samples T-Tests. Table 5.5 illustrates the means, the standard deviations and significance values of the difference in improvement between the CG-2 and the MG-2:

	CG-2 – n= 30	MG-2 – n= 37	2-tailed significance
Difference between pretest and posttest	M= 4.13 SD= 1.87	M= 7.51 SD= 1.98	$p= .000$ eta squared= .43
Difference between posttest and 2-week delayed test	M= -2.57 SD= -6.35	M= 2.34 SD= 1.7	$p= .000$ eta squared= .47

Table 5.5: Study 2 statistics for the differences in improvement

As Table 5.5 indicates, the difference in improvement between the pretest and the posttest is highly significant ($p= .000$) at the 0.01 level (Bonferroni adjustment ($0.05/2= 0.025$ - $0.01/2= 0.005$)). for the MG-2 (M= 7.51, SD= 1.98) as opposed to the CG-2 (M= 4.13, SD= 1.89). In other words, while the understanding of learners in the MG-2 improved since the pretest, the understanding of the CG-2 did not appear to improve. In addition, the difference in improvement between the posttest and 2-week delayed test is also highly significant ($p= .000$) at the 0.01 level. This suggests that the MG-2 whose mean result was (M= 2.34, SD= 1.7) did not drop as fast as the CG-2 whose mean result was (M= -2.57, SD= -6.35) since the posttest.

Lastly, the results of the cloze metaphor tests suggest that conceptual metaphor awareness has aided the Saudi learners to understand the 17 metaphoric expressions taught to them via the TBLT methodology. They, however, did not retain these metaphoric expressions when tested on them two weeks after the interventional teaching session. As opposed to conceptual metaphor awareness, semantic clustering of the metaphoric expressions did not help the Saudi learners in the CG-2 to understand or retain the metaphoric expressions. This indicates that traditional teaching of metaphoric expressions without reference to their source domains did not aid the learners. It should

be noted that out of 17 taught metaphoric expressions, the mean of the answers given by the MG-2 was only ($M= 8.68$) which is low considering the number of metaphoric expressions taught. A discussion with regards to this continues in Section 5.6.

5.5.2. *The use of non-elicited metaphoric expressions in the cloze tests*

In the same metaphor cloze tests, the learners used other words to fill in the blanks. Some of those answers could be considered metaphoric and they are henceforth referred to as non-elicited metaphoric expressions. To check the difference in use between the CG-2 learners and the MG-2 learners with regards to these expressions, I ran an Independent Samples T-Test for the non-elicited metaphoric expressions in the pretest, the posttest and the 2-week delayed test, the results of which are reported in Table 5.6. Figure 5.4 also illustrates the difference in means in graphics:

	CG-2 – n= 30	MG-2 – n= 37	2-tailed significance
Pretest	M= 6.2 SD= 2.2	M= 6.62 SD= 2.1	$p= .42$
Posttest	M= 3.07 SD= 1.5	M= 2.49 SD= 1.4	$p= .10$
2-week delayed test	M= 6.17 SD= 2.47	M= 6.49 SD= 1.75	$p= .53$

Table 5.6: Study 2 statistics for other metaphor expressions

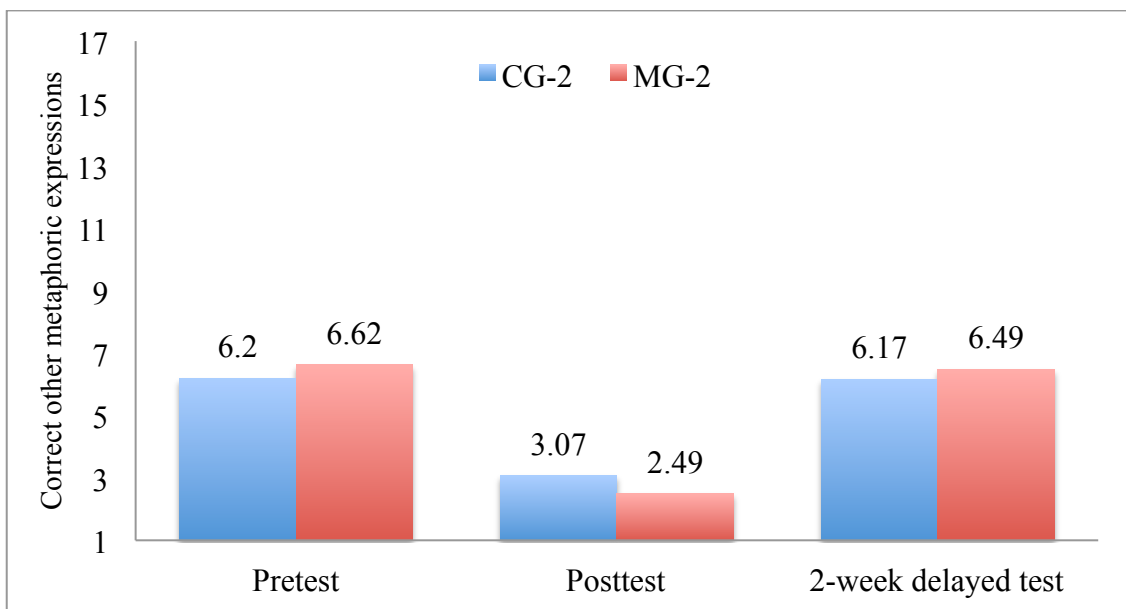


Figure 5.4: Means of the other correct metaphoric expressions that were answered in the cloze pretests, posttests, and 2-week delayed tests by learners in the CG-2 and the MG-2 in Study 2

The results in Figure 5.4 indicate that the learners in the CG-2 and the MG-2 used other metaphoric expressions in the pretest, the posttest and the 2-week delayed test which seem to fit within the context of the cloze tests. However, the Independent Samples T-Test indicates no differences between the performances of the two groups in any of the cloze tests with regards to these non-elicited metaphoric expressions. This suggests that neither conceptual metaphor awareness nor semantic clustering appear to have an impact on the learners' use of metaphoric expressions other than those targeted in the teaching. It is also interesting that non-elicited metaphors were used extensively in the pretest and the 2-week delayed test while the taught metaphoric expressions were not used as much. In the posttest, though, the learners did not use non-elicited metaphoric expressions as much. This is because they employed the taught metaphoric

expressions immediately after they learned them. Section 5.6 elaborates more on the implications of these results.

5.5.3. Learner evaluations of the teaching methodology

The analysis of the evaluation questionnaire involved two types of analyses: a statistical analysis for the closed-item questions and a qualitative analysis for the open-ended questions. As to the statistical analysis, I used an Independent Samples T-Test to compare between the average score of the five closed-item questions between the CG-2 ($n = 30$, $M = 4.28$, $SD = .53$) and the MG-2 ($n = 37$, $M = 4.3$, $SD = .71$). This analysis shows no significant difference ($p = .91$) between the evaluations of the two groups. To illustrate the evaluations in detail, Figure 5.5 presents the differences in the means of the individual five closed-items:

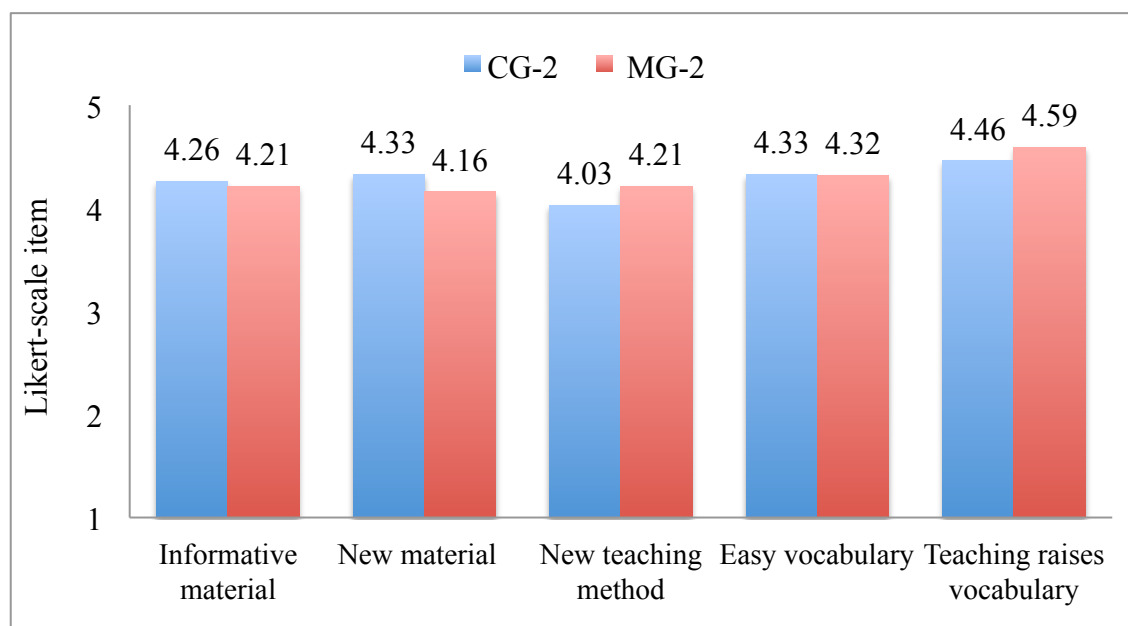


Figure 5.5: Means of the closed-item questions in the evaluation questionnaire as evaluated by learners in the CG-2 and the MG-2 in Study 2

As indicated in Figure 5.5, both the CG-2 and the MG-2 generally agree to the individual five items listed in the questionnaire (scale average is 4 out of 5) and neither group outscored the other. It can thus be concluded that both groups reported that the TBLT methodology for metaphoric expressions as being satisfactory regardless of the different type of interventional teaching they received (i.e. conceptual metaphor awareness versus semantic clustering).

As to the open-ended questions in the evaluation questionnaire, I performed a content analysis of the translated answers to the open-ended questions in Nvivo. This analysis highlighted three main themes and they are positive attributes, negative attributes and suggestions for improvement. Here, I describe each theme with regards to the learners in the CG-2 and the MG-2 and present some examples of translated evaluations from the two groups.

For the learners in the CG-2, the general evaluation of the vocabulary teaching was positive. They particularly commented on the theme of the lesson ‘the value of time’ as being suitable to their needs as university students. They reported that the TBLT teaching methodology and the problem-solving tasks were more enjoyable than traditional teaching, for instance:

- (19) The simple presentation of the vocabulary helps us during real conversations on time and enables us to fix other peoples problems and save our time. It also helps us to make good use of time because we are wasting it. (CG-2-1)
- (20) I like it because the teaching methodology is new and different from how we usually learn (CG-2-7)

As to the leaners in the MG-2, they positively evaluated the theme of the lesson, the TBLT teaching methodology, the understanding of vocabulary and the entertaining

aspect of the lesson. An interesting addition to their evaluations is a preference for the explicit conceptual metaphor awareness they received which could indicate the salience of the conceptual metaphor TIME IS MONEY for them. It could also indicate that the explicit teaching of the conceptual metaphor brought their attention to the metaphoric senses of the taught metaphoric expressions, for example:

- (21) I like the way that words are interconnected and connecting them to the larger image of money and time. I like having all the words that can be used with time together and giving advice in one sheet of paper with their meanings (MG-2-47)
- (22) The method of teaching is new and easy because it relates the words to our daily lives (MG-2-41)

Second, the participants expressed some negative attributes regarding some areas of the interventional teaching session. Those in the CG-2 reported that the amount of vocabulary to be learned in a single lesson was higher than they could take in in a day. They also commented that the period of teaching (an hour) was so long such that they started to lose focus, for example:

- (23) I think the lesson needs more time than just an hour because the time for it was short and we got tired from concentrating. The amount of vocabulary was more than we could learn in one class too (CG-2-18)

Similarly, the students from the MG-2 commented on the length of time and the amount of vocabulary they had to cover during the session, for example:

- (24) There are too many words to learn in one day and it is a very long reading passage for just a day (MG-2-62)

Lastly, the third part of the open-ended questions asked participants for their suggestions for improving the TBLT teaching of vocabulary. Their suggestions regarded the delivery of teaching materials and both groups suggested devoting multiple

sessions to the materials taught rather than a single condensed session. They also suggested placing more focus on other skills like speaking and grammar, for example:

- (25) You can spread the vocabulary in more classes like this so we can practice the words more. Can you also give us a smaller number of words in a day (CG-2-20)
- (26) I would like to have the same lesson as a speaking lesson, in which we have conversations to practice the pronunciation of the words and become more familiar with using them (MG-2-63)

The most important suggestion concerned using technological prompts (e.g. data shows, YouTube videos), images, and videos to support the teaching of vocabulary. The main difference in the suggestions from the CG-2 and the MG-2 is that the MG-2 learners overtly suggested that the images used should indicate the source domains of the conceptual metaphors so that they connect between the meanings derived from the source domain to the target domain, for example:

- (27) I wish if the lesson had a video or pictures for us to watch. Seeing a picture can make the vocabulary more memorable to us (CG-2-10)
- (28) You can add some technology like data show to show us a video that explains some of the vocabulary of the lesson. Even better, you can show us pictures of time treated as money or gold so that it emphasizes how important time is (MG-2-57)

In general, the results of the closed-item and open-ended questions from the evaluations questionnaire were positive and three conclusions can be drawn from them. First, the learners in the CG-2 and the MG-2 gave an equally favourable report to the ‘the value of time’ lesson. This result could indicate that using TBLT to teach metaphoric expressions suited the learners regardless of the vocabulary explanation method (i.e. conceptual metaphor awareness or vocabulary retention). It could also

indicate that the learners enjoyed the move from the teacher-centered teaching methodology to a task-based approach. Second, the learners in the MG-2 explicitly reported that they appreciated the conceptual metaphor awareness teaching. Third, their suggestions include that they would appreciate adding visual representation of the vocabulary as an interactive visual element. Specifically, they suggested presenting images that represent the source domains of the conceptual metaphor to highlight the conceptual motivation of the metaphoric expressions. Section 5.6 elaborates on the implications of these results for EFL/ESL teaching of metaphor.

5.6. Discussion

In general, the results of Study 2 are in line with cognitive linguistic studies on conceptual metaphor awareness-raising activities. Here I discuss the results of the sub-research questions in Section 5.3 and the recommendations they provide for the subsequent studies of this thesis. I also relate the results in Section 5.5 with the preliminary results of Study 1 which was reported in Chapter Four.

Starting with the Saudi learners' use of taught metaphoric expressions, Section 5.5.1 included the following results. The test scores from the pretest indicated that learners in both the CG-2 and the MG-2 had a limited knowledge of the metaphoric expressions they were about to learn. The scale average was .60 for the CG-2 and 1.16 for the MG-2 out of 17 metaphoric expressions. On the positive side, the highly significant difference between the learners in the CG-2 and the MG-2's posttest results ($p = .000$) with a large effect size suggests that raising awareness of conceptual metaphors via TBLT has aided the MG-2 with short-term retention of the taught

metaphoric expressions. This is important because the results of Study 1 in Chapter Four revealed a significant difference between the metaphor group and the control group but it was not supported by a pretest. The results of the current study thus confirm that conceptual metaphor awareness-raising activities can aid Saudi learners to understand metaphoric expressions. However, the study did not account for learner differences with regards to these results. This is an important aspect of experimental classroom research on metaphor awareness because Littlemore (2001a) clarified that no two students are the same when it comes to their age, learning styles, cognitive abilities, motivation, etc., which all play a role in their learning of metaphor. So, the following Study 3 will explore the role of individual differences on the learning of metaphoric expressions.

Unfortunately, while the posttest results suggest that increased vocabulary learning did indeed take place after the interventional teaching session, there was a rapid drop in the results of the 2-week delayed test. This indicates that although adopting TBLT methodology to raise awareness of metaphoric expressions may aid with immediate learning it appears to have had no effect on longer-term retention. The short-term retention results are in line with Li (2002) and Boers and Demecheleer's (2001) experimental studies which also suggest that relating metaphoric expressions to their underlying conceptual metaphors enhances immediate recall but has no apparent effect on longer-term retention. Boers (2004) also agrees that a single interventional teaching session would not influence longer-term retention. He notes that this "one-off eye-opener about the metaphoric nature of certain expressions is not sufficient to yield a long-term advantage in retention" (Boers, 2004, p. 216). However, experimental metaphor teaching research is yet to determine the efficiency of metaphor intervention

applied over a longer-time period. Although calls have been made for longer-term experimental studies, investigating the long-term effect of recurring awareness-raising activities on retention would have been difficult in the research context of this thesis. As the courses provided for Saudi EFL learners at KAU are seven weeks long, participants would not be available for a period that is longer than the teaching weeks. Therefore, I developed Study 3 based on multiple interventional teaching sessions that could promote longer-term retention in terms of two weeks.

In addition to the limitations of a longer-term investigation, there is the problem of adopting TBLT teaching methodology for longitudinal pedagogic experiments. Willis (1996) stressed that the task-based nature of TBLT methodology negates the concept of a fixed syllabus in favour of a freer style of teaching. This makes it difficult to specify the content for metaphor teaching in a syllabus-like TBLT interventional teaching. It would be better to adopt another teaching methodology suitable for the aims of Study 3. One possible teaching methodology suitable for promoting vocabulary retention is Asher's (1996) Total Physical Response (TPR).

With regards to the results of the second sub-research question in Section 5.5.2, the analysis shows no difference between the answers of the learners in the CG-2 and the MG-2 with regards to non-elicited metaphoric expressions. In line with suggestions about the limitations of conceptual metaphor awareness, the lack of difference between the CG-2 and the MG-2's results indicate that conceptual metaphor awareness has had no impact on the learning of metaphoric expressions other than those targeted in the study. As the testing materials promoted the taught metaphoric expressions rather than openly asking for any formulaic language, the learners seemed to steer away from other metaphoric expressions as they learned the target expressions. This is shown in the

posttest results which indicate a drop in the use of other metaphoric expressions as the learners practised the taught 17 lexical items.

In relation to the third sub-research question which was analyzed in Section 5.5.3, the learners from both groups reported that vocabulary learning through TBLT was informative and enjoyable whether they were introduced to the idea of conceptual metaphor or not. Still, it is not certain that they enjoyed receiving metaphor awareness activities through TBLT methodology, because neither the interventional teaching and tests nor the feedback questionnaire made them aware of the true purpose of the experimental study. What is evident here is that they seemed to enjoy vocabulary integration into the TBLT design and that the TBLT teaching methodology appears to have face-validity for teaching new vocabulary. Juchem-Grundmann and Krennmayr (2010) emphasized the need to shed more light on learners' perception of the metaphor instructional method and the results of Study 2 indicate that the MG-2 learners appreciated spending class time on learning metaphoric expressions. However, the MG-2's positive evaluations paired with poor longer-term retention indicates that the TBLT methodology is not without its limitations. Willis (1990) acknowledged such limitations and observed that even though TBLT puts the focus on meaning rather than form and on fluency rather than accuracy, it is not clear what is being learnt in the course of a given task. Thus the learners' poor retention of the taught metaphoric expressions indicates that TBLT methodology is not enough to ensure their proper learning.

Moreover, even though this thesis is a proponent for the cognitive linguistic teaching of metaphor there remain plenty of limitations to such an approach. First, as discussed previously in Chapter Two, experimental studies investigating conceptual metaphor awareness-raising activities target metaphor understanding and retention but

do not consider free production in speaking or writing (Nacey, 2013). As for long-term effects, Boers (2006) acknowledged that no empirical evidence exists that defines the effects of metaphor awareness on retention for a period that is longer than two weeks. We also need to be aware that raising awareness of conceptual metaphors does not automatically allow learners to predict the nonconventional linguistic metaphors, meaning that there is no guarantee that this awareness will have an effect on other figurative expressions let alone creative metaphor production (Boers, 2004; Boers & Lindstrom, 2008; Nacey, 2013). This is partly because not all metaphoric expressions have the same salient relation to conceptual metaphors and therefore do not possess an equal retention possibility (Boers & Lindstrom, 2008). Therefore, empirical research targeting metaphoric expressions should not make assumptions about learners' production after a teaching based on conceptual metaphor awareness. There are many variables that contribute to metaphor comprehension and production, and it is more than just a cause-and-effect relationship. This being said, Nacey (2013) noted that with the developments in conceptual metaphor theory, as well as our understanding of metaphoric competence along with empirical support for its positive contribution to language learning, we are starting to bridge the gaps in the teaching of metaphor in EFL/ESL.

In conclusion, the purpose of Study 2 has been to systematically explore the impact of conceptual metaphor awareness on the understanding and retention of metaphoric expressions by Saudi university learners. It established that awareness-raising activities based on conceptual metaphors, though useful techniques for understanding metaphoric senses of vocabulary are limited in terms of retention of the taught metaphoric expressions. The next step for this thesis is to explore awareness-

raising activities based on the embodied nature of action metaphors, in other words embodied action metaphor awareness to promote the retention of metaphoric expressions in a TPR setting. This is carried out through Study 3 which is discussed in Chapter Six.

CHAPTER SIX
EMBODIED ACTION METAPHOR AWARENESS IN A TPR SETTING
WITH SAUDI EFL LEARNERS
STUDY 3

6.1. Introduction

The analysis of the findings from Study 2 in Chapter Five has indicated that teaching metaphoric expressions through the use of conceptual metaphor awareness, i.e. linking metaphoric expressions to their conceptual metaphors, can help in the development of short-term retention. In Study 2, however, conceptual metaphor awareness-raising activities were found to have no apparent effect on longer-term retention. This in itself is problematic because vocabulary teaching methodologies, for metaphoric expressions or otherwise, should promote not only comprehension of word senses but also foster better retention. In terms of learner evaluations, the TBLT teaching methodology was highly regarded with both the control group and the metaphor group giving it some face-value as a methodology for teaching metaphor regardless of its shortcomings in terms of longer-term retention. I therefore set out to examine a teaching technique that could promote the retention of metaphoric expressions for a period of two weeks and the technique is to promote awareness of the embodied nature of conceptual metaphors, i.e. embodied action metaphor awareness.

In addition, Study 1 in Chapter Four and Study 2 in Chapter Five did not explore learner differences with regards to preferred learning styles, thus treating the participating learners as homogeneous groups who in fact differ in their learning

preferences. Thirdly, the experimental design for Study 1 and Study 2 was based on a single interventional teaching session, which adds to the difficulty of promoting retention of the vocabulary items. This is because we cannot expect a longer-term advantage of any teaching intervention without additional sessions that allow for repetition and intensive instruction.

Based on the recommendations of Study 1 and Study 2, this chapter reports on Study 3 which investigated another form of metaphor awareness-raising activities i.e. embodied action metaphor awareness. First, Study 3 aims to employ embodied action metaphor awareness to promote the learners' understanding and 2-week retention of metaphoric expressions. It also explores whether enhanced vocabulary retention coincides with a productive use of the vocabulary in paragraph writing and sheds light on the role of their cognitive learning styles on understanding and retention of metaphoric expressions. Additionally, in accordance with the findings from Study 2, Study 3 looks at the learners' attitudes towards embodied action metaphor awareness as opposed to the conceptual metaphor and semantic clustering awareness-raising activities. To do this, I employed the teaching methodology Total Physical Response (TPR) and Teaching Proficiency through Reading and Storytelling (TPR Storytelling) developed by Asher (1977) and Ray and Sealy's (2004) because they rely on repetitive physical enactment of commands and stories which have been shown to promote 'motoric imagery' and a stress-free longer-term retention (cf. Asher, 1969, 1974). The TPR teaching methodology is further addressed in Section 6.2.4. Study 3 consists of a 5-week experimental study that involved six 1-hour interventional teaching sessions targeting 11 metaphoric expressions from the conceptual metaphor LIFE IS A JOURNEY. The participants were three EFL groups divided into a control group (CG-3) which

consisted of 17 students, a metaphor group (MG-3) which consisted of 18 students, and an embodied action metaphor group (EAMG-3) which consisted of 25 students. More details about the learners are provided in Section 6.4.1.

With these issues in mind, the upcoming pages develop as follows: in Section 6.2 I start with a rationale of the purposes of Study 3 in which I reiterate the possible benefits that come from using embodied metaphor awareness and the limitations of conceptual metaphor awareness with regards to metaphor production. Then, I describe the TPR teaching methodology and the role of cognitive learning styles in the language classroom. In Section 6.3 I present the sub-research questions that Chapter Six aims to answer. After that, Section 6.4 details the methodology followed in Study 3 with regards to the participants, the selection of metaphoric expression that were taught, the interventional teaching sessions, and the methods for designing and analyzing the tests and questionnaires. Next, in Section 6.5 I present the analysis of results in terms of four areas: results of the metaphor understanding and retention tests, results of the metaphor production tests, the relationship between their answers to the tests and their cognitive learning styles, and finally, their evaluations of the learning materials. In Section 6.6 I conclude Chapter Six with a discussion of the results and their implications for this thesis.

6.2. Rationale

Study 3 explores the impact of embodied action metaphor awareness as opposed to conceptual metaphor awareness and semantic clustering on the understanding, retention and production of metaphoric expressions. Some of the issues

important for this chapter were previously addressed in previous chapters. For example, conceptual metaphor awareness and semantic clustering were addressed in Section 2.4, embodied metaphor awareness was addressed in Chapter Three and the learners' evaluations of the teaching of metaphoric expressions was addressed in Section 5.2.2. As to the other elements of Study 3, Section 6.2.1 provides an overview of embodied action metaphor awareness and Section 6.2.2 discusses the production of taught metaphoric expressions. Then, Section 6.2.3 elaborates on the interaction between learning style preferences and metaphor learning and Section 6.2.4 provides a background into the use of TPR to teach metaphoric expressions in EFL classrooms.

6.2.1. Embodied action metaphor awareness

Chapter Three (on embodied metaphor) established that conceptual metaphors are largely influenced by the perceptual and motor systems of the human body and vice versa (Gibbs, 2006b). It also elaborated on the cognitive linguistic understanding of embodied action metaphor awareness with metaphors like LIFE IS A JOURNEY. In detail, Section 3.2 and Section 3.5 discussed how cognitive linguists like Gibbs (2006b) and Grady (1997) viewed conceptual metaphors as being grounded in bodily actions and sensorimotor experiences. Gibbs (2006b) noted that many metaphoric expressions are rooted in bodily experience and can be understood through awareness of these sensorimotor links. In retrospect, Grady (1997) classified the conceptual metaphor LIFE IS A JOURNEY as a complex metaphor that inherited its mappings from primary metaphors like PURPOSES ARE DESTINATIONS, CIRCUMSTANCES ARE SURROUNDINGS, CONTROL IS UP, MEANS ARE PATHS and ALTERNATIVES ARE DIFFERENT AVAILABLE PATHS. Thus, LIFE IS A JOURNEY is an action metaphor that is based on early motor

experiences. So, having learners perform those primary actions motivating it (e.g. walking towards a physical goal) could help with the learning of its metaphoric expressions like in these examples from the BNC:

(29) The greening of Edinburgh may take a step forward with the creation of Scotland's first city centre combined heat and power system.

(30) Women's chances to climb the career ladder have been hard fought for. By no means all the battles have yet been won, but already we expect that we can break new ground if we really try hard enough.

The metaphoric expressions in examples (29) and (30) can be enacted through physical movement. For instance, EFL learners could be asked to stand up and take a step with their feet and gesture with their hands as if they were climbing a ladder. Thus, the main aim of Study 4 is to investigate the impact of this type of embodied action metaphor awareness on the learning of 11 metaphoric expressions. Unfortunately, cognitive linguistic research is not clear yet on the extent of the use of embodied action metaphor awareness in teaching metaphoric expressions. However, as discussed in Section 3.4, the research that has been carried out in the field of psychology and neuroscience has enhanced our understanding of the potential of embodied metaphors in three areas. First, research in behavioural psychology has employed embodied metaphor to modulate behaviour (e.g. Lee & Schwarz, 2012) and influence social judgments (e.g. Boroditsky & Ramscar, 2002; Ijzerman & Semin, 2009). Second, Section 3.5 explored neuroscientific research (e.g. Desai et al., 2011; Boulenger, Hauk & Pulvermüller, 2009; De Grauwe et al., 2014) which suggests a dual linguistic and motor processing of action metaphors in L1 and L2 speakers. Third, Section 3.6.1 discussed the research on the enactment effect on memory (e.g. Engelkamp & Krumnacker, 1980; Macedonia & Knösche, 2011; Macedonia et al., 2011; Macedonia & Klimesch, 2014) which has also

shown the long-term benefit of employing actions for the purpose of vocabulary learning. Together, the studies in Chapter Three make for a good theoretical foundation for the development of Study 3 on promoting awareness of the embodied action metaphor. The interventional teaching sessions developed based on these insights are discussed in Section 6.4.4.

6.2.2. Production of metaphoric expressions

Cognitive linguistic research has produced few studies that investigate interventional methods to promote the production of metaphoric expressions. Boers (2004) commented that this is partly due to a consensus amongst cognitive linguists that metaphor awareness-raising activities, while useful as receptive tools for teaching, are limited as generative methods. Boers (2000b) performed one of the few studies that investigated learners' production of metaphoric expressions in writing. This study involved 73 French business students who were each given a list of 41 vocabulary items on 'upward' and 'downward' economic trends. The experimental group was made aware of the nature of conceptual metaphors but the control group was not. The learners were then encouraged to use the vocabulary items they had been taught in a short essay to describe graphs about economic growth. The experimental group produced 7.1 of the targeted vocabulary items, which was significantly higher ($p = .001$) than the number the control group produced (4.9 on average). Later on, Boers (2013) advised that his early (2000b) study should be viewed with caution, noting that the lack of pretesting in these early small-scale experimental studies may have produced less than accurate results. Additionally, the average number of vocabulary items produced was very small compared with the 41-word-list the learners received. In addition, while the results of

Study 1 in Chapter Four of this thesis have suggested that learners who learned about the conceptual metaphors used more of the taught metaphoric expressions in their writing, Study 1 was only an exploratory study, so its results are to be regarded with caution; especially that a pretesting measure was not used. Thus, one of the aims of Study 3 is to further investigate the impact of embodied metaphor awareness and conceptual metaphor awareness on the learners' production of taught metaphoric expressions in writing.

Due to the lack of cognitive linguistic research in what might promote the production of metaphor, I explored the subject of vocabulary production in Second Language Acquisition (SLA) research. Researchers in SLA (cf. Laufer & Goldstein, 2004; Nation, 2001) view the senses of vocabulary in terms of the passive-active lexical knowledge continuum where the understanding of vocabulary items is placed at one end of the continuum while the production of the same vocabulary items is at the other end of the continuum. In most models of vocabulary acquisition (cf. Laufer, 1998; Laufer & Goldstein, 2004; Nation, 1990, 2010), lexical knowledge begins with receptive knowledge, or the ability to understand a word when it is heard or read (i.e. passive vocabulary), and ends with productive knowledge, or the ability to use the word in writing or speaking (i.e. active vocabulary). Researchers like Laufer (1998), Meara (1996) and Nation (2010) stress that passive knowledge of vocabulary develops at a faster and at a more systematic rate than the much more limited active knowledge. For learners, passive knowledge may become productive when activated in speech or writing. These theoretical foundations are supported by experimental evidence such as that offered by Laufer and Paribakht's (1998) experimental studies with Israeli EFL and

Canadian ESL students. They found that free active and controlled active vocabularies developed slower and less predictably than passive vocabulary.

If we were to view the understanding, retention and production of metaphoric expressions solely in terms of the passive-active lexical knowledge continuum, we would only investigate certain aspects at the two ends of the lexical knowledge continuum. For this reason, Study 3 mainly investigates the understanding, the 2-week retention and the free production of taught metaphoric expressions. It, therefore, only targets two parts of this continuum and as a small-scale study it only addresses part of the learners' knowledge of metaphoric expressions. However, the positive aspect of extending metaphoric vocabulary to the active-passive vocabulary continuum is that it can help us rationalize the difficulty of promoting the production of taught metaphoric expressions. We may be able to broaden the depth of vocabulary knowledge through conceptual metaphor awareness and embodied metaphor awareness; but since active use develops at a much slower rate, we should not expect substantial improvements in the production of metaphoric vocabulary especially in relatively short-term studies such as Study 3 here.

Lastly, Boers (2004) noted that training learners to use conceptual metaphors to produce figurative expressions might result in a non-standard unconventional language. Even if the L1 and L2 were related languages and the conceptual metaphor was present in both languages, there is no guarantee that L1 interference would have a role in making the produced metaphoric expression sound creative, acceptable, odd or even incorrect. This said, apart from Boers' (2004) cognitive linguistic recommendations for teachers and his early experimental work (2000b), not much is provided in the cognitive linguistic literature on motivating the production of taught

metaphoric expressions, let alone the reproduction of metaphoric expressions taught via awareness of the embodied action metaphor. Therefore, the second sub-research question in Section 5.3 examines the production of taught metaphoric expressions and looks at the implications of teaching metaphoric vocabulary on the passive (i.e. receptive) as well as active (i.e. productive) use of metaphoric senses of these vocabulary items. The results of this examination are reported in Section 6.5.2. However, without precedence in the literature it was difficult to develop experimental procedures to test for productive use of metaphor; the implications of this are addressed in Section 6.6.

6.2.3. Cognitive style preferences and metaphor teaching

Study 1 in Chapter Four and Study 2 in Chapter Five reported the superiority of conceptual metaphor teaching over semantic clustering. However, these studies did not account for how learning styles may have influenced the participants' performance on the accompanying tests. The research on learning styles (cf. Reid, 1995; Oxford, 2001; Richardson, 1977) indicates that vocabulary learning, metaphoric or otherwise, can be influenced by internal factors like the learning preferences of the language learners. Thus Study 3 takes into account the students' preferred learning styles and how this preference may impact their understanding, retention and production of metaphoric expressions taught via embodied action metaphor awareness, conceptual metaphor awareness or semantic clustering.

Boers et al. (2008) defined the cognitive style as the habitual approach a person takes with regards to information processing and organization, which may still vary but

which exhibits a degree of consistency. A number of cognitive style continua have been developed. The one of interest here is Richardson's (1977) imager-verbalizer continuum which describes the degree to which an individual tends to think in mental images (i.e. imager) or words (i.e. verbalizer). A well-established and user-friendly tool to estimate whether a person is a relatively high or low imager is 'The Style of Processing Questionnaire' (SOP) developed by Childers, Houston and Heckler (1985). The SOP questionnaire is used in the field of marketing as well as cognitive linguistic studies (e.g. Boers et al., 2008; Littlemore, 2004; Makni, 2013) to estimate an individual's position on the cognitive style continuum from 'low-imager' with an inclination to think in words to 'high-imager' with an inclination to think in pictures. This questionnaire can be used to support cognitive linguistic-based intervention which in turn employs imagery, enactment and pictures and aims to build associations between the vocabulary items and images (Boers et al., 2008).

Boers et al. (2008) performed three case studies looking at the effects of pictorials on the memorization of metaphoric expressions. These three studies showed significant correlations between the participants' position on the imager-verbalizer cline and their performance on the translation tasks, with high imagers more likely to obtain high scores. In other words, learners who were more imagery-inclined (i.e. high imagers) as compared to verbally inclined learners (i.e. high verbalizers) found imagery-supported conceptual metaphor awareness-raising activities more rewarding than traditional teaching. The authors concluded that using pictorials in association with verbal explanation of metaphoric expressions helped imagery-inclined learners with the retention of meaning rather than form. The literature provides no indication, though, as to whether such a relationship exists between embodied action metaphor awareness and

imager/verbalizer preferences. So, in Study 3, a translated version of the SOP questionnaire was used to identify the participants' imagery inclination and to determine how this inclination would play a role in the effectiveness of the enactment-based teaching of metaphoric expressions. The questionnaire and its translated version are further described in Section 6.4.5.4 and the analyses of its results are reported in Section 6.5.3.

6.2.4. Total Physical Response teaching methodology

Asher's (1977) Total Physical Response (TPR) is a teaching methodology that allows for the natural acquisition of vocabulary in a motivating and physically active environment. Learners, young or adult, learn EFL vocabulary through observation and imitation, just as they did as children learning to speak their first language (Asher, 1977). Through the use of repetitive commands they experience the physical meaning of a vocabulary item from hearing and performing it multiple times, therefore taking an active role in vocabulary understanding. Ray and Sealy (2004) developed an advanced version of TPR, i.e. Teaching Proficiency through Reading and Storytelling (TPR Storytelling). TPR Storytelling relies on students enacting short stories rather than single words thus having them learn the vocabulary items in context. Both variations of TPR are employed in Study 3.

Because TPR is based on physically active learning, it provides a possible teaching methodology to envelope embodied action metaphor awareness in a nonthreatening environment as opposed to the teacher-centered communicative approaches to EFL. Applied to embodied action metaphor awareness, learners can act

out '*sailing through life*' by waving their hands forwards and backwards to help them internalize the image of sailing within the domain of life. They may even be able to remember the form of the metaphoric expression next time they hear or see it. Lindstromberg (2001) proposes some TPR-inspired suggestions for teaching metaphoric expressions, specifically action verbs. He proposes introducing the physical meaning of the expression first, acting it to associate the action with the meaning, then having learners imitate and repeat the action adding more words and grammar patterns gradually (e.g., learners snap their fingers to learn the meaning of *a snap decision*). When teaching intermediate learners, he suggests moving from the literal to the metaphorical quickly, introducing the literal meaning on the first exposure, reviewing it the second exposure, and adding the figurative meaning on the third exposure.

Cognitive linguistic studies that employ embodied metaphor awareness-raising activities to the teaching of metaphoric expressions in EFL/ESL are scarce. As discussed in Section 3.6 of Chapter Three, Lindstromberg and Boers (2005) conducted the only work, that I am aware of, which employed enactment and mime to teach metaphoric expressions. Their three experimental studies are important here because their methodology was loosely based on Asher's (1977) TPR and aimed to enhance learners' understanding of manner of movement verbs. Together, their small-scale experiments led to the conclusion that actions and motoric imagery aided experimental groups to have a better advantage in retention over control groups.

In the absence of other experimental classroom studies developing or even replicating the results of Lindstromberg and Boers' (2005) studies, Study 3 is designed to further explore the outcomes of embodied action metaphor awareness through TPR and TPR Storytelling on understanding and retention of LIFE IS A JOURNEY metaphoric

expressions. It thus extends Lindstromberg and Boers' (2005) work which has only examined the mnemonic effects of enactment and mime strictly on manner of movement verbs. Of course this is understandable because action verbs are easier to illustrate through enactment and mime. However, given that one of the aims of this thesis is to explore awareness-raising activities for different kinds of metaphoric expressions, Study 3 first expands beyond manner of movement verbs to further explore the use of actions on other forms of metaphoric expressions (e.g. nouns, adjectives, lexical phrases, idioms, etc.). Also, Study 3 differs from that of Lindstromberg and Boers (2005) in that it uses LIFE IS A JOURNEY as its theme for the lessons and addresses a range of metaphoric expressions belonging to this conceptual metaphor. Finally, the interventional teaching sessions for Study 3 follow the tradition of TPR and TPR Storytelling, as the general aim of this work is also to explore the suitability of existing EFL/ESL teaching methodologies for figurative language teaching. A detailed look at the interventional teaching sessions is provided in Section 6.4.4.

In summary, some of the important issues to be addressed in the sub-research questions for Study 3 are discussed here. First, Section 6.2.1 has indicated that even though there is still a gap in empirical classroom testing, psychological and neuroscientific research suggests the benefits of embodied action metaphor awareness for motor conceptual metaphors. It reaches the conclusion that employing bodily actions in the teaching of conventional metaphoric expressions can promote their understanding. In addition, cognitive linguistic research into the teaching of L2 embodied metaphor is still scarce. As discussed in Section 3.6 and Section 6.2.1, the only work that employed embodied action metaphor awareness is Lindstromberg and Boers' (2005) studies on manner of movement verbs. They used Asher's (1977) TPR

teaching methodology to plan their interventional teaching sessions. The small-scale classroom studies found that the enactment groups performed significantly better than the control groups. With this in mind, Study 3 investigates the use of bodily actions to make EFL learners aware of the embodied nature of the conceptual metaphor LIFE IS A JOURNEY and help them understand the sensorimotor motivations of its metaphoric expressions. However, understanding and being aware of metaphoric expressions should not be the ultimate goal of figurative language teaching. We should also consider what might help learners retain the vocabulary for a longer period of time. An added benefit of embodied action metaphor awareness is that promoting the awareness of the bodily motivations of a conceptual metaphor may not only awaken the perceptual elements of it but may also help learners retain associated metaphoric expressions for up to two weeks after they have been taught. This is supported by Engelkamp and Krumnacker's (1980) theory regarding the enactment effect on memory. Thus, shifting the focus from metaphor understanding to retention and from conceptual metaphor to embodied metaphor, we can steer the cognitive linguistic research into the direction of embodied metaphor.

Moreover, Section 6.2.2 elaborated on the difficulties of promoting the production of taught metaphoric expressions. So far in cognitive linguistics, this has only been discussed theoretically (cf. Boers, 2004; Nacey, 2013). So, Study 3 also explores this difficulty in a classroom-based environment to further support the notion that embodied action metaphor awareness and conceptual metaphor awareness may not be suitable awareness-raising activities to promote metaphor production. Lastly, viewing these insights in light of the aforementioned studies on the teaching of metaphoric expressions through conceptual metaphor awareness (Section 2.4) and the

need for learners' evaluations of metaphor teaching (Section 5.2.2), I put forth the sub-research questions for Study 3.

6.3. Research questions

As discussed in Section 1.3 of Chapter One, Research Question Two explores the impacts of embodied action metaphor awareness, conceptual metaphor awareness and semantic clustering and it is:

RQ 2: How do the female Saudi EFL learners respond to awareness-raising activities to the teaching of metaphoric expressions when these activities are based on embodied action metaphor awareness, conceptual metaphor awareness or semantic clustering?

In an attempt to answer this research question, Study 3 was set up with upper-intermediate Saudi EFL learners to measure the potential benefits and/or limitations of awareness-raising activities based on embodied action metaphor. It employed TPR-enactment-based instruction of embodied metaphoric expressions from the conceptual metaphor LIFE IS A JOURNEY. The main aim of the study was to explore how teaching 11 metaphoric expressions through embodied action metaphor awareness would result in superior understanding and retention than would result from teaching the same expressions employing only conceptual metaphor or semantic listings. It would however, have a limited influence on the production of the taught metaphoric expressions. To investigate these aims, the study recruited a control group (CG-3), a metaphor group (MG-3) and an embodied action metaphor group (EAMG-3). The collection of data involved metaphor understanding and retention tests, metaphor

production tests, the SOP questionnaires and evaluation questionnaires. As per the aims of Study 3, analysis of data was performed in light of the following four sub-research questions:

- 6.3.1. Are there any significant differences between the control group (CG-3), the metaphor group (MG-3) and the embodied action metaphor group (EAMG-3) in terms of understanding and retaining the taught metaphoric expressions as measured by a pretest, a posttest and a 2-week delayed test?
- 6.3.2. How do the students in each of the three groups use the taught metaphoric expressions in their productive writing activities, and how does this use differ prior to and after the intervention?
- 6.3.3. Is there a relationship between the students' cognitive learning styles and their performance on the metaphor understanding and production tests? Does the nature of this relationship vary across the three groups?
- 6.3.4. What are the attitudes of the students in each of the three groups towards the three different teaching methodologies (semantic clustering, conceptual metaphor-based teaching and embodied metaphor-based teaching)?

6.4. Methodology

In this section, I present the methodological issues in the design, collection and analysis of data. In Section 6.4.1 I discuss the participants and follow this with the procedure for selecting the 11 metaphoric expressions in Section 6.4.2. Next is the experiment timeframe in Section 6.4.3 and the interventional teaching sessions in

Section 6.4.4. I conclude the methodology with Section 6.4.5 for the design and method of analysis of the tests and questionnaires of Study 3.

6.4.1. Participants

In accordance with the context of this thesis, the participants in Study 3 were female Saudi university students aged 18 to 20 years old, and were a different group from the participants in the previous studies. They were all in their foundation year at KAU (please see Section 1.2 in Chapter One for the research context). Two weeks prior to the EFL course, the participants undertook the OOPT exam and were placed at the B2 upper-intermediate level. The administrators at ELI recommended four B2 level classes, which ranged from 30 to 32 students each. After the initial meeting with the four classes, one class asked to be excluded from this study because they were behind on their scheduled pacing guides and would not be able to accommodate extra teaching materials. The remaining three classes signed consent forms that ensured the students' privacy and anonymity (please see Appendix C1 for a copy of the consent form). From these three classes, I randomly assigned classroom A as the control group CG-3 (31 students), classroom B as the metaphor group MG-3 (32 students) and classroom C as the embodied action metaphor group EAMG-3 (31 students). Because participation was optional not all the agreeing participants turned up for every single interventional teaching session and test. By the end of the 5-week experimental study, the number of participants in each group had dropped. Because of the variation in attendance for the tests and teaching sessions I only included participants who turned up for each and every interventional teaching session, test and questionnaire during the 5-week period. In counting the final number of participants in each group, the number of participants in

the CG-3 dropped from 31 students to 17 students (mean age= 19.52) and the participants in the MG-3 dropped from 32 students to 18 students (mean age= 18.47). As to the EAMG-3, 25 out of 31 students turned up for each session (mean age= 18.36). The reasons for and implications of student attendance are discussed in Section 6.6.

To examine the distribution among the remaining participants in the CG-3, the MG-3, the EAMG-3, I looked at the histogram plots of the metaphor understanding test scores and the metaphor production posttest scores. Seeing as the number of participants in each group was below 30 learners and nonparametric tests would be used, I did not assess the normality of distribution or exclude learners as outliers. Instead, I checked to see whether the distributions of test results were similar by visually inspecting the histogram plots. Even though there were outliers present, the general outlook of the histogram plots had similar shapes and the similarity of distribution of test results was therefore assumed.

6.4.2. Selection of metaphoric expressions for teaching

The target vocabulary list for this study consisted of a smaller number of vocabulary items than in Study 2 that ranged from verbs, nouns, phrasal verbs, lexical phrases, idioms, multiword units and collocations. I narrowed the number of vocabulary items to 11 metaphoric expressions for two reasons. First, I wanted to have a smaller number of items than in Study 2, which was outlined in Chapter Five and had a target vocabulary of 17 items. In Study 2 even though the MG-2 scored significantly higher on the posttest than the CG-2, the overall metaphoric expressions used by the MG-2 were 8.62 on average out of 17, which is only 50.7% of the overall target vocabulary.

Second, TPR is a teaching methodology that puts more time into the teaching of a small number of vocabulary items so that the focus of teaching is on the quality of the words rather than their quantity. On the practical side, classroom management is an important aspect of TPR teaching. Asher (1977) recommends that in order to make sure that every student participates in the actions and gestures, the target vocabulary in a TPR lesson should be kept fairly small so that every vocabulary item is thoroughly practised by every student during class time.

In the selection of vocabulary items for this study and in accordance with the aims of this thesis, I followed Boers and Lindstromberg's (2008) criteria for the selection of metaphoric vocabulary items for teaching in the FL/SL classroom which were previously described in Section 2.4.3 of Chapter Two. In short, they recommended choosing vocabulary according to their frequency, relevance, usefulness, coverage, range and level of difficulty for the learners. Again, I purposely chose collocations of different levels of frequency and difficulty to expose the participants to different frequencies of vocabulary which are reported in Table 6.1. I chose vocabulary items that have metaphoric and literal relations to the LIFE IS A JOURNEY conceptual metaphor. To confirm the existence of these relations, I referred to the Macmillan and Collins Online dictionaries at www.macmillandictionary.com and www.collinsdictionary.com, ensuring that the metaphoric senses were listed among the meanings of each item I added to the vocabulary list. Confirming the metaphoric senses was important because I later adopted these literal and metaphoric senses in the teaching and testing of vocabulary throughout the study. I also ensured that all the vocabulary items could be acted out or gestured in some way. To do this, I asked a group of people to enact and/or mime the metaphoric expressions and I chose the expressions that were easier to act out.

Verbs were found to be easier to enact than adjectives and adverbs; accordingly, the list contains more verbal phrases than adjectives or adverbs even if the actions could not be performed with a single gesture (e.g. ‘*to climb*’ versus ‘*in the fast-lane*’).

Keeping all these criteria in mind, I started with Lazar’s (2003) *Meanings and Metaphors* textbook and kept a note of the vocabulary items in Unit 6: Taking Steps: Life is a Journey. I cross-referenced those items with vocabulary used in several websites and blogs discussing life stories and experiences. Next, I ran the vocabulary items I had collected thus far through the BNC to check for their frequency. I excluded any items that had less than a 2.00 frequency band T-score. The frequency of the vocabulary items ranged from highly frequent to less frequent. For example, ‘*a step in the right direction*’ had a frequency band score of 17.44 while ‘*to take a major step forward*’ had a score of 2.22. After checking the frequencies, I ended with a list of 15 highly occurring metaphoric expressions. I performed the pilot with 18 language learners and seven British speakers, using all 15 vocabulary items. Based on the piloting posttest results, I chose the most frequently answered 11 vocabulary items. Table 6.1 provides the final set of 11 vocabulary items taught per teaching week and their frequency collocations in the BNC:

Week 2 metaphoric expressions	BNC T-score	Week 3 metaphoric expressions	BNC T-score
to take a step forward	2.221	to climb	6.474
to overcome an obstacle	3.439	in the fast-lane	8.150
to follow in someone's footsteps	7.154	a step in the right direction	17.449
a path	6.64	to stumble into	2.865
at a crossroads	10.664	a dead-end job	3.453
		up the career ladder	2.765

Table 6.1: Metaphoric expressions and their frequencies in the BNC

6.4.3. *Experiment timeframe*

The study was designed as a 5-week experiment to run alongside the intensive 7-week teaching programme at the ELI. It was based on six interventional teaching sessions to run through the first five weeks of the course. While six 1-hour sessions might not be sufficient to ensure extensive learning of a large amount of vocabulary due to time limitations at the ELI and availability of student participants, it was the most convenient time to test medium-term memory effects. This is because the ELI's courses are only seven weeks long and researchers are only allowed access to students for three hours per week. The following table presents the timeframe for each of the participant groups. I discuss each of these items individually in the following sections:

		Control group (CG-3)	Metaphor group (MG-3)	Embodied action metaphor group (EAMG-3)
Week 1		Consent form Metaphor understanding pretest Metaphor production pretest		
Week 2		YouTube video of Olympic racer to introduce journey of life unit		
	Day 1	Semantic clustering of 5 metaphoric expressions	Conceptual metaphor awareness of 5 metaphoric expressions	Embodied metaphor awareness by TPRing 5 vocabulary items
	Day 2	Reading a metaphoric short story	Reading metaphoric and literal short stories	TPR Storytelling of metaphoric and literal short stories
	Day 3	Repeating and revising the vocabulary and the short story	Repeating and revising the vocabulary and the short stories	Repeating and revising the TPR and TPR Storytelling
Week 3	Day 1	Semantic clustering of 6 metaphoric expressions	Conceptual metaphor awareness of 6 metaphoric expressions	Embodied metaphor awareness by TPRing 6 vocabulary items
	Day 2	Reading a metaphoric short story	Reading metaphoric and literal short stories	TPR Storytelling of metaphoric and literal short stories
	Day 3	Repeating and revising	Repeating and revising	Repeating the TPR and TPR Storytelling
		Metaphor understanding posttest		
Week 4		Metaphor production posttest SOP questionnaire Evaluation questionnaire		
Week 5		Metaphor understanding 2-week delayed test		

Table 6.2: Experiment timeframe for participating groups in Study 3

6.4.4. Interventional teaching sessions

Interventional teaching took place during weeks two and three of the 5-week experimental study. The teaching materials for each group are presented in Appendices C1 to C11. This section discusses the overall teaching style for all three participating groups. In terms of teaching methodologies, the intervention for the CG-3 consisted of semantic clustering through the teaching methodology of Presentation, Practice and Production (PPP). The intervention for the MG-3 participants consisted of conceptual metaphor awareness through PPP. On the other hand, the EAMG-3 participants were taught through embodied action metaphor awareness and TPR. The different teaching methodologies between the CG-3, the MG-3 and the EAMG-3 could constitute a variable that influences the results of Study 3 along with the embodied action metaphor awareness and it may not be possible to know whether the results are due to the embodied action metaphor awareness, TPR teaching methodology or both. However, as TPR relies on action and mime which only suit the embodied action metaphor teaching aimed towards the EAMG-3 but not the CG-3 or the MG-3, it was not possible to employ it with the other two groups. The upcoming Section 6.6 discusses this limitation in light of the findings of Study 3.

The individualized teaching styles for the CG-3, the MG-3 and the EAMG-3 follow in the next three subsections. For all groups, each week's teaching consisted of three 1-hour sessions. On day one of week two, I introduced the unit 'the journey of life' with a YouTube video of an Olympic runner who fell and broke his ankle during a race but still persisted and ran through the pain to reach the finish line (link: https://youtu.be/_DDo_KmJVOA). The video was used as an introduction of the two weeks' teaching of metaphoric expressions, which the students were asked to associate

with their own life experiences. For the MG-3 and the EAMG-3, I made the students aware of the conceptual metaphor LIFE IS A JOURNEY and discussed the relation between the source and target domains in terms of the students' own life experiences. For the CG-3, the discussion remained focused on the concept of life without explicitly referencing the source domain journey.

After this general introduction to the theme of 'the journey of life', week two focused on teaching five metaphoric expressions and week three focused on teaching the remaining six vocabulary items. Within each teaching week, day one would target vocabulary teaching, day two would introduce the short stories and, finally, day three would repeat and review the vocabulary items and stories. Day three of week three (i.e. the last day of teaching) consisted of a revision of the vocabulary items from week one and week two. This is because this study mimics actual teaching environments in which a teacher would review what the class had previously learnt before.

The upcoming subsections discuss in detail the specific interventional styles used for the CG-3, the MG-3 and the EAMG-3. In designing the three interventional styles, and in adherence to ethical issues, I have tried to ensure that the quality of teaching received by the two experimental groups (i.e. the MG-3 and EAMG-3) and the CG-3 was as similar as possible except for the variables I wanted to test. The three groups received the same amount of training time (six 1-hour sessions) and the same teaching materials (11 vocabulary items and two figurative short stories). The only difference between the groups was that they underwent a different type of treatment at key points according to the aims of this thesis. This means that only the MG-3 and EAMG-3 (i.e. the experimental groups) were given the literal short stories, as the experimental groups' training required awareness of the source domain journey, and

only the training of EAMG-3 required enactment of the embodied metaphor. As highlighted in the previous section, this difference of treatment between the three groups could raise some questions with regards to the different variables introduced to each group. There was a concern about the higher cognitive effort exerted by the EAMG-3, who used actions and gestures to internalize the metaphoric senses of the vocabulary, as opposed to the effort required of the CG-3 and the MG-3 whose teaching was mainly teacher-centered. To this we can say that requiring this cognitive effort on the part of the EAMG-3 learners was intentional and gives more support to the hypothesis that employing embodied action metaphor awareness leads to better understanding and retention.

Nonetheless, to ensure the ethical approval of this thesis, I went back to the CG-3 and the MG-3 and gave them a taste of the teaching of metaphoric expressions through embodied action metaphor awareness and its possible benefits. I did this for one hour in the last week of the course following the experiment completion because the teaching module was coming to an end and I would not be able to have further access to them after this. As to the CG-3, I introduced the conceptual metaphor LIFE IS A JOURNEY and reconnected the 11 vocabulary items to their source and target domains as well as their literal senses. Then, I had the learners enact the vocabulary and stories for remainder of the hour. As to the MG-3, I had them enact the 11 vocabulary items and the four stories for one hour since they already learned through conceptual metaphor awareness.

6.4.4.1. Embodied action metaphor group (EAMG-3)

The aim of the teaching delivered to the EAMG-3 participants was to present the vocabulary in the framework of embodied action metaphor awareness. In practice, this meant having the students approach the vocabulary in its literal and figurative senses through actions and gestures (please see Appendices C4, C5 and C6 for copies of the teaching materials for the EAMG-3). Following Lindstromberg's (2001) recommendations for teaching metaphor through TPR, day one of each week (60 minutes) was spent on introducing the literal and metaphoric senses of the target five or six vocabulary items. I first explained the vocabulary in both its metaphoric and literal senses and then enacted each vocabulary item in its most literal sense. For example, I explained '*to climb*' in the following way:

The meaning of climbing social ranks is to move to a higher level in a job or social position, which is similar to climbing a ladder if you were hiking. You would use your hands and legs to move up cliffs, mountains or stairs.

I then performed a climbing gesture to associate the metaphoric sense with the action. Next, I enclosed the vocabulary items in simple TPR commands which the learners had to act upon. They were asked to act out the vocabulary items and associate the actions with their metaphoric sense. The commands ranged from simple commands (e.g. stand up and take a step forward) to more complex commands. To teach the phrase '*at a crossroads*', for example, I told them:

Form groups of five. Three of you stand next to each other and hold your arms to form a wall. You are an obstacle and no one could pass through you. The other two try to overcome the obstacle of the wall.

I repeated the figurative senses of the vocabulary items as the students enacted them. Everyone had to take part in enacting the vocabulary. To make sure that they stayed

motivated and accurately followed the commands, I repeated the same command until everyone had joined in. I also got them to guess the meaning of the metaphoric expressions and elaborate on their relation to the LIFE IS A JOURNEY metaphor.

During day two of each teaching week (60 minutes) the learners first repeated the TPR commands from day one then I introduced Ray and Seely's (2004) TPR Storytelling. I told a simple, literal journey story and a figurative journey story. In week two, the stories were about 'directions to the grocery store' and 'Sarah's career path'. In week three, the stories were 'the hiking race' and 'Dana's career story'. According to TPR Storytelling guidelines, the stories were not read but told in a conversational tone and accompanied by descriptive images depicting the progression of the events. As per these guidelines, the stories sounded natural and incorporated the taught vocabulary (Ray & Seely, 2004). First, I read and enacted the short metaphoric and literal stories whilst directing attention to each descriptive image. The students were given copies of the stories along with descriptive images which were also projected on a screen so that students could focus on enacting them rather than reading from their handouts. I also got them to suggest ways to enact the stories to increase their sense of involvement. For example, the students suggested gestures for high school and water stream. After this, they joined in to act out the words and phrases. As on day one, the classroom management technique used was to repeat the stories until each student enacted the story. The entire class time was spent on acting out the two short stories.

Day three of each week (60 minutes) consisted of the learners repeating the commands and practising the TPR stories from day one and day two. Day three of week three teaching included an overall review of week one and week two vocabulary teaching.

6.4.4.2. Metaphor group (MG-3)

The aim of the intervention delivered to the learners in the MG-3 was to teach the vocabulary in the framework of conceptual metaphor awareness through the teaching methodology of PPP (please see Appendices C4, C5 and C6 for copies of the teaching materials for the MG-3). The MG-3 teaching technique incorporated conceptual metaphor awareness and pictorial elucidation. Over the course of two weeks, the two one-hour teaching sessions followed the phases of PPP. Day one of week two (Presentation Phase) started with the YouTube video of an Olympic runner to introduce the theme of the unit. I then demonstrated the literal and figurative meanings of the first five metaphoric items through conceptual metaphor awareness. For instance, '*a path*' was explained as a small road that leads from one place to another as well as the way that a person's life develops. As I raised awareness of the conceptual metaphors, learners were encouraged to guess and create links between the source and target domains beyond the surface meanings of the vocabulary items. On day two (Practice Phase), I reviewed the metaphoric and literal meanings of the vocabulary then gave the students a chance to approach the vocabulary in its literal and metaphoric senses in a more contextual format. The learners read the two short stories about 'the road to the grocery store' and 'Sarah's career path' with the aid of a series of informative pictures. As they read, I pointed at each relevant picture. They were then asked to extract the five vocabulary items from the two stories and compare the use of their literal and metaphoric meanings. On day three (Production Phase), the students had the opportunity to practice integrating the learned language in their own speech by creating stories themselves. I reviewed the metaphoric and literal meanings one last time and then encouraged them to use the newly learnt language structures in spoken stories of

their own making. Week three followed the same pattern as week two with the teaching of the six new metaphoric expressions, although on day three I reviewed the vocabulary learnt in week two and week three.

6.4.4.3. Control group (CG-3)

The aim of the teaching delivered to the CG-3 participants was to deal with the vocabulary within the theme of ‘travelling through life’ via a PPP teaching methodology, in a way that is parallel to the intervention given to the MG-3. As a control measure, the teaching for the CG-3 did not involve referencing conceptual metaphor awareness, the source domain journey or the embodied metaphor awareness as done in the teaching of the two experimental groups. It did, however, involve pictorial elucidation in the form of images that coincided with the target vocabulary items (please see Appendices C4 and C5 for copies of the teaching materials for the CG-3). Day one of week two (Presentation Phase) started with the teacher introducing the theme of ‘travelling through life’ with the YouTube video of the Olympic runner. After that, I introduced the vocabulary demonstrating only the figurative meanings of the first five items and discussed their meaning only within the domain of life. For example, the expression ‘*at a crossroads*’ was explained to the CG-3 using its figurative meaning only, namely as an expression to be used at a point during the development of something when the person has to make an important decision about what to do next; no indication was given of its more literal and/or physical senses.

On day two (Practice Phase), I reviewed the figurative meanings of the first five vocabulary items and read the figurative story ‘Sarah’s career path’. I pointed to

each relevant picture on the screen as ‘Sarah’ progressed through the story. The learners then extracted the five vocabulary items and discussed their use within the context. After that, they took turns reading the story to themselves and coming up with similar stories of their own to tell aloud to their classmates. Again, the literal stories did not constitute a part of the CG-3 intervention as this might have made them aware of the source domain. On day three (Production Phase), I reviewed the target figurative vocabulary and the students read the short story one more time. After that, they told their versions of the story based on what they had experienced in their own life.

Week two followed the same PPP pattern with the next six vocabulary items. The Presentation Phase involved explaining the metaphoric meanings of the vocabulary, and the Practice Phase involved reading Dana’s Career Story and practicing it. Finally, the Production Phase involved revising all the targeted metaphoric expressions and the learners telling their versions of the stories to the rest of the class.

6.4.5. Methods for data collection and analysis

This section focuses on the metaphor understanding tests, metaphor production tests, the SOP questionnaire, and the evaluation questionnaire that were given to the participants. It first details the design process and moves to the method of analysis for each test type or questionnaire. For a detailed look at the tests and questionnaires, please refer to Appendices C1 to C11.

6.4.5.1. Metaphor understanding tests

Metaphor understanding tests were designed as multiple-choice questions that measure the students' understanding of the different meanings of the taught metaphoric expressions rather than the forms. Please see Appendix C2 for the metaphor understanding pretest, Appendix C7 for the metaphor understanding posttest and Appendix C11 for the 2-week delayed test. Each question in the tests has a statement that uses the vocabulary in either its metaphoric sense or literal sense. For example:

Metaphoric sense: After she finished her Master's Degree, she was *at a crossroads*. She could pursue a PhD degree or find a job to establish her career. She chose the second option because she knew she needed work experience.

Literal sense: To get to the Children's Hospital, drive down Second Street until you are *at the crossroads*, and then turn left.

At the piloting stage, the tests included 15 multiple-choice questions; the number of questions was reduced to 11 based on the most test items answered correctly. The pretest and the posttest comprised different sets of questions, and the 2-week-delayed test included five questions from the pretest and six questions from the posttest. The implication of this test design is considered in Section 6.6.

The metaphoric and literal statements in all the tests were selected using the BNC to ensure authenticity. They were then simplified to suit the level of the learners. The possible literal and metaphoric answers were selected and simplified using the Macmillan and Collins online dictionaries. Each multiple-choice question was presented with a descriptive image extracted from Google images to go with the multiple audiovisual and motor modalities used in the teaching interventions. To make sure that the students answered the test questions based on their knowledge of the vocabulary and

not on the images that accompanied them, each image described the setting of the statements and not the meaning of the tested vocabulary items. For instance, the image used with the statement ‘*Medical students normally follow a clearly marked career path. However, it takes them over 10 years to become fully qualified doctors*’ is of a man in a physician’s attire, not a career path. As to the presentation of the test items, as Figure 6.1 shows, the multiple choice answers comprised a literal sense, a metaphoric sense, an incorrect answer, an option that gave the students a chance to express the meanings they knew if none of the above meanings were correct (i.e. option D: It means something else) and an option for lack of knowledge (i.e. option E: I do not know). Students were encouraged to provide any meanings they believed to be true in either English or their L1, Arabic. This is because the tests aimed to examine their knowledge of the vocabulary senses rather than the items’ English synonyms.

10. Hoping to take over the family business one day, Mary **followed in her father's footsteps** and became a lawyer. The problem is that she does not like being a lawyer at all.

- A. To carry a heavy object for a long period of time
- B. To walk or drive behind someone or to go in the same direction as them
- C. To do the same work or achieve the same success as someone else before you
- D. It means something else: _____
- E. I do not know




Figure 6.1: A sample from the metaphor understanding posttest of Study 3

During the data entry and coding stage, multiple-choice options A, B, C, and E were easily coded. As to option D, because the students’ answers were open to interpretation, I followed the Praggeljaz Group’s (2007) inter-rater reliability procedure

used with MIP. First, I graded the answers in option D for correctness in L1 or L2 using a binary coding scheme (1 for metaphoric and 0 for non-metaphoric). Second, I had another researcher grade the L1/L2 meanings independently and assess whether the learners provided an accurate contextual meaning of the metaphoric expressions or not through the same binary codes. Third, I compared the two raters' scores for option D using Cohen's Kappa to examine the inter-rater reliability. The students only provided answers for option D in the pretest and the posttest. The test revealed that agreement between the scores of the two raters in the pretest was 96%, with a Kappa score of 0.89 at ($p= 0.000$), while in the posttest it was 97%, with a Kappa score of 0.95 at ($p= 0.000$) which indicates that the agreement between the two raters in the pretest and the posttest is almost perfect (Landis & Koch, 1977). This suggests that the raters strongly agree in their opinions as to which meanings in option D answers were potentially metaphoric or non-metaphoric, and that this agreement is statistically significant. We then discussed the answers, which were different until we agreed to either count the answer as correct or exclude it. The total number of option D answers that I finally included in the total count is 11 cases in the pretest and six cases in the posttest.

Following this, I ran the Kruskal-Wallis Test, which is the non-parametric equivalent to the One-Way ANOVA for comparing three groups or more, twice: once with the answers of option D (it means something else) included in the test results and once only with the explicitly correct answers. Although the mean ranks from each test were affected, there were no changes in significance level among the three groups between the clearly correct answers and the option D added answers. Since there were no changes in significance, and because the aim of the metaphor understanding tests was to measure the students' knowledge of the vocabulary senses, I decided to adopt the

results that included the clearly correct answers and the option D answers to make a stronger case for learner retention. Therefore, from now on throughout the data analysis, I refer to the test results that include the students' interpretations (option D). After this, I ran the Kruskal-Wallis Test two more times to calculate the difference in improvement between the pretest and the posttest as well as the difference in improvement between the posttest and the 2-week delayed test. As discussed in Section 6.4.1, a normal distribution of data was not expected for the Kruskal-Wallis Tests but the test results appeared to follow similar distribution shapes in the histogram plots. The results for these tests are reported in Section 6.5.1.

6.4.5.2. Metaphor production tests

The metaphor production tests employed in this study consisted of two free-writing assessments, one given as a pretest and the other as a posttest (please see Appendix C3 for the metaphor production pretest and Appendix C8 for the metaphor production posttest). They were designed to measure free production of the taught metaphoric expressions. With the absence of prior research, developing metaphor production tests was a problematic task. The metaphor production tests had to accommodate the second sub-research question which asks if participants can produce the metaphoric expressions freely in writing and if there are any differences between the CG-3, MG-3 and EAMG-3's use of taught metaphoric expressions based on their interventional teaching style. Therefore, in attempting to develop an open metaphor production test that would still be controlled in order to allow comparison I followed a number of criteria. First, I chose two writing topics which could promote the use of vocabulary that would arise from the conceptual metaphor LIFE IS A JOURNEY. The aim

of controlling for the topic of composition was to encourage participants to use the taught metaphoric expressions to express themselves. Topic one on the metaphor production tests involved a past situation in which the learners had to choose between two options and the consequences of these choices. The second topic was about choosing a future career from two alternatives and the factors that contributed to this decision. Additionally, the two tests involved a space in which students had the option to draw a map that told the story of their composition in an attempt to awaken their awareness of the conceptual metaphor and to present it in a multimodal setting; ideally, in this setting they would be prompted to imagine their lives in terms of an ongoing journey. The hope was that awakening the metaphor through drawing would lead them to verbally express it in writing and use the taught metaphoric expressions. There were no guarantees that selecting a topic about life choices or even that highlighting the conceptual metaphor through drawing would promote productive use of the metaphoric expressions, but since it was difficult to control for an open writing activity I used as many external stimuli as possible. Section 6.6 further looks at the implication of test design on the participants' active performance on the metaphor production tests.

The two writing topics were piloted with three British speakers and seven EFL learners from KAU. The reason for piloting the topics with native speakers and EFL learners was not to compare between their productions, but to check that both groups would be able to answer what the test actually asks. Based on the piloting results, modifications to the wording of the questions were made. For example, the wording of writing activity one was originally 'Have you ever been in a situation where you were torn between two alternative choices?' As four of the seven EFL participants used the expression '*torn between*' in their writing, I changed the wording to avoid leading the

participants of the main study. Based on the pilot tests, the final metaphor writing tests were as follows.

Metaphor production pretest:

Have you ever been in a situation where you had to make a decision between two alternative choices? Write about this situation. Explain how you were undecided between the two choices and what made you make this life-changing decision. What factors influenced you to reach this decision? What would have happened if you had taken the alternative choice? Please draw a map or a picture to further explain your writing.

Metaphor production posttest:

Think of two alternative careers that you would like to pursue in the future. Write about these two jobs. Which career would you enjoy more and why? Which career do you think you will finally choose? Are there any external or internal factors that might influence your decision to pursue one rather than the other? How will you reach your final decision? Please draw a map or a picture to further explain your writing.

The metaphor production pretest was given to the groups participating in the study during week one, and the metaphor writing posttest was given to these participants at the start of week four, approximately four days after the interventional teaching sessions had ended. They were instructed to answer the question in a writing sample that ranged between 100 and 200 words and were also told to express themselves without worrying about spelling in this free writing assignment; as such concerns may have otherwise hindered the writing process. They were encouraged to express their stories in a drawing but were told that the drawing was optional.

When analyzing the writing samples, there were a number of issues with regards to the scanning and coding of the metaphoric expressions that were used in the writing. The first issue was that since this study is concerned only with targeted

teaching of a specific set of metaphoric expressions rather than exploring metaphor use or metaphoric competence, scanning the participants' writing samples was limited to the taught metaphoric expressions from the conceptual metaphor LIFE IS A JOURNEY. This narrow focus comes as an extension of Turner's (2014) doctoral research and Nacey's (2013) study on learner metaphor production, both of which question the appropriateness of measuring a learner's metaphoric competence by merely looking at their writing productions (see Section 2.4.1 of Chapter Two). So, since this thesis aims to provide awareness-raising activities for the teaching of metaphoric expressions rather than measuring the current state of language learners' metaphoric competence, an overall metaphor identification procedure (e.g. VIP, MIP or MIPVU) capable of scanning the texts for each metaphoric instance like the procedure in Chapter Four's Study 1 was not needed. While Study 1 was an exploratory study aimed at investigating the learners' use of metaphoric expressions in free writing assessments, Study 3 focuses on the effects of embodied action metaphor awareness on the learners' passive and active knowledge of taught metaphoric expressions; it does not explore how or if learners produce metaphor in general.

The next step in coding and scoring the participants' productive use involved extracting the taught metaphoric expressions from the learners' writing samples. I read each writing sample twice to familiarize myself with the themes and styles of writing. After that, I counted the number of words in each sample. In doing so, I counted shortened uses (e.g. *I'll*, *We've*) as separate individual words (i.e. *I will*, *We have*) so that there would be conformity in the number of words per student. Then, I scanned each sample for the 11 taught metaphoric expressions. In the case where a metaphoric expression was used I followed Laufer and Paribakht (1998) and checked for errors in

tense, sentence structure and word form. Also, if the metaphoric expression consisted of a multi-word unit, I checked to see if the entire unit had been used correctly. I distinguished between grammatical and lexical errors. I treated errors in spelling, verb tenses and singular versus plural forms as irrelevant errors and therefore counted the uses as correctly used metaphoric expressions. I disregarded errors in spelling, tense and singular/plural use, first because the learners were at an intermediate level, which meant errors in spelling and tense were expected, and second because this study focuses on memory and understanding of word meaning rather than on form. However, I considered errors in the use of prepositions that constituted a part of the multiword-unit and/or phrasal verb (i.e. *in the fast-lane*, *a step in the right direction*, *stumble into*) as incorrect uses and did not include them in the learner's overall use of taught metaphoric expressions. Moreover, if a participant used a taught metaphoric expression on two different occasions in the writing sample, I counted them as two single uses of metaphoric expressions. No other judges were asked to score the use of taught metaphoric expressions, as the list of vocabulary items was clear.

The third issue with regards to coding and processing the metaphoric expressions involved comparing the metaphoric expressions in terms of single uses or metaphoric density. In order to make an informed decision, I calculated the density of taught metaphoric expressions within the total number of words of each sample. Writing samples in the writing pretest ranged from 28 to 199 words and in the writing posttest from 20 to 184 words. Because of this large difference in range, I used the Kruskal-Wallis Test to compare between the CG-3, MG-3, and EAMG-3's use of taught metaphoric expressions. I ran the test twice, once comparing the densities of the taught metaphoric expressions and once comparing the single uses of metaphoric expressions.

Since no changes in significance occurred between the two versions of comparisons, I decided to perform the statistical comparisons within each writing sample on the basis of metaphor density (i.e. average use) rather than on frequency of metaphoric expressions (i.e. single metaphoric uses). The reason behind this decision is that this study seeks to compare the effects of teaching metaphoric expressions between three groups whose interventional teaching included embodied action metaphor awareness, conceptual metaphor awareness and semantic clustering. In order for such comparisons to be more accurate the variables used for comparison have to be treated in the same way. It would be biased to compare a writing sample of 100 words that included 10 single metaphoric expressions with another that included three expressions but only constituted 20 words in total. As noted earlier, comparing metaphor densities in learner writing should not be taken as an indication of the metaphoric competence of the learners. Turner (2014) notes that there are no guarantees that the learner had mentally processed the linguistic expression metaphorically or even activated the conceptual mapping when they produced them. So, the purpose of using metaphoric density here is to provide a more accurate measure for comparison between three groups of learners whose writings ranged in length; not to reflect on the state of the learners' metaphoric competence. The results of this analysis are reported in Section 6.5.2.

6.4.5.3. The Style of Processing (SOP) questionnaire

To investigate the participants' preferred cognitive learning styles I employed an Arabic-translated version of Childers, Houston and Heckler's (1985) Style of Processing (SOP) questionnaire. The aim of utilizing this questionnaire was to explore possible associations between the participants' learning styles and their responses to the

metaphor understanding tests and metaphor production tests. Specifically, this questionnaire is used to connect the success or failure of the embodied action metaphor awareness and conceptual metaphor awareness conditions with the participants' visual/verbal inclinations. It is made up of 22 statements, half of which are imager statements and the other half are verbal statements. Respondents indicate on a 4-point scale that ranges from 'always true' to 'always false' the degree to which each statement applies to them. The statements include items such as '(4) *I do a lot of reading*', which is a verbal item, and '(22) *My thinking often consists of mental 'pictures' or 'images'*', which is a visual item. Analysis of the answers to the SOP questionnaire yields estimates as to which degree the respondent tends to be a high imager (overall mean=4) or a low imager (overall mean =1). It should be noted that 14 of the total 22 statements should be reversed before scoring.

I used an Arabic-translated version of the SOP questionnaire because the participants were intermediate EFL learners and I wanted them to answer it as accurately as possible (please see Appendix C9 for a copy of the SOP questionnaire). This was deemed manageable because the main aim of this study is to investigate the effects of embodied action metaphor awareness on learning metaphoric expressions and the role of the SOP questionnaire is secondary. It is used to link possible relations between the interventional method and the learners' possible style of processing.

Translation for the SOP questionnaire was done in four steps following Makni's (2013) doctoral research. First, I translated the SOP questionnaire into Arabic. While doing this, I tried to paraphrase statements like '*I like to doodle*' and '*I find it helps to think in mental pictures when doing many things*', which have no Arabic equivalents. Then, a second translator independently translated the Arabic version back

into English. Third, I addressed the variations between the original SOP questionnaire and its secondary English translation. Finally, the Arabic version of the SOP questionnaire was piloted with five EFL learners, and further modifications were made to the statements based on their answers. An internal reliability check was not performed at the piloting stage because the piloting sample was so small. The Arabic version of the SOP questionnaire was given to the participants during week four and took five minutes to complete.

For data analysis, the students' responses were entered into an Excel sheet and the reversed items were corrected for scoring. After that, I examined the reliability of the SOP questionnaire data, i.e. its freedom of errors, by checking for the internal consistency of the scale. The internal consistency refers to "the homogeneity of the items making up the various multi-item scales within the questionnaire" (Dörnyei & Taguchi, 2009, p. 93). It is measured in SPSS through Cronbach's alpha coefficient which is a figure that ranges between zero and +1. The Chronbach's alpha score which is aimed for in linguistic research is .60 and it would indicate a strong internal consistency between the questionnaire items (Dörnyei, 2007). However, the score received from Cronbach's alpha analysis done on the SOP questionnaire was ($\alpha = .52$) which indicates some inconsistencies within the scale for the participating learners. Since the aim of the questionnaire was not to develop the scale but to assess the degree of correlation with the participants' answers in the interpretation and writing tests I decided not to eliminate any of the questionnaire items. The implications of using a low-consistency scale are addressed in Section 6.6 and the results of this analysis are reported in Section 6.5.3.

6.4.5.4. Evaluation questionnaire

To evaluate the participants' satisfaction levels with the metaphor teaching methodologies I used the same evaluation questionnaire developed in Chapter Five for Study 2 (Section 5.4.5.2) which is made up of five Likert-scale questions and four open-ended questions. I added another open-ended question to ask whether actions/videos/images are a waste of class time. The Arabic version of the questionnaire was given to the participants in week four and it took 10 minutes to answer (please see Appendix C10 for a copy of the evaluation questionnaire).

To analyze the evaluation questionnaire I followed the same procedure described in Section 5.5.3 of Chapter Five. For the closed questions in the 5-item Likert-scale, I calculated the means of each of the items in each group. Then I performed the Kruskal Wallis Test to statistically compare between the scores of the CG-3, the MG-3 and EAMG-3 for each item. As to the open-ended questions, I first translated the answers into English. I then performed a content analysis using the Nvivo-11 package, in which I categorized the answers of each group. Following the recommendations of Dörnyei (2003), I reduced the diverse responses to a handful of key issues by taking each response and marking the distinct key points. Based on this, I formed broader categories in the form of positive evaluations, negative evaluations and suggestions. The results of this analysis are reported in Section 6.5.4.

6.5. Data analysis

Study 3 investigated how teaching metaphoric expressions through embodied action metaphor awareness of the metaphor LIFE IS A JOURNEY could influence the

learners' understanding, retention and production of the taught metaphoric expressions as opposed to conceptual metaphor awareness or semantic clustering. This section discusses the results of the data analysis in terms of the four sub-research questions which were outlined in Section 6.3. In detail, Section 6.5.1 discusses the results of the metaphor understanding tests and Section 6.5.2 discusses the results of the metaphor production tests. In addition, Section 6.5.3 describes the correlations between the SOP questionnaire and the metaphor understanding and production tests and Section 6.5.4 presents the results of the evaluation questionnaire.

6.5.1. The results of the metaphor understanding tests

The data analysis for the first sub-research question involved a statistical comparison of the results of the metaphor understanding pretests, posttests and the 2-week delayed tests which were taken by the CG-3, the MG-3 and the EAMG-3. To check the difference in performance brought about by the interventional teaching style, I used the Kruskal-Wallis Test to compare between the results of the three groups. In this section, I start by presenting the results of the Kruskal-Wallis Tests and discuss their implications after this. Table 6.3 provides a summary of the means, medians, standard deviations and 2-tailed significance:

Test	CG-3 n= 17	MG-3 n= 18	EAMG-3 n= 25	2 Tailed significance
Pretest	M= 3.82 Md= 4.00 SD= 1.97	M= 4.61 Md= 4.00 SD= 2.17	M= 4.52 Md= 4.00 SD= 1.85	$p= .542$
Posttest	M= 5.47 Md= 5.00 SD= 1.27	M= 9.38 Md= 10.00 SD= 2.54	M= 9.36 Md= 10.00 SD= 2.03	$p= .000$
2-week delayed test	M= 3.29 Md= 3.00 SD= 1.44	M= 7.05 Md= 7.00 SD= 2.33	M= 9.68 Md= 10.00 SD= 1.67	$p= .000$

Table 6.3: Study 3 results and significance of Kruskal-Wallis Test

To further investigate the differences between individual groups, I examined the post hoc pairwise comparisons of the Kruskal-Wallis Test for the posttest and 2-week delayed test. Table 6.4 presents the post hoc results, their adjusted significance, and the effect sizes for significant values as described by Cohen (1988):

Groups	Posttest adjusted significance	Delayed test adjusted significance
CG-3 vs. MG-3	$p= .000 - r = .66$	$p= .004 - r = .7$
CG-3 vs. EAMG-3	$p= .000 - r = .67$	$p= .000 - r = .83$
MG-3 vs. EAMG-3	$p= 1.000$	$p= .017 - r = .53$

Table 6.4: Post hoc test results for posttest and 2-week delayed test with the effect sizes

In addition, I employed another Kruskal-Wallis Test to examine the difference of improvement between the pretest and the posttest and the difference in improvement between the posttest and the 2-week delayed test. Table 6.5 presents a summary of the

means, medians, standard deviations and 2-tailed significance of the difference in improvement:

Test	CG-3 n= 17	MG-3 n= 18	EAMG-3 n= 25	2 Tailed significance
Difference between the pretest – posttest	M= 1.65 Md= 2.00 SD= 2.572	M= 5.06 Md= 5.00 SD= 2.94	M= 4.84 Md= 5.00 SD= 2.42	$p= .001$
Difference between the posttest - Delayed test	M= -2.18 Md= -2.00 SD= 1.74	M= -2.33 Md= -3.00 SD= 2.16	M= .32 Md= 0.00 SD= 1.52	$p= .000$

Table 6.5: Study 3 results on the difference of improvement

Lastly, I examined the post hoc results of the latest Kruskal-Wallis Test to investigate the differences between individual groups with regards to their improvement between the pretest and the posttest and between the posttest and the 2-week delayed test. Table 6.6 presents the post hoc tests and the effect sizes for significant results:

Groups	Difference between the pretest and posttest adjusted significance	Difference between the posttest and delayed test adjusted significance
CG-3 vs. MG-3	$p= .003 - r= .52$	$p= 1.000$
CG-3 vs. EAMG-3	$p= .002 - r= .54$	$p= .000 - r= .67$
MG-3 vs. EAMG-3	$p= 1.000$	$p= .000 - r= .04$

Table 6.6: Post hoc test results for differences in improvements with the effect sizes

To put it visually, Figure 6.2 further illustrates the means of the pretest, the posttest and the 2-week delayed test results by the CG-3, MG-3 and EAMG-3:

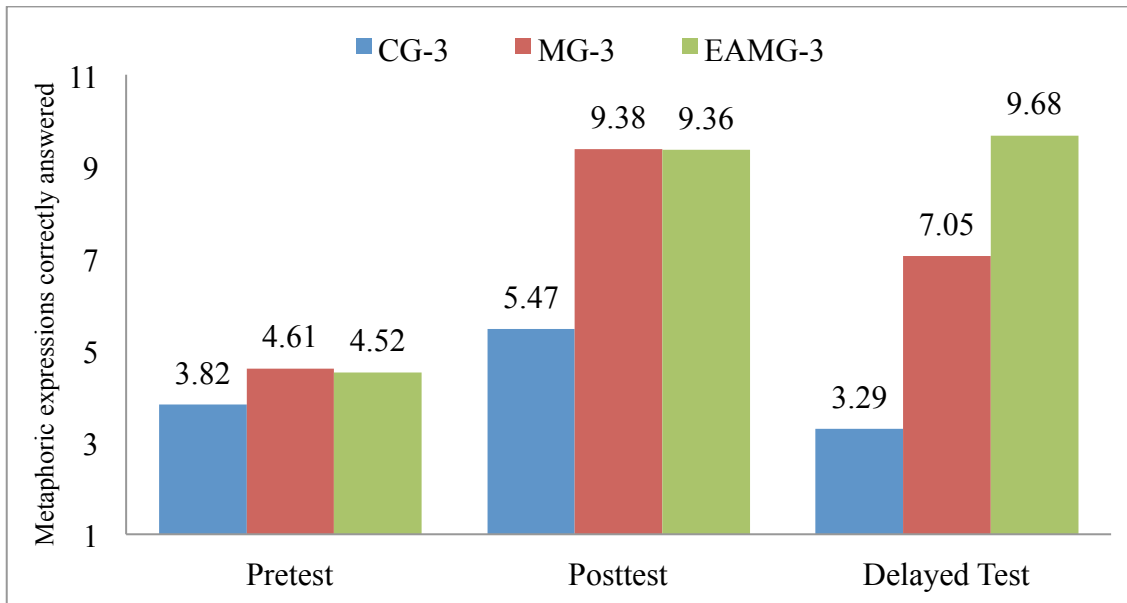


Figure 6.2: Means of the taught metaphoric expressions that were remembered correctly in the metaphor understanding pretests, posttests, and 2-week delayed tests by learners in the CG-3, MG-3 and EAMG-3 in Study 3

From Table 6.3 and Figure 6.2 we can deduce that all groups performed in a similar low manner on the pretest: the CG-3 ($M = 3.82$, $Md = 4.00$, $SD = 1.97$), the MG-3 ($M = 4.61$, $Md = 4.00$, $SD = 2.17$) and the EAMG-3 ($M = 4.52$, $Md = 4.00$, $SD = 1.85$). The Kruskal-Wallis Test indicates no significant difference in the medians of the three groups ($p = .542$). This lack of understanding of the contextual meaning of the taught metaphoric expressions indicates the participants' need for interventional teaching of metaphoric expressions in the classroom.

After the 2-week interventional teaching sessions, the MG-3 who learned the vocabulary through conceptual metaphor awareness, and the EAMG-3, who learned the vocabulary through embodied action metaphor awareness, performed similarly higher than the CG-3 who received the semantic clustering of the metaphoric expressions. This

is indicated by the statistical results in Table 6.3, which showed that the difference in the posttest scores of the CG-3 ($M = 5.47$, $Md = 5.00$, $SD = 1.27$), the MG-3 ($M = 9.38$, $Md = 10.00$, $SD = 2.54$) and the EAMG-3 ($M = 9.36$, $Md = 10.00$, $SD = 2.03$) was highly significant ($p = .000$). A further post hoc test in the form of pairwise comparisons revealed that there was no significant difference between the MG-3 and EAMG-3 on the posttest ($p = 1.000$). However, the MG-3 ($p = .000$) received a significantly higher score than the CG-3 with a large effect size ($r = .66$) while the EAMG-3 received a significantly higher score than the CG-3 ($p = .000$) with a large effect size ($r = .67$). In addition, Table 6.5 and Table 6.6 indicate that the differences in the improvement of the CG-3, the MG-3 and the EAMG-3 between the pretest and the posttest are also significant.

We can deduce from these results that the immediate effects of the interventional teaching sessions through conceptual metaphor awareness and embodied action metaphor awareness are similar (MG-3: $M = 9.38$ and EAMG-3: $M = 9.36$ respectively). Figure 6.3 details the differences in means, medians and standard deviations between the three groups in the metaphor understanding posttest:

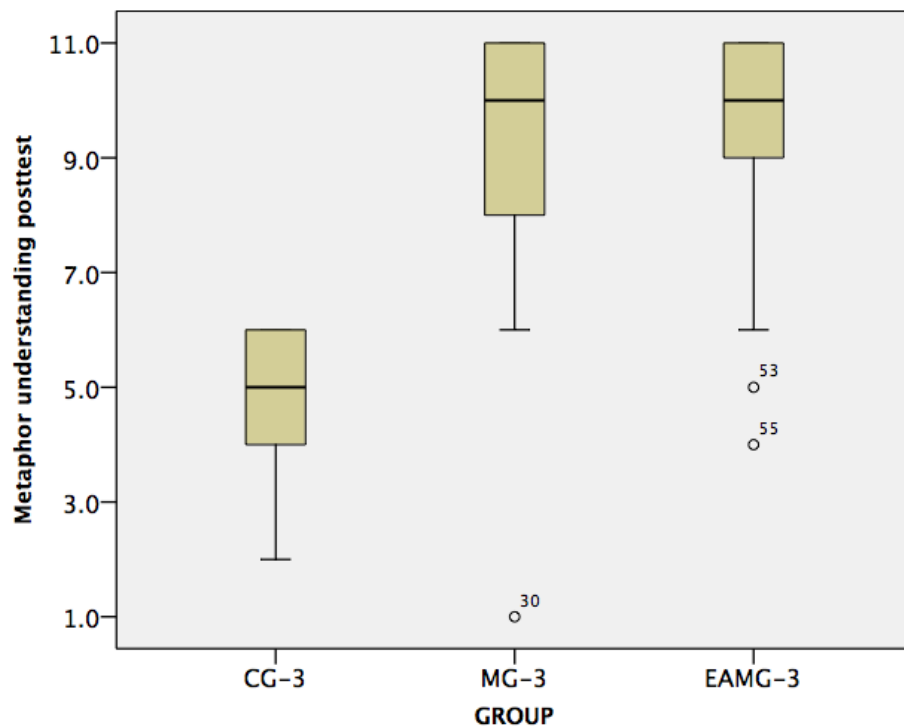


Figure 6.3: Means, medians and distributions of the taught metaphoric expressions that were remembered in the metaphor understanding posttest by members of the CG-3, MG-3 and EAMG-3 in Study 3

Figure 6.3 shows that there are outliers in the posttest results of the MG-3 (one learner) and the EAMG-3 (two learners) who did not perform well in the posttest. Even though the majority of learners in the experimental groups performed better than the learners in the CG-3, there were still a number of students who did not benefit from the metaphor awareness-raising activities.

Taking another look at Table 6.3 and Table 6.4, we can see that the results of the Kruskal-Wallis Test in the 2-week delayed test revealed that the difference between the medians of the CG-3 ($M = 3.29$, $Md = 3.00$, $SD = 1.44$), the MG-3 ($M = 7.05$, $Md = 7.00$, $SD = 2.33$) and the EAMG-3 ($M = 9.68$, $Md = 10.00$, $SD = 1.67$) was highly significant ($p = .000$). Further post hoc comparisons showed that the difference between

all groups is also highly significant and accompanied by with large effect sizes (CG-3 vs. MG-3 $p = .004$, $r = .7$; CG-3 vs. EAMG-3 $p = .000$, $r = .83$; MG-3 vs. EAMG-3 $p = .017$, $r = .53$). This indicates that the retention of metaphoric expressions by the CG-3 dropped even lower than when they took the pretest and the posttest, further supporting the hypothesis that semantic clustering of the various senses of metaphoric expressions does not aid longer-term retention. One interpretation for this is that the mere listing of meanings according to the theme of life is not a sufficient teaching technique to have an immediate effect on the working memory of CG-3 learners. Second, even though there was no difference between the MG-3 and the EAMG-3 in the posttest, the 2-week delayed test revealed a highly significant difference between them ($p = .017$). Hence, we can deduce that making use of embodied action metaphor awareness while teaching metaphoric expressions has successfully yielded superior longer-term effects for the EAMG-3. However, employing conceptual metaphor awareness alone was not sufficient to yield longer-term retention of the senses of the metaphoric expressions that were presented. This result corresponds with the results from Study 2 in Chapter Five of this thesis, which showed no longer-term benefits in retention for the conceptual metaphor group. Moreover, with reference to Table 6.5 and Table 6.6, the difference in improvement between the posttest and the 2-week delayed test indicates that the difference between the EAMG-3 and the two other groups is consistent with the differences in the medians in Table 6.3 and Table 6.4.

In conclusion, making use of embodied action metaphor awareness to teach metaphoric expressions appears to have successfully resulted in longer-term retention for the EAMG-3. It is a surprise, though, that their 2-week delayed test results were similar to their results on the immediate posttest (Posttest: $M = 9.36$; 2-week delayed

test: $M = 9.68$). Even though there is a slight increase between the posttest and delayed test results for the EAMG-3, a Paired Samples T-Test shows that this difference is not significant ($p = .303$). There are three possibilities for why there was no decrease in the results of the EAMG-3's 2-week delayed test. First, since the 2-week delayed test contains five items from the pretest and six items from the posttest the EAMG-3 students may have retained the items and answered them from memory. However, this is unlikely because if this were the case the CG-3 and the MG-3 would also have retained the items and performed better in the 2-week delayed test as well, which did not happen. Second, the students in the EAMG-3 may have responded better to the visual and kinesthetic teaching methodology than the students in the CG-3 and the MG-3, and therefore the EAMG-3 students appreciated the embodied metaphor awareness. Data analysis for the third sub-research question further investigates this possibility. The third and most plausible explanation for these results, and the one in agreement with the enactment effect hypothesis described in Section 3.6.1, is that enacting and gesturing an embodied conceptual metaphor while learning the senses of metaphoric expressions resulted in better retention benefits for the EAMG-3 up to two weeks after the intervention. This justification also aligns with Macedonia and Klimesch's (2014) longitudinal study, which showed highly significant results in 2-week delayed tests for enacted vocabulary as opposed to vocabulary items explained through audiovisual modalities. The implications of these results for figurative language teaching are discussed in Section 6.6.

6.5.2. The results of the metaphor production tests

With regards to the learners' use of the taught metaphoric expressions in active writing, analysis of their writing pretests and posttests revealed the following results. To test for differences in the use of taught metaphoric expressions in active writing I used the Kruskal-Wallis Test to compare the density of taught metaphoric expressions between the CG-3 who learned through semantic clustering of metaphoric expressions, the MG-3 who learned through conceptual metaphor awareness, and EAMG-3 who learned through embodied action metaphor awareness. None of the participating groups used the target metaphoric expressions in the metaphor production pretest, resulting in a non-significant difference. After the 2-week interventional teaching sessions, there appears to be no significant differences in productive use of the taught metaphoric expressions between the CG-3, the MG-3 and the EAMG-3 ($p = .898$). The metaphoric density of the taught metaphoric expressions in the participants' metaphor production posttests is also minimal (CG-3: $M = 0.31$, $Md = 0.00$, $SD = 0.1$, MG-3: $M = 0.64$, $Md = 0.00$, $SD = 0.19$, EAMG-3: $M = 0.85$, $Md = 0.00$, $SD = 0.25$). Figure 6.4 presents the lack of difference between the three groups:

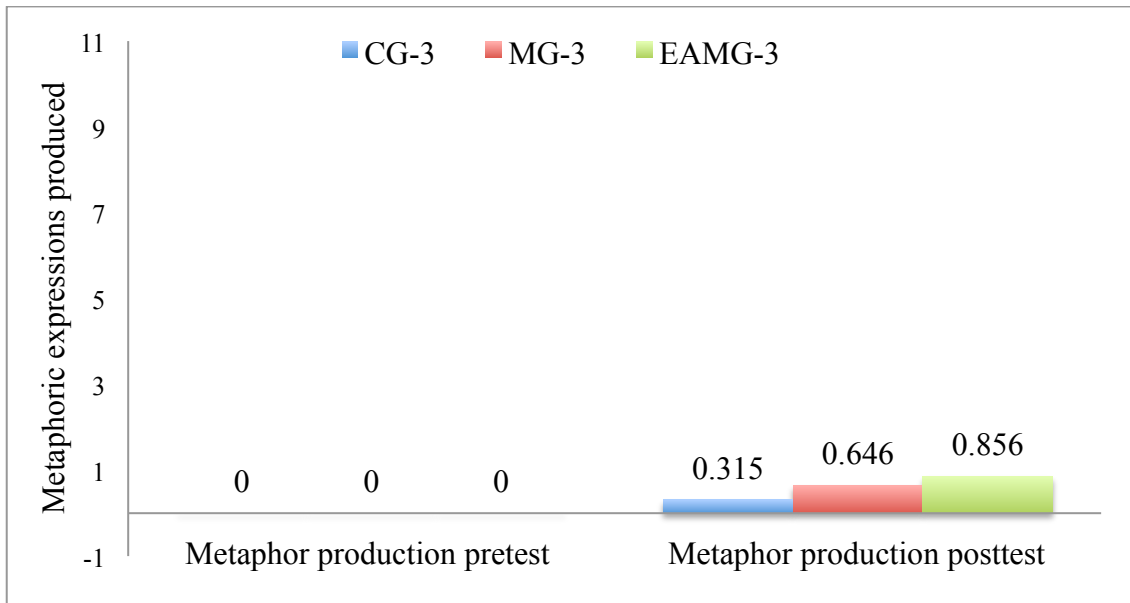


Figure 6.4: Means of the taught metaphoric expressions that were produced in the metaphor production pretests and posttests by members of the CG-3, MG-3 and EAMG-3 in Study 3

If the results for metaphor production tests are taken at face-value they seem to be discouraging, indicating that embodied action metaphor awareness, conceptual metaphor awareness and semantic clustering might be unsuitable teaching methods for the production of metaphoric expressions. While conceptual metaphor awareness and embodied metaphor awareness are two teaching methodologies that are suitable for promoting understanding of metaphoric expressions, they seem to have no influence on the production of metaphoric expressions that was targeted which highlights the limitations of the two metaphor awareness-raising activities. Boers (2004) noted that conceptual metaphor awareness does not aid the production of metaphoric expressions. This might also apply to teaching through embodied action metaphor awareness. We may be able to make learners aware of the various senses of metaphoric expressions

through conceptual metaphor awareness or embodied action metaphor awareness but we may not be able to lead them to produce this vocabulary freely in writing through these teaching methodologies. Future research would need to explore this possibility further to validate this justification.

There is also a possibility that the testing measure which consisted of a free-writing assessment has had a role in these less than encouraging results. Comparing pre- and post-intervention production in the form of free-writing assessments which may contain opportunities for metaphor production, may not be the most appropriate method to test for metaphor production. As already noted in Section 6.2.2, Laufer and colleagues (Laufer & Paribakht, 1998; Laufer, 1998) stressed that vocabulary production progresses at a much slower rate than does the passive knowledge of vocabulary throughout the years of L2 practice. This slower rate indicates that testing for complex active knowledge should include different and more longitudinal variables than testing for metaphor understanding. Laufer and Paribakht (1998, p. 378) noted, “[i]t is indeed doubtful whether researchers can devise a measure to check how many words a person actually uses at free will, unless the person’s vocabulary is very limited”. Therefore, testing for the metaphor production of EFL learners, even those learners who have received training in conceptual metaphor awareness or embodied action metaphor awareness, should not mirror metaphor-understanding tests. Rather, tests should be designed to individually target each dimension of metaphor learning, if such a measure is even possible. With the absence of cognitive linguistic research investigating the fostering of productive knowledge of metaphoric expressions in EFL learners, developing valid and strong testing materials would be a challenging task. If this second justification can indeed explain the low metaphor production scores, the

current study is valuable in the finding that experimental testing of metaphoric expressions using free writing assessments is a flawed method. It is a method without precedence and should, therefore, be avoided in future attempts to research the impact of metaphor awareness-raising activities on learner production.

6.5.3. The correlations between learning styles and metaphor tests

Analysis of the participants' cognitive learning styles involved first calculating the mean score of each participant's performance on the SOP questionnaire, then calculating the correlations of the CG-3, MG-3, and EAMG-3 with the results of the metaphor understanding posttests and 2-week delayed tests and writing posttests. It also involved exploring the correlations between the differences in improvement in the metaphor understanding tests and the SOP questionnaire. To test for possible correlations I used the non-parametric equivalent to the Pearson correlation test, namely the Spearman rho through SPSS. Table 6.7 presents the level of significance of each correlation between the tests and the SOP questionnaire. In addition, Table 6.8 presents the correlations between the improvements between the tests and the SOP questionnaire:

Group	Correlation of metaphor understanding posttest and SOP		Correlation of metaphor understanding 2-week delayed test and SOP		Correlation of metaphor production posttest and SOP	
	Correlation coefficient	<i>p</i> value	Correlation coefficient	<i>p</i> value	Correlation coefficient	<i>p</i> value
CG-3	.061	0.81	-.01	0.9	-.1	0.6
MG-3	.53	0.02*	.05	0.8	-.41	0.08
EAMG-3	.002	0.9	-.32	0.1	.05	0.8

Table 6.7. Spearman rho correlations of the SOP and metaphor understanding and production tests

Group	SOP and improvement in understanding pretest and posttest		SOP and improvement in understanding posttest and 2-week delayed test	
	Correlation coefficient	<i>p</i> value	Correlation coefficient	<i>p</i> value
CG-3	-.18	0.4	.32	0.2
MG-3	.53	*0.02	-.44	0.6
EAMG-3	-.24	0.2	-.06	0.7

Table 6.8. Spearman rho correlations of the SOP and difference of improvement in metaphor understanding tests

Looking at the Spearman rho correlations in Table 6.7 we can see that no correlations were found between the EAMG-3 and the CG-3's preferred cognitive learning styles and their performance on the metaphor understanding and production tests. The only significant correlation is a positive correlation between the high-imager learners in the MG-3 and their performance on the metaphor understanding posttest ($r = .53$, $p = .02$). This is mirrored in Table 6.8 by a positive correlation between the results of the high imager learners in the SOP questionnaire and the level of improvement they achieved between the metaphor understanding pretest and the posttest ($r = .53$, $p = .02$).

According to Cohen (1988), the strengths of the correlation coefficients are large (between $r = .50$ to $r = 1.0$) suggesting a strong positive relationship between imagery processing and metaphor understanding. This indicates that the MG-3 learners were more imagery-inclined and therefore benefitted the most from the use of images associated with metaphoric expressions in their conceptual metaphor awareness-raising activities. As discussed in Section 6.2.3, Boers et al. (2008) showed similar results between learning style and understanding of metaphoric senses.

The results in Table 6.7 and Table 6.8 also indicate that individual style preferences did not play a role in the effectiveness of the CG-3 and EAMG-3 teaching methodologies. Specifically to the EAMG-3, these results indicate that embodied action metaphor awareness, not imagery preference, has most likely played a role in understanding and retaining the metaphoric expressions. However, it should be noted that the relationship between language learners who are imagers and their preference to pictorials is not a straightforward one. Boers et al. (2008) acknowledged that even though there might be a correlation between a learner's processing of pictorials and their understanding of metaphoric senses of vocabulary, they may not necessarily be able to produce these particular vocabulary items in future encounters.

6.5.4. Learner evaluations of the teaching methodology

Analysis of the evaluation questionnaire is presented in two parts: a quantitative analysis of the Likert-scale questions and a qualitative analysis of open-ended questions. Starting with the five Likert-scale items, the analysis involved calculating the means and medians of the learners' answers on the closed-class questions, then statistically comparing them. The average results of the Likert-scale

answers for each group are: the CG-3 ($M= 3.83$, $Md= 3.8$, $SD= 0.74$), the MG-3 ($M=4.42$, $Md= 4.5$, $SD= .46$), and the EAMG-3 ($M= 4.46$, $Md= 4.6$, $SD= 0.49$). Figure 6.5 illustrates the means of each Likert-scale item in the CG-3, MG-3 and EAMG-3:

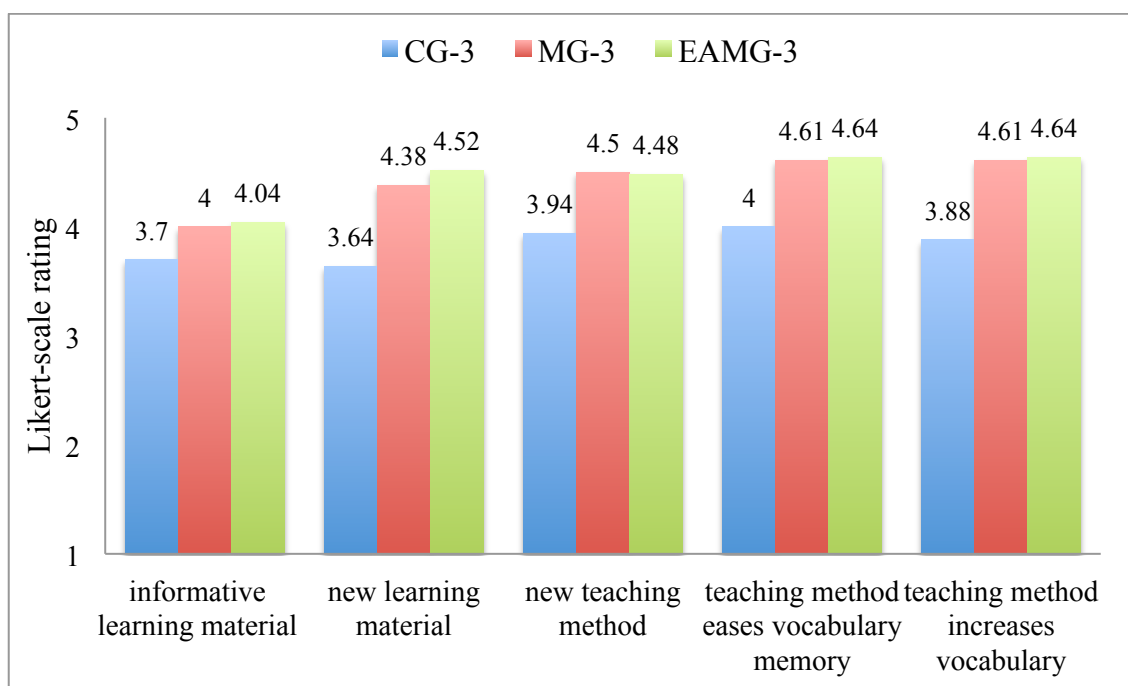


Figure 6.5: Means of the closed-item questions in the evaluation questionnaire as evaluated by learners in the CG-3, MG-3 and EAMG-3 in Study 3

I used the Kruskal-Wallis Test to compare the medians between the three groups' answers to the Likert-scale items. It revealed a highly significant difference ($p=.007$) between the average evaluations of the CG-3, the MG-3 and the EAMG-3. An additional post hoc test revealed that the significant differences are in fact between the CG-3 and the MG-3 ($p=.041$) with a medium effect size of ($r=.42$) and between the CG-3 and the EAMG-3 ($p=.008$) with a medium effect size of ($r=.45$). There is,

however no apparent difference in evaluation between the MG-3 and the EAMG-3 ($p=1.000$). The statistical difference is between the CG-3 who learned the vocabulary according to semantic clustering and the experimental groups who learned through the metaphor awareness-raising activities. Whether the cognitive approach involved conceptual metaphor awareness or embodied action metaphor awareness made no difference in the experimental groups' evaluations.

Second, with regards to the open-ended questions, I organized the answers under three themes: positive evaluations, negative evaluations and suggestions. Each is discussed here. Starting with the positive evaluations, even though the CG-3 did not train in conceptual metaphor awareness or embodied action metaphor awareness, they reported their appreciation of the use of illustrative videos and images as it made the lesson more interactive, for example:

(31) Using video and pictures helps us focus on the material and remember them better. (CG-3-8)

As to the MG-3, they reported their appreciation of being taught about conceptual metaphor awareness and learning vocabulary senses suitable for different situations, for instance:

(32) It is a new way of teaching and it helps us memorize the vocabulary. It gives us the different meanings and uses of the word in different situations. (MG-3-7)

Other students expressed their appreciation of learning vocabulary items as phrases in context rather than single words, such as:

(33) Learning phrases for the journey of life is more helpful than just words. I learned the words as I will use them. (MG-3-1)

Lastly, participants in the EAMG-3 commented on the use of actions as an entertaining and innovative method of teaching vocabulary, for example:

(34) I got to understand the vocabulary and sentences more deeply by learning through actions. It felt like going to the gym. (EAMG-3-6)

Also, Student EAMG-3-17 commented how taking part in enactments made the vocabulary teaching more learner-centered:

(35) Because the physical activity energizes the body and the mind. I like it better than sitting in a chair while the teacher explains the lesson. (EAMG-3-17)

EAMG-3 learners even commented on the role enactments played in memorizing taught vocabulary items, for instance:

(36) Actions made the words more memorable in my mind. I could just think of the action to remember the words. (EAMG-3-2)

Students have also reported on a number of negative aspects with each group's teaching methodology. As to the CG-3, some students reported that the teaching method was traditional and in need of updating, for example:

(37) I wasn't happy with the same old traditional way of teaching. (CG-3-16)

This is understandable since the teaching method for the CG-3 was a control measure. It did not involve conceptual metaphor awareness nor embodied action metaphor awareness. This further indicates that semantic clustering does not engage language learners. As to the MG-3, the students commented on the low number of vocabulary items as opposed to the long vocabulary lists they are used to, for example:

(38) The number of vocabulary items might be small. You could have taught us more these past two weeks. (MG-3-9)

To this we can say that having a lower number of vocabulary items was intentional for this study, as embodied action metaphor awareness would require dedicating the class-time to the several meanings of metaphoric expressions. With regards to the EAMG-3 evaluations, learners reported feelings of self-consciousness in having to carry out enactments in front of their peers, for instance:

(39) It is different from our normal classroom routine and it is a very entertaining and beneficial way to learn. I did feel a little embarrassed doing it. In my opinion, it can be more beneficial to children in elementary schools. (EAMG-3-10)

Again, Asher's (2012) TPR teaching methodology relies on lowering the learners' stress-levels and getting them out of their comfort zones by activating their motor skills, thus the feelings of discomfort. Another comment from the EAMG-3 was that the use of actions, multimodal images and videos can, if not managed properly take away some of the classroom time, for instance:

(40) The actions should be timed so that the time of class does not run out because spending so much time on them can be a bit distracting from the lesson. (EAMG-3-24)

To avoid such comments from learners when using TPR in embodied action metaphor awareness the teacher could explain beforehand that this teaching methodology relies fully on physical enactment rather than the verbal explaining of material and that vocabulary learning should come as a byproduct of the enactments.

Lastly, only participants from the MG-3 and the EAMG-3 provided suggestions as to how to improve the teaching methodologies they received. The MG-3

suggestions revolved around allowing more communication between the students in the teacher-centred classroom, for example:

(41) I liked everything the teacher gave us but I wish if it was more communicative and that we do it as a group. (MG-3-6)

As to the EAMG-3, whose lessons involved plenty of physical action, Student EAMG-3-3 reported not receiving enough verbal teaching and, therefore, suggested a more balanced approach between physical enactment and verbal teaching by separating the verbal teaching from the active teaching. She reported that:

(42) It is possible to balance between them by giving us every part of the lesson alone. This way you will not waste time. (EAMG-3-3)

In summary, the MG-3 and the EAMG-3 gave evaluations of their teaching methodologies which were both significantly higher than those in the CG-3. The higher evaluations are also represented in their open-ended answers. The MG-3 appreciated metaphor awareness and learning vocabulary as collocations in context rather single word units, which are the intended aims of the conceptual metaphor awareness. The EAMG-3, on the other hand, appreciated the learner-centered teaching through enactments. These favourable attitudes support the notion that embodied action metaphor awareness teaching can be a valuable addition to EFL teaching of vocabulary for its mnemonic and motivating benefits.

6.6. Discussion

In general, the results of Study 3 support the notion that employing embodied action metaphor awareness to teach LIFE IS A JOURNEY metaphoric expressions can aid understanding and retention. This teaching methodology has also been recognized as

favourable among language learners with diverse cognitive inclinations. This is important since Study 2 in Chapter Five as well as Boers (2004) have indicated the shortcomings of conceptual metaphor awareness as a technique that is limited to the understanding of taught metaphoric expressions and has no mnemonic benefits. By associating metaphoric expressions with their embodied nature through bodily enactments, longer-term retention, in this case in terms of two weeks, was achieved. However, there are a number of issues that should be acknowledged when it comes to the results of this study. I discuss these issues in terms of the four sub-research questions in Chapter Six.

With regards to the results of the first sub-research question discussed in Section 6.5.1, the 2-week delayed test revealed a highly significant difference between the MG-3 and the EAMG-3 ($p = .017$, $r = .53$) indicating that the TPR-inspired embodied action metaphor awareness that was used has led to better retention of the taught metaphoric expressions. It also indicates that embodied action metaphor awareness appears to be more effective in terms of retention than teacher-centred conceptual metaphor awareness. However, there is a possibility that the difference between the three groups is based on their response to their respective teaching methodologies (PPP for the CG-3 and the MG-3 and TPR for the EAMG-3) rather than the embodied action metaphor awareness-raising activities. While it is not clear if EAMG-3's results are due to one of these variables or both, it appears that employing embodied action metaphor awareness-raising activities through TPR has aided the understanding and retention of the taught metaphoric expressions for the learners.

As to the results of the second sub-research question discussed in Section 6.5.2, the lack of metaphor use in learner productions is understandable. This is because

research in SLA (cf. Laufer & Goldstein, 2004; Nation, 2001) explained how the productive vocabulary progresses at a slower rate than passive vocabulary. The lack of experimental research on promoting the production of taught metaphoric expressions coupled with the less-than accurate free writing testing method might have also had a role in the low metaphor production in these results. To address the issue of having an accurate testing measure for the active knowledge of metaphor, it might be better to explore the production of metaphor in a more controlled setting. One possible way to do this would be to promote the extension of visual metaphors like pictorial advertising metaphors in writing. One study that has attempted to explore the extent of interpretations of pictorial metaphors is Forceville's (1995) exploratory study. If we were to employ a form of embodied metaphor awareness as a method to promote the awareness of the source and target domains in the pictorial metaphors, the learners may express these metaphors in writing better than if they only learned them through conceptual metaphor awareness. Study 4 in Chapter Seven addresses this issue in detail.

With regards to the results of the third sub-research question addressed in Section 6.5.3, the analysis of the SOP questionnaire seems to be in line with Boers et al.'s (2008) study as the only positive correlations occurred between the MG-3 learners who were imagers and their metaphor understanding posttest. However, there is a possibility that the SOP questionnaire results are not truly indicative of the participants' imager-verbalizer preference and, therefore, the consequent correlations may not be completely accurate. As discussed in Section 6.4.5, the internal validity check has revealed a Cronbach's alpha of ($\alpha = 0.52$) which is less than the level of consistency aimed for in linguistic research. Even if this is the case and the mnemonic benefits of conceptual metaphor awareness were in fact correlated with imagery-preference, such a

teaching methodology can be valuable for imager as well as verbalizer learners. Boers et al. (2008) suggested that imager learners may benefit from the associations made by metaphoric images, and verbalizer learners may benefit from processing the visual images and verbal metaphoric expressions through dual coding (for a review of dual coding theory please refer to Section 2.4.2). This would be important since language classrooms usually include a variety of learners with various learning styles preferences, and therefore metaphor-teaching materials would need to cater to this wide variety of learners.

With regards to the results of the fourth sub-research question analyzed in Section 6.5.4, the analysis of learner evaluations shows that embodied action metaphor awareness was more favourable amongst the EAMG-3 and MG-3 learners than the CG-3 learners. The EAMG-3 learners expressed that embodied action metaphor awareness was innovative, entertaining and actively involved them. Another indication that they enjoyed TPR enactment is the number of final participants. This experiment was 5-week long and student attendance was optional. In each group varying from 31 to 32 students, the number of learners who attended all sessions from the CG-3 and MG-3 was 17 and 18 respectively, while in the EAMG-3 it was higher at 25 learners. This voluntary attendance in the EAMG-3 compared to the large absence from other groups could also indicate that this learning approach could attract and motivate students to language learning.

The results of this study need to be treated with caution, as there are a number of limitations around it. First, as the target vocabulary sample of this study is small, the results can only be interpreted as indicative rather than conclusive. Also, choosing vocabulary for TPR teaching was not an easy task since not all vocabulary items can be

easily acted out. There are several conceptual metaphors that would be difficult to apply embodied action metaphor awareness to; examples include metaphors for textures and temperature. Study 4 in Chapter Seven takes note of the limitations of action metaphor awareness and widens the implications of embodied metaphor awareness to the sense of touch, i.e. embodied tactile metaphor awareness.

Finally, based on the results of Study 3, we can conclude that embodied action metaphor awareness can be a positive addition to the EFL classroom. Now that we have established the mnemonic benefits of action-based metaphor teaching, the next and last Study 4 will address the lacking productive use of the metaphoric expressions and the possible benefits of embodied tactile metaphor awareness in order to have a clearer view of the extents of embodied metaphor awareness-raising activities.

CHAPTER SEVEN
EMBODIED TACTILE METAPHOR AWARENESS WITH
SAUDI EFL LEARNERS
STUDY 4

7.1. Introduction

The aim of this thesis is to investigate the impact of employing conceptual and embodied metaphor awareness-raising activities in Saudi university classrooms. The theoretical background in Chapter Three emphasised the possible uses of embodied metaphor awareness and highlighted the action, tactile, imaginary, etc. types of this approach. Thus far, Study 1 in Chapter Four and Study 2 in Chapter Five have focused on investigating the understanding of conventional metaphoric expressions through conceptual metaphor awareness. In addition, Study 3 in Chapter Six investigated embodied action metaphor awareness which although it was found to aid 2-week retention, might be limited to motor and action metaphors. This is because the embodied nature of some metaphors, such as those referring to texture and temperature, are better communicated through the sense of touch, henceforth, embodied tactile metaphor awareness. For example, employing embodied tactile metaphor awareness for metaphors involving temperature and texture in the classroom could communicate their embodied meanings to the EFL learners. In order to fully communicate the embodied senses of metaphoric expressions like '*a cold man*' and '*a smooth talker*' to EFL learners, the most direct method would be through asking them to touch cold objects and smooth surfaces to enable for a richer understanding of the embodied metaphors being taught. Embodied tactile metaphor awareness is a newly proposed metaphor

awareness-raising activity and Study 4 takes the first step into exploring its impact with Saudi EFL learners at the university level.

In addition, embodied tactile metaphor awareness may prove beneficial in communicating the embodied senses involved not only in linguistic metaphors (as discussed in detail throughout Chapter Three), but also visual metaphors. Thus far, the pedagogical implications of visual and multimodal metaphors have been overlooked in the cognitive linguistic research on language teaching due to its verbal nature. However, the focus on linguistic data in cognitive linguistic research extends beyond the language classroom. Pérez Sobrino (2013, p. 70) criticized CMT research for its emphasis on verbal manifestations of metaphor as this has led it to neglect “other levels of cognition modelling” including the visual and gestural manifestations of metaphor. Further, this gap of nonverbal metaphor limits our understanding of the pedagogical implications for multimodal contexts such as printed and TV advertising. To this end, Low (2008) recommended employing the visual metaphors that can be found in advertising because they are authentic, accessible and multi-layered teaching materials that can aid in the teaching of L2 metaphors. His recommendation, however, is yet to be investigated empirically. If we were to put Low’s proposal into practice, we should for example explore two things: how language learners interpret visual metaphors, and how we can promote richer and more comprehensive interpretations of those metaphors. For this reason, Study 4 provides an attempt to incorporate visual metaphors into metaphor awareness-raising activities by employing the medium of printed advertising, henceforth pictorial metaphors. Embodied tactile metaphor awareness may be a more suitable technique than ‘the linguistically focused’ conceptual metaphor awareness or ‘the action metaphor focused’ embodied action metaphor awareness to communicate the

embodied figurative senses of pictorial metaphors. Thus, the underlying notion of Chapter Seven is that we can promote the embodied natures of linguistic and pictorial metaphors through embodied tactile metaphor awareness since they derive from the same embodied sensory experiences. Section 7.2.2 elaborates on pictorial metaphor in advertising and its use in the EFL/ESL classroom.

Thus in Chapter Seven I report on Study 4 which explores the impact of embodied tactile metaphor awareness on the teaching of linguistic and pictorial metaphors that arise from the domains of texture and temperature as opposed to conceptual metaphor awareness. For Study 4 I recruited 67 Saudi female learners from KAU, who were divided into a metaphor control group (MCG-4) and an embodied tactile metaphor group (ETMG-4). The intervention was carried out through a teaching methodology that employed Gardner's (1983) multiple intelligences (MI) theory. Before and after the intervention, seven conventional metaphoric expressions and three pictorial metaphors were tested through conventional metaphor understanding tests and pictorial metaphor interpretation tests. In addition, the learners received an MI inventory questionnaire and an evaluation questionnaire.

With these issues in mind, Chapter Seven develops as follows. In section 7.2 I begin with a review of the research on embodied tactile metaphor awareness, metaphor interpretation, pictorial metaphors in advertising, and the MI-based teaching methodology. Building on this review, I present the sub-research questions in Section 7.3 and the experimental methodology with regards to the materials, interventional teaching sessions, tests and questionnaires in Section 7.4. I then present a detailed analysis of the learners' performance in the conventional metaphor understanding tests, pictorial metaphor interpretation tests and supplementary questionnaires in Section 7.5.

In Section 7.6 I conclude with a discussion of the results and implications for figurative language teaching.

7.2. Rationale

As noted earlier, the aim of Study 4 is to promote the understanding and rich interpretation of pictorial and linguistic metaphors through embodied tactile metaphor awareness. I have previously examined the research on conceptual metaphor awareness-raising activities in Section 2.4, individual learner differences in Section 6.2.3 and the importance of learner evaluations in Section 5.2.2. So, in the following rationale I discuss the themes that are new to the thesis. I first reiterate the scarcity of cognitive linguistic research on embodied tactile metaphor awareness in Section 7.2.1 and discuss pictorial metaphors in advertising in Section 7.2.2. I then consider the possible methods of analysing learners' interpretations of metaphor in Section 7.2.3 and Gardner's MI theory for language teaching in Section 7.2.4. I conclude with a synopsis of the current state of cognitive linguistic research and the gaps that I address in Study 4.

7.2.1. Embodied tactile metaphor awareness

In Chapter Three Sections 3.4 and 3.6 outlined the research gaps regarding embodied metaphor and awareness of tactile metaphors in language teaching and featured research in social psychology that supports the effects of tactile metaphor awareness on behaviour and social judgment (e.g. Ackerman et al., 2010; Zhong & Leonardelli, 2008; Ijzerman & Semin, 2009; Williams & Bargh, 2008). For example, Ackerman et al. (2010) found that touching soft or hard textures had an effect on

decision-making processes and social judgment. In addition, cognitive neuroscience research (cf. Lacey et al., 2012) has shown that the mental processing of tactile metaphor involves a dual activation in the language and texture processing areas of the brain. These two areas of research support the notion that employing touch to promote awareness of texture metaphors can foster their meanings.

In addition, as discussed in Sections 3.5 and 3.6, cognitive linguistic researchers are yet to investigate the linguistic behaviour of embodied metaphor. Apart from the work by Gibbs and colleagues (cf. Gibbs & Perlman, 2006; Wilson & Gibbs, 2007) with motor metaphors and that of Lindstromberg and Boers (2005) with the teaching of action metaphors, cognitive linguistic research is still in need of in-depth analysis of the linguistic aspects of embodied metaphors. Study 3 in Chapter Six has shed light on the benefits of embodied actions in the classroom. It has concluded that reconnecting learners with the embodied nature of conceptual metaphors had a positive influence on their understanding and retention. However, as argued at the end of Chapter Six, embodied action metaphor awareness is difficult to adopt with non-motor or tactile metaphors. The awareness of embodied metaphors of texture and temperature may be better communicated through touch, as in the following linguistic examples from the BNC:

(43) Mr. Mellor is no soft touch, as those within the industry who had to negotiate with him quickly discovered.

(44) Two leading ice cream manufacturers are getting hot under the collar in a row over trade.

In example (43) '*soft touch*' expresses personality as a variation of texture and in example (44) '*hot under the collar*' refers to anger as a hot container. These are conventional metaphoric expressions that are motivated by primary metaphors for

temperature and texture, and teachers can use the sense of touch to promote awareness of their primary sensorimotor motivations by, for example, using soft feathers and hot jars respectively as they explain the meanings of these metaphoric expressions.

In addition, it could be just as beneficial to communicate the embodied metaphoric senses of pictorial metaphors to EFL learners through embodied tactile metaphor awareness. Taking for example the adverts described later in Table 7.4 of Section 7.4.4.2, the embodied tactile metaphor awareness for the ‘Olay Anti-Aging Cream’ and ‘Voltas Air Conditioners’ adverts could involve participants touching soft surfaces, warm pressurized containers, ice cubes and electronic irons as they attempt to pinpoint the embodied metaphors of these four examples. As already discussed in the introduction of this chapter, cognitive linguistic research and its language learning implications are yet to investigate the relationship between embodied tactile metaphor awareness and linguistic and pictorial metaphors. Study 4 here explores the possible applications of employing embodied tactile metaphor awareness with EFL learners.

7.2.2. Metaphor in advertising and EFL Implications

In Study 4, I employ a number of pictorial metaphors that were produced from advertising campaigns as examples for visual metaphors. This section highlights the selection criteria used to choose pictorial metaphors for the study and the possible pedagogical implications of printed advertising metaphors in EFL/ESL teaching. Starting with print advertisements, they exploit visual metaphors to paint positive images of a product. Forceville (2008) illustrated that in such cases the product presented as the target domain is creatively mapped onto a source domain. In order to

attract attention, this mapping is usually novel, shocking and requires moderate problem solving. They are persuasive because of the metaphors' ability to make the abstract qualities of the product more concrete (Burgers et al., 2015). Metaphor in advertising can come in multimodal and monomodal varieties. Forceville (2008) demonstrated that multimodal metaphors are usually represented verbo-pictorially, as with the source and target domains being presented through the image and the slogan, while monomodal metaphors, i.e. pictorial metaphors, are only represented visually.

I employed two criteria for choosing the pictorial metaphors used in Study 4: Forceville's (2008) classification of pictorial metaphors and Pérez Sobrino's (2015) figurative continuum of multimodal metaphors. Starting with Forceville's (2008) pictorial metaphors, he classified them into three types: simile which separates the source and target domains as two visual entities; hybrid metaphor which merges the source and target domains as a unified whole; and contextual metaphor which visually presents one of the metaphorical domains while the other domain is induced by the visual context. From these three types, I employed hybrid pictorial metaphors in the testing for metaphor interpretation. This is because in a study with 325 participants from three countries, van Mulken et al. (2010) asked participants to rate 15 pictorial metaphors on the basis of complexity, deviation, comprehension and appreciation. Results indicated that hybrid metaphors are moderately complex and therefore better appreciated than similes or contextual metaphors. van Mulken et al. (2010) described hybrid metaphors as the most divergent from reality; thus they motivate receivers of the advert to solve the visual metaphor. These receivers end up feeling some cognitive pleasure from solving the metaphorical puzzle. Phillips and McQuarrie (2004) explained that while interpreting an advert a person can enjoy solving novel

metaphorical puzzles that are moderate in difficulty and require some effort to comprehend.

Second, I employed Pérez Sobrino's (2015) conceptual operations in figurative multimodal metaphors. Pérez Sobrino noted that the representation of metaphor in printed advertisements is rather complex as it often interacts with metonymy. She analyzed a corpus of 210 advertisements and viewed the representation of metaphor and metonymy as a figurative continuum containing eight levels that start with metonymy and end with metaphoric chains. The eight levels of conceptual interaction are: metonymy, (multiple source)-in-target metonymy, metonymic chain, metaphor, metaphonymy, single source metaphoric amalgam, double source metaphoric amalgam and metaphoric chain. Pérez Sobrino developed the continuum based on the works of Goossens (1990), Ruiz de Mendoza (2000), Ruiz de Mendoza and Díez (2002) and Ruiz de Mendoza and Pérez-Hernández (2011). Since this thesis is concerned mainly with the teaching of metaphor, I choose advertisements at the metaphor end of the continuum and they can be traced back to: first, metaphonymy which consists of a metonymy that is integrated in the source and/or target domain of a metaphor; second, metaphoric amalgams which incorporate a metaphor into the source-domain of another metaphor; and third, metaphoric chains which contain a chain of metaphoric mappings in which the target domain of one metaphor constitutes the source domain of the following metaphor. In Section 7.4.4.2 I provide an analysis of the pictorial metaphors employed in Study 4 according to Forceville's (2008) classification of pictorial metaphors and Pérez Sobrino's (2015) figurative continuum of multimodal metaphors.

Pictorial metaphors can provide authentic materials for the teaching of EFL/ESL but the studies investigating this application are rare. Amongst the few who

addressed this are Picken (1999, 2000) in favour of language learning and Low (2008) in favour of metaphor teaching. Starting with Picken (1999), he highlighted that print advertisements can motivate learners and ease their understanding through the visual context, albeit their lesson planning is time-consuming. For example, he suggested using an ‘exploit the illustration’ task in which a learner describes the images of the advert to a partner who in return guesses the meaning and purpose of an advert. Such a task is suitable for pictorial metaphor where learners should focus on the similarity between the domains of the advert in order to arrive at a conclusion of what the advert is for.

In teaching metaphor, as introduced in Section 7.1, Low (2008) noted that awareness of metaphor in advertising is an important skill that L2 learners are rarely exposed to. He stressed that learners should be able to recognize when advertisements are operating on multiple levels, and they should be able to acknowledge the communicated messages and effects of each of those levels. In addition, Littlemore and Low (2006a) recommended exposing learners to creative writing, cartoons and advertisements and encouraging them to guess whether the metaphors in them are conventional or creative. They advised using metaphoric advertisements, which can give rise to discussions about possible metaphor interpretations, target audience and cultural references, and metaphoric extensions of the advert slogans. This being said, little to no research investigates the extent of visual advertising metaphors in the teaching of EFL/ESL figurative language. The second sub-research question investigates these issues with Saudi EFL learners.

7.2.3. Interpretation of linguistic and visual metaphor

This section discusses the cognitive linguistic research on linguistic and visual metaphor interpretation and sheds some light on the methods used to analyse metaphor interpretations. To my knowledge, cognitive linguistic research is yet to investigate how language learners interpret visual or multimodal metaphors in the context of language learning. This is important because individual metaphor interpretations are as varied and culturally sensitive as metaphor productions. Forceville (1995, p. 191) noted in his exploratory study that “there is a certain fuzziness about which interpretations are acceptable and which are not... [which] raises the question to what extent different addressees agree about how a metaphor should be understood”. If we were to incorporate pictorial metaphor into the teaching of metaphor in EFL/ESL, we should first explore how learners would interpret those metaphors in the language classroom, what degree of freedom should be allowed before the interpretation is considered incorrect, and more importantly, how individual differences would play a role in these interpretations. The studies in this section address some of these questions. Though the following studies do not provide a unified definition for metaphor interpretation, they share the notion that metaphor interpretation is a written or verbal report of the meanings of contextualized or decontextualized linguistic and visual metaphors.

This first group of studies looked at the influence of culture on linguistic metaphor interpretation in L1 or L2. Wang and Dowker (2010) conducted a cross-cultural metaphor interpretation study with adult and young Chinese and British speakers. The young participants were aged 8-11 while the adult participants were aged 18-40. In the first of two experiments, 115 participants interpreted a set of decontextualized metaphors. Analysis focused on the quality of interpretations, which

varied from perceptual, psychological cross-sensory, associative, etc. In the results, children from both cultures provided more perceptual interpretations (i.e. involving embodied perception) than the adults in both cultures. On the other hand, the British adults provided more perceptual interpretations than the Chinese adults, who in turn provided more psychological interpretations (i.e. relating to the mind and emotions). This study emphasizes that interpretations based on embodied sensory metaphors develop before psychological and culture-specific interpretations. It provides some evidence that people can resort to perceptual experience to describe metaphors. Of the overall participant interpretations, 20.8% were cross-sensory interpretations, in that they employed two or more senses to explain the metaphor (e.g. tactual perception to describe olfactory perception: *my mother's perfume smelled warm, bright, light, fresh, and sunny— like summer*). However, the study was carried out in an L1 context, and it was not clear how much of the 20.8% was obtained from adult participants. It raises the question of how the quality of metaphor interpretations is affected if we were to train language learners to be aware of the embodied sensory nature of metaphors.

In relation to this, Littlemore's (2003) study, which was discussed briefly in Section 2.3.1, focused on the effect of cultural differences on the understanding of L2 metaphors produced by a British lecturer. Littlemore asked 18 Bangladeshi students to interpret seven metaphoric expressions that the lecturer had used in previous lectures. The results indicated a range of accurate to wrong interpretations. The participants seemed to misunderstand the evaluative function of the metaphors when it contradicted with their cultural value systems. While Littlemore's study was not aimed at providing L2 learners with the tools to promote correct interpretations of metaphoric expressions, it sheds light on the role of cultural influences on metaphor interpretation. More

recently, Musolff (2015) conducted a survey with 648 participants from 31 cultural backgrounds asking them to interpret 'body politic' metaphors. Qualitative analysis indicated a culture-specific pattern of interpretations, with two main interpretations: NATION AS GEOBODY and NATION AS FUNCTIONAL WHOLE.

The only study that I am aware of that investigated the quality of pictorial metaphor interpretations is Forceville's (1995) exploratory study. 18 participants from Amsterdam and 25 participants from Ghent interpreted three pictorial metaphors in relation to four questions (Forceville, 1995, p. 197):

1. Describe in your own words billboards A, B, and C.
2. ... [D]escribe point by point the personal feelings and associations each of the billboards' pictures evokes in you...
3. What do you think the advertiser has wanted to communicate ...?
4. What proof or evidence do you find in each of the billboards... to support your ideas about what the advertiser has wanted to communicate?

Forceville performed a thematic pattern analysis based on recurring attributes in the participants' interpretations. He did this according to three criteria: explicit mention of the source and target domains, acknowledgment of the metaphor, and mention of features attributed to the comparison. The results indicated that participants interpreted the metaphors correctly, but they differed in the attributes they gave to the metaphors. For instance, in response to the 'IBM IS A PAIR OF OARS' advert, participants identified 'IBM' and 'oars' as the source and target domains. However, they gave a range of attributes to those domains such as progress, tranquillity and omnipresence. Forceville justified this in relation to Sperber and Wilson's (1986) relevance theory which specifies that relevance cannot be objectively shared amongst all but is always specific to certain

individuals, which leads to some strong implicatures (i.e. shared interpretations) and other weak implicatures (i.e. idiosyncratic interpretations).

The next two studies offer a more quantitative analysis of metaphor interpretations. First, Johnson and Rosano (1993) investigated the relationship between metaphor interpretations, language proficiency and cognitive styles with 15 native speakers, 15 intermediate ESL learners and 15 beginner ESL learners. Participants interpreted ten decontextualized novel metaphors in tape-recorded interviews (e.g. *My shirt was a butterfly*). Johnson and Rosano (1993) analysed the interpretations in terms of a 5-level complexity scale, according to the degree of change in the source domain as its characteristics were mapped into the target domain. The criteria for scoring is as follows (Johnson & Rosano, 1993, p. 166):

1. Inappropriate response: responses that do not contain mapping or violate the semantics of the topic.
2. Identity response: responses that contain an aspect of the vehicle mapped into the topic without much change.
3. Analogy: responses that contain intermediate level mapping in which the vehicle is changed to accommodate the topic.
4. Experiential predicate: responses that contain an aspect of the vehicle that is elaborated and mapped into the topic.
5. Conceptual predicate: responses that contain mapped features that are elaborated in terms of a concept related to the topic.

Johnson and Rosano's (1993) results indicated that lower language proficiency does not prohibit correct metaphor interpretation as the intermediate and beginner ESL participants' performance was similar to the English native group (with means of 3.7, 3.7 and 3.9 respectively). Also, even though there were linguistic and cultural differences in the quality of interpretations there was no relationship between

proficiency level and the level of metaphor interpretations. This is a very significant result which indicates that metaphor interpretation could be a conceptual rather than a linguistic task. Johnson and Rosano's (1993) study is small in scale but it offers an appropriate method for statistical comparison of metaphor interpretations between different groups. As for their scoring criteria, the vagueness of the criteria makes it difficult to comprehensively adopt. Consequently, an alternative criteria proposed by Pineda (2015) seems more appropriate for analysing the results of Study 4.

Pineda (2015) developed her classification for metaphor interpretation as part of her study on the interaction between reading comprehension and metaphor interpretation in schoolchildren. In a part of her study, Pineda had 65 children read excerpts from children's literature containing metaphors and asked the children to interpret them. Analysis of the tape-recorded answers followed a rigorous scoring criteria based on the works of Cameron (2003), Reinhart (1976) and Steen (1994). The criteria for scoring are based on a 4-point scale and are as follow (Pineda, 2015, p. 214):

The first category of 'correct interpretation' comprises answers that show that the child has understood the meaning of the metaphor. It also includes a subcategory that I call 'two-domain answers'. These are answers with richer explanations where children made clear references to both domains that are implied in the metaphor, suggesting awareness of the metaphor as metaphor... The second category concerns [*sic*] answers that give information about the source domain in particular. The third category contains answers that show that the child perceives an incongruity, but cannot explain it. The last category includes different types of answers, which all show that the metaphor is not understood (e.g. no answer, repetition).

Pineda found that 54.8% of all answers given by her participants were correct metaphoric interpretations, while only 8.6% of the correct interpretations were 'rich

two-domain answers'. She also found that the nominal metaphors in the reading materials triggered 'two-domain answers' that were richer and more elaborate than the verbal metaphors, even though verbal metaphors were more correctly interpreted. Pineda's study provides a systematic scoring methodology that acknowledges learners' rich metaphor interpretations. The detailed scoring criteria and its modifications are presented in Section 7.4.4.2. Lastly, the handful of studies on metaphor interpretation so far is largely focused on cultural and individual differences of interpretation. They highlight that that we ought to address metaphor interpretation in language learning. We are still in need of interventional studies that develop methods to improve the quality of interpretation of both linguistic and visual metaphors in EFL/ESL.

7.2.4. Theory of Multiple Intelligences and EFL

The interventional teaching sessions for embodied tactile metaphor awareness were carried out through a teaching methodology based on Gardner's (1983) Multiple Intelligences theory (MI). MI theory was established by the developmental psychologist Gardner (1983, 1999) and further adapted for teaching by advocates such as Armstrong (2009) and Christison (1996, 2005). Gardner (1983) stressed that there is no single capacity for intelligence but every individual has his/her own areas in which they excel at a moment of time, i.e. multiple intelligences. These intelligences are linguistic, logical/mathematical, spatial/visual, bodily/kinaesthetic, interpersonal, intrapersonal, musical and naturalist intelligences. Moreover, Arnold and Fonseca (2004) added that an MI-based teaching methodology would support the learners' multiple intelligences and promote the development of their cognitive individual differences in the classroom. Christison (1996) and Arnold and Fonseca (2004) highlighted that intelligences are

dynamic and can be developed with the right intervention. They noted that intelligences are not exclusive but work together. This indicates that L2 teaching should involve a mixture of tasks accommodating those intelligences. Christison (1997) proposes a 4-stage MI-based lesson plan for describing physical objects: stage one 'awakening the intelligence', stage two 'amplifying the intelligence', stage three 'teaching with/for the intelligence' and finally stage four 'transferring the intelligence'. The four stages of the lesson are addressed in Section 7.4.3. For example, the MI-based lesson plan should start with learners completing an MI inventory questionnaire, which is a simple questionnaire that serves as a personal reflective tool for learning and an aid for designing the learner-based curriculum (Christison, 1996).

The intelligence types of most interest to Study 4 are the linguistic, logical/mathematical, spatial/visual and bodily/kinaesthetic intelligences. Other intelligences can be used as frames for the language-learning context (Armstrong, 2009). Christison (1996, 2005) defined linguistic intelligence in terms of EFL as the ability to use the L2 efficiently in different situations (e.g. being able to persuade others). She also identified logical/mathematical intelligence in terms of abilities such as problem-solving skills, data analysis and identifying cause and effect relationships. She defined spatial/visual intelligence as the ability to visualize concepts and shapes as well as representing them graphically. Last, she identified bodily/kinaesthetic intelligence as involving the body and/or hands in learning to express ideas and manipulate objects. This requires skills such as coordination, balance, tactility and flexibility. In classrooms where verbal input is emphasized learners can become motivated, energized and attentive to the linguistic context if it is delivered through

mediums such as role-play, project work and hands-on activities (Arnold & Fonseca, 2004).

It should be noted that MI theory is highly criticized for its lack of empirical support in and out of the EFL/ESL classroom. While a discussion of these criticisms is beyond the scope of this experimental study (cf. Armstrong, 2009 for a review), Study 4 makes no assumptions with regards to the validity of MI theory or its claims. The teaching methodology was mainly used to develop the interventional teaching sessions and was found suitable because, as metaphor interpretations vary depending on individual differences such as culture and age, a teaching methodology that promotes rich interpretations of metaphors should also acknowledge such differences. In addition, MI theory is one of a few EFL teaching methodologies that offer a framework for multi-sensory learning and embodied tactile metaphor awareness making it the most suitable EFL teaching methodology to envelop the interventional teaching sessions for Study 4.

To sum up this review of the literature, the aforementioned studies highlight important issues with regards to the use of embodied tactile metaphor awareness and pictorial metaphor interpretation. Embodied tactile metaphor awareness has been found to have a psychological and neurological basis which is encouraging for Study 4. We may be able to employ it to foster the understanding of linguistic metaphors and rich interpretations of pictorial metaphors. However, in the absence of classroom-based research, we should keep in mind that the neuro-psychological studies were performed in controlled decontextualized environments and that there is no guarantee that touching physical objects in authentic L2 settings will influence learners' understanding or interpretation of metaphors or even promote metaphoric processing. A learner can understand a pictorial metaphor and not produce a satisfactory interpretation; and a

learner who provides an interpretation could have done so without processing it mentally. Also, embodied tactile metaphor awareness may be more suited for highly haptic learners who, according to Dunn and Dunn (1993), need to use their hands to manipulate the learning materials. Hence, Study 4 focuses on providing teaching tools to support the understanding of conventional metaphoric expressions and pictorial metaphors and makes no assumptions about the processing abilities of L2 learners. Suggestions by Picken (1999), Littlemore and Low (2006a) and Low (2008) provide good starting points for the pedagogical use of pictorial advertising metaphors.

Also, since van Mulken et al. (2010) established that problem solving of hybrid pictorial metaphors provides some cognitive pleasure, Study 4 uses authentic instances of hybrid pictorial metaphors as motivators for the pictorial metaphor interpretation tests. Moreover, Forceville (1995) noted that visual metaphor interpretation was receiving insufficient attention at the time of his study, and even in 2016, research on the subject continues to be scarce. This is especially true of its implications in figurative language teaching. The handful of metaphor interpretation studies presented in this review look at visual and linguistic metaphor interpretations in L1 and L2. They highlight that metaphor interpretations differ amongst people from different age groups, cultural backgrounds and learning levels. Yet, none of them investigate metaphor interpretations produced by language learners in response to pictorial metaphors. It is important to note that these studies vary in their use of authentic versus decontextualized metaphor samples. Forceville (1995), Littlemore (2003) and Pineda (2015) presented metaphors for interpretation in their original contexts, while Wang and Dowker (2010) and Johnson and Rosano (1993) preferred decontextualized instances of metaphor. In the contextualized approach, there is a risk of external stimuli having an

influence on the interpretation, not to mention the individual differences between the learners. However, the artificial approach runs the risk of detachment from real life interpretations of metaphor which is more harmful to EFL learners than external stimuli. Study 4 thus takes a real-world approach to teaching metaphor to EFL learners using authentic instances of visual metaphors in the form of hybrid pictorial adverts. Also, the aforementioned studies either follow qualitative thematic analysis or a comparative quantitative analysis to examine metaphor interpretations which shed light on different aspects of metaphor interpretations. If we were to combine the two methods, we might have a well-rounded look at the extent and types of rich metaphor interpretations. For the experimental procedure, Johnson and Rosano (1993) supported comparing metaphor interpretations between groups while Pineda (2015) offered detailed scoring criteria for interpretations. As for the qualitative analysis of interpretations, Musolff (2015) and Forceville's (1995) studies analysed written metaphor interpretations qualitatively through content analysis of themes. Forceville's (1995) method of open-ended questions could also be used to promote expressive interpretations.

Also, MI-based teaching methodology is a suitable teaching methodology for embodied tactile metaphor awareness in Study 4 because of its focus on multi-sensory teaching and learner differences. Christison's (2005) MI inventory questionnaire is also used to investigate the relationship between embodied tactile metaphor awareness and individual differences. However, the lack of empirical support for MI-based teaching means that the MI-based teaching methodology and the MI inventory questionnaire are used in this study with care.

The last issues to discuss here concern the types of metaphor covered in Study 4. First, the source domains of texture and temperature are suitable targets for embodied

tactile metaphor awareness because they describe people's emotions and personalities through sensory modalities, and can therefore be represented through touch. Second, while conventional metaphoric expressions were not covered in the present review on account of being discussed elsewhere in the thesis (Sections 6.2 and 5.3) they do constitute an important aspect of Study 4. Third, the study broadly covers linguistic and visual metaphors for texture and temperature. However, it is important to note that the linguistic metaphor instances are limited to seven open-class conventional metaphoric expressions, while the visual metaphor instances are only hybrid pictorial metaphors from the genre of advertising. Other instances of linguistic metaphors (e.g. novel or closed-class metaphoric expressions) and other visual metaphors in advertising (e.g. similes or contextual metaphors) are not within the scope of the current study.

7.3. Research questions

Following on the issues raised in Section 7.1 and Section 7.2, the aim of Study 4 is to explore the potential benefits and/or limitations of employing embodied tactile metaphor awareness in the EFL classrooms. It attempts to answer Research Question Three which is as follows:

RQ 3: How do the female Saudi EFL learners respond to awareness-raising activities to the teaching of linguistic and pictorial metaphors when these activities are based on embodied tactile metaphor awareness or conceptual metaphor awareness?

Study 4 investigates whether promoting awareness of tactile metaphors fosters the understanding of seven conventional metaphoric expressions and the interpretation of

three pictorial metaphors. It also investigates the role of individual differences and the participants' evaluations of embodied tactile metaphor awareness. As per the aims of Study 4, analysis of the data is performed in light of the following four sub-research questions:

- 7.3.1. Are there any differences between the metaphor control group (MCG-4) and the embodied tactile metaphor group (ETMG-4) in terms of their performance in the pretest and posttest for conventional metaphor understanding?
- 7.3.2. To what extent do the students in the MCG-4 and the ETMG-4 interpret the three pictorial metaphors successfully, and does teaching them through conceptual metaphor awareness or embodied metaphor awareness improve the quality of their interpretations?
- 7.3.3. Is there a relationship between the students' MI profiles and their performance on the conventional metaphor understanding tests and pictorial metaphor interpretation tests? Does the nature of this relationship vary between the MCG-4 and the ETMG-4?
- 7.3.4. What are the attitudes of the students in the MCG-4 and the ETMG-4 towards the conceptual metaphor awareness teaching technique and the embodied tactile metaphor teaching technique?

7.4. Methodology

In short, Study 4 was a 3-week EFL classroom experiment carried out with 67 female Saudi university-level learners. Unlike the previous studies in this thesis, the control group (30 students) did not learn the metaphors through semantic clustering.

Instead, they received the conceptual metaphor awareness-raising activities, thus named the metaphor control group (MCG-4). The experimental group comprised 37 students and they were named the embodied tactile metaphor group (ETMG-4). For the ETMG-4 the awareness-raising activities for texture and temperature metaphors involved using the sense of touch to promote the embodied nature of conventional metaphoric expressions and pictorial metaphors. Prior to and after the intervention, understanding of conventional metaphors was assessed via two multiple-choice metaphor understanding tests, while pictorial metaphor interpretation was examined via two pictorial metaphor interpretation tests. The participants also answered an MI inventory questionnaire and an evaluation questionnaire. This section details the experimental methodology used for Study 4, its participants (Section 7.4.1), timeframe (Section 7.4.2) and the interventional teaching sessions (Section 7.4.3). It also features the design of the conventional metaphor understanding tests (Section 7.4.4.1) and the pictorial metaphor interpretation tests (Section 7.4.4.2). The section then ends with an account of the MI inventory questionnaire (Section 7.4.4.3) and evaluation questionnaire (Section 7.4.4.4).

7.4.1. Participants

As with the three preceding studies in this thesis, the participants in this study were female Saudi university students within the age range of 18 to 21 (please see Section 1.2 in Chapter One for a description of the research setting). The learners were in their foundation year for the arts and humanities track at KAU. Their language learning background varied from exclusive school instruction, external EFL courses, self-learning, and courses taken abroad. With these different backgrounds, they were all

placed at the upper-intermediate B2 CEFR level course based on their performance in the OOPT exam.

The ELI recommended five upper-intermediate groups of students for possible participation in the study. One group was excluded as a majority of its learners opted out of the study and the remaining four groups of learners agreed to participate. In this experimental study I aimed to recruit a larger number of learners than Study 3. So, I asked the ELI administrators to provide a large lecture hall to conduct the interventional teaching sessions with two sections of learners to be treated as one large group. Two groups of 32 students and 30 students were randomly chosen as the MCG-4. The other two sections, consisting of 31 and 30 students, were assigned as the ETMG-4. From those sections, the students who gave their consent to participate totalled 54 students in the MCG-4 and 57 students in the ETMG-4 (please see Appendix D1 for a copy of the consent form). However, during the three weeks of the experiment, unscheduled delays caused by extreme weather conditions followed by make-up exams led a large number of students to miss the interventional teaching sessions and drop out of the study. In addition, the MI inventory and evaluation questionnaires were sent out to the participants in an online form via Google Docs due to time constraints. The problem with online questionnaires is that a researcher cannot be certain that they will yield the students to complete them. As a result, only 34 of the MCG-4 and 41 of the ETMG-4 filled out the questionnaires. Because of these circumstances, 37 students in the ETMG-4 (mean age 18.6) participated in all aspects of the study. As to the MCG-4, 31 students completed the study, but since one student did not complete the posttest interpretation correctly her results were excluded and the final number was 30 students (mean age 19.2).

Since the participants in the MCG-4 and the ETMG-4 were above 30 students, I aimed to employ parametric statistical tests for the analysis of their test results and assessed the normality of distribution of their test answers. I did this by looking at the histogram plots of the conventional metaphor pretests and posttests and the pictorial metaphor pretests and posttests between the MCG-4 and the ETMG-4. The histogram plots for the pictorial metaphor pretests and posttests and the conventional metaphor posttests seemed to follow normal curved bell shapes and the normality of distribution was therefore assumed. However, the conventional metaphor pretest seemed to be skewed towards the left. To correct for the abnormal distribution, I performed square root transformations of the data. The output indicated an improvement in the skewness and kurtosis. So, the results of the conventional metaphor pretest are based on the corrected transformations.

7.4.2. Experiment timeframe

Study 4 was designed as a 3-week experiment to run at the beginning of a 7-week teaching module at the ELI. Table 7.1 presents the timeframe for each of the participant groups. I discuss each of these items individually in the following sections:

		Metaphor control group (MCG-4)	Embodied tactile metaphor group (ETMG-4)
Week 1	Day 1	Consent form Conventional metaphor understanding pretest	
	Day 2	Teaching 7 metaphoric vocabularies via conceptual metaphor awareness	Teaching 7 metaphoric vocabularies via embodied tactile metaphor awareness
	Day 3	Conventional metaphor understanding posttest Pictorial metaphor interpretation pretest	
Week 2	Day 1	Kodak's Carousel pitch video from the television show Mad Men	
		Teaching interpretation of 4 visual metaphors via conceptual metaphor awareness task	Teaching interpretation of 4 visual metaphors via embodied tactile metaphor awareness
	Day 2	Pictorial metaphor interpretation posttest	
Week 3		Online MI inventory questionnaire Online evaluation questionnaire	

Table 7.1: Study 4 experiment timeframe for participant groups

7.4.3. *Interventional teaching sessions*

Two 1.5-hour intervention sessions were designed following Christison's (1997) MI-based teaching methodology. Appendices D1 to D8 present the worksheets given to the MCG-4 and ETMG-4 participants. The interventional teaching sessions took place during week one and week two. As discussed in detail in Section 7.2.4, Christison's (1997) MI-based lesson plan consists of four stages: The week one interventional teaching session covered stage one 'awakening the intelligence' and stage two 'amplifying the experience', and the week two interventional teaching session involved stage three 'teach with/for the intelligence' and stage four 'transfer the

intelligence'. Christison (1997) explains that during stage one the teacher brings sensory objects and images for students to handle in class in order to activate the sensory basis of the experience. Stage two involves learners working in groups as one of them describes an object or image and the others guess what it is. Stage three 'teach with/for the intelligence' addresses the larger sections of the target material and emphasizes the sensory experience and the language that comes from it. Stage four 'transfer the intelligence' involves applying the learned material to the learners' daily life through working in groups. In a regular MI-based classroom, an MI inventory questionnaire should be distributed to learners at the beginning of the course so that the instruction is designed based on its results. However, due to time constraints on the interventional teaching sessions for Study 4 it was not possible to do this then design materials based on their results. Instead, the interventional teaching sessions were designed to accommodate all eight intelligences without the aid of the questionnaire. The least significant intelligences for Study 4 'musical intelligence' and 'naturalist intelligence' were used as backdrop intelligences. Soft music and relaxing nature sounds were played in the background while the participants were involved in group-work.

The week one interventional teaching session was aimed at teaching conventional linguistic metaphors. It involved seven metaphoric expressions from the domains of texture and temperature. The week two interventional teaching session involved teaching four pictorial metaphors. The interventional pictorial metaphors were different from those used in the pictorial metaphor interpretation tests. To introduce the theme of metaphor in advertising in the second interventional teaching session, both groups watched a video from the American television show 'Mad Men' a drama about advertising in the 1950s. The video was a scene in which Don Draper, the advertising

executive, pitched an advertising campaign to the manufacturers of Kodak's Carousel, a photo projector (<https://www.vimeo.com/20736616>). As the teacher, I explained that metaphor is a common feature in advertisements and that it creates unexpected comparisons (i.e. mappings) between a product and something apparently unconnected to it. These comparisons are usually intentional to highlight a positive quality in the product that it acquires from the compared object (i.e. source domain). The following two subsections describe the two interventional teaching sessions delivered to the MCG-4 and the ETMG-4.

7.4.3.1. Embodied tactile metaphor group (ETMG-4)

The aim of the teaching delivered to the learners in the ETMG-4 was to approach metaphoric expressions and pictorial metaphors through embodied tactile metaphor awareness (please see Appendix D4 and Appendix D6 for the ETMG-4 lessons). In practice, this meant that participants from ETMG-4 were introduced to the chosen linguistic and pictorial metaphors by touching objects that represented the related sensory meanings of temperature and texture. The intelligences especially targeted in the interventional teaching session one were the linguistic, bodily/kinaesthetic, logical/mathematical, visual/spatial and interpersonal intelligences. At the beginning of the session, students were divided into groups of five students and were handed a basket of objects that carried the embodied sensory meanings of the metaphoric expressions described later in Table 7.3. I introduced each metaphoric expression, its metaphoric sense, and the conceptual metaphor it derives from. I then instructed the students to select the appropriate objects from the basket and guess the relationship between the objects, the vocabulary item and the conceptual metaphor.

After that, the students touched and felt the texture and temperature of the object related to each metaphoric expression. For example, to teach the embodied figurative meaning of '*nerves of steel*' I first explained the dictionary meaning of the expression as 'having the ability to control emotions in extremely difficult situations'. I then had the students brainstorm the conceptual metaphor mapping between 'steel' and 'controlling emotions'. Before reaching a final answer, each group searched the basket for suitable objects and all of them picked up steel metal rulers. The groups then attempted to bend the rulers, ending the task by reporting to the rest of the class that the relationship between the phrase '*nerves of steel*' and 'controlling nerves and emotions' is that emotions are steady like hard metal and cannot be bent. The second part of interventional teaching session one involved stage two 'amplifying the experience' in the form of charades. Within each group, a student picked an object and described how it felt to the touch (i.e. their texture or temperature), while others guessed the metaphoric expression related to it.

The week two interventional teaching session involved stages three and four of Chistison's (1997) MI-based lesson plan. The intelligences especially targeted in interventional teaching session two were the linguistic, spatial/visual, bodily/kinaesthetic, logical/mathematical, interpersonal and intrapersonal intelligences. The learners employed the sensory tactile training which they received when learning the linguistic metaphors in interventional teaching session one, on the more abstract pictorial metaphors. In practice, this involved teaching learners the use of temperature and texture domains in pictorial metaphors through a task focusing on analysing metaphoric advertisements associated with the learners' sense of touch. After being shown the 'Mad Men' video, each group received a basket of objects representing the

four pictorial metaphors (both described later in Table 7.5). Each group was also given a worksheet containing the four pictorial metaphors that were used for the lesson and an information chart. This chart was based on an advertisement analysis task from Lazar's (2003) *Meanings and Metaphors* textbook and required analysing the pictorial metaphors in terms of the seven questions in Table 7.2:

Product	What is the advert for?
Slogan	Does it have a slogan? What does it mean?
Metaphor	What is the product compared to?
Qualities	What qualities are suggested by this comparison?
Market	Who is the advert designed to appeal to?
Effectiveness	Would the advertisement work in your country? Why or why not?
Intelligence transfer	Try to find similar adverts from your culture that associate a product with something else.

Table 7.2: Advert analysis task questions

In small groups, the ETMG-4 students attempted to analyse the pictorial metaphors employing embodied tactile metaphor awareness techniques and searched for other pictorial metaphors from their culture. They were told to recreate the links between the product (i.e. target domains) and the secondary object (i.e. source domain) and explore the transferred properties and the effect given by the image. The first pictorial metaphor presented in Table 7.5 'Clinique Even Better Clinical Dark Spot Corrector' was used as an example. This included example answers so that it could guide the students in analysing the other three pictorial adverts. The students were told to pick out the related objects from the basket, touch them and think about the similarities between them. For example, when working with the 'Wrigley's Extra

Sugar-free Gum' advert, each group picked up a toothbrush and a packet of gum from the basket and guessed the transferred properties in relation to that advert. Then, they filled the chart with their observations and ended the task with searching for other adverts by similar methods of metaphoric presentation using the classroom computer and their portable devices. The last ten minutes of the interventional teaching session consisted of the groups reporting their oral interpretations of the adverts and the new adverts they came up with in their online searches.

7.4.3.2. Metaphor control group (MCG-4)

As a control measure, the aim of the teaching delivered to the learners in the MCG-4 was to deal with the seven metaphoric expressions and the pictorial metaphors from the domains of texture and temperature in the context of conceptual metaphor awareness exclusively (please see Appendix D4 and Appendix D6 for the MCG-4 lessons). In practice, this entailed the participants from the MCG-4 approaching the linguistic and pictorial metaphors only through becoming aware of the source domains relating to temperature and texture. The week one and week two interventional teaching sessions were delivered to the MCG-4 through an MI-based lesson plan that mirrored the teaching of the ETMG-4 in everything except bodily/kinaesthetic intelligence which was deliberately left out. The week one interventional teaching session involved teaching the seven metaphoric expressions through conceptual metaphor awareness. Students were encouraged to guess the mapping between the source and target domains. They then played charades as one student described the metaphoric expression and its source domain and others guessed the expression.

In the week two interventional teaching session, the students watched the ‘Mad Men’ video and worked on the advert analysis task in groups. They analysed the three pictorial metaphors and completed the information chart. Their focus was on extracting the source and target domains of the pictorial metaphors, the transferred properties, and the effect given by the image. Then they searched for other pictorial metaphors online and reported their findings orally to the class. As per the ethical considerations for this research project and to ensure the equality of treatment between groups, I went back to the students from the MCG-4 and gave them a taster session (of half an hour) on using embodied tactile metaphor awareness to help them in identifying and understanding metaphoric expressions and pictorial metaphors. This was done at the end of week three after all tests and online questionnaires had been collected.

7.4.4. Methods for data collection and analysis

While Appendices D1 to D8 present copies of the tests and questionnaires given to the participants of Study 4, the following subsections illustrate the methodological issues related to the selection of conventional metaphoric expressions and the design of the metaphor understanding tests (Section 7.4.4.1). They also detail the selection of pictorial metaphors and the design of the pictorial metaphor interpretation tests (Section 7.4.4.2) as well as the MI inventory questionnaire (Section 7.4.4.3) and evaluation questionnaire (Section 7.4.4.4).

7.4.4.1. Conventional metaphor teaching and testing

This section covers the selection of conventional metaphoric expressions used in Study 4 from the domains of textures and temperature. It then discusses the design of conventional metaphor understanding tests. To start with, in choosing metaphoric expressions for Study 4 and in accordance with the overall methods for this thesis, I followed Boers and Lindstromberg's (2008) criteria for the selection of metaphoric vocabulary for teaching in the EFL/ESL classroom: frequency, relevance, usefulness, coverage, range and difficulty to the learners (see Section 2.4.3 for an overview). First, I compiled a list of metaphoric expressions describing people's personalities and emotions in terms of textures and temperature. Initial resources included Lazar's (2003) *Meanings and Metaphors* textbook and online databases such as (http://www.changingminds.org/techniques/language/metaphor/sensory_metaphor.htm). After compiling an initial list, I checked the Macmillan and Collins online dictionaries for a description of their metaphoric senses. I thus excluded items whose metaphoric senses were not mentioned in the dictionaries.

The next step was to check the BNC to determine the strength of the collocation of the remaining phrases. I then excluded any items that had less than a 2.9 frequency band T-score. As stated in Section 4.4.2, the cut-off point for the T-score frequency is 2.00 yet in the following metaphoric expressions the lowest item was of a 2.9 which is why this threshold has been raised here. There were nine remaining metaphoric expressions describing personalities and emotions as texture, and there were 11 metaphoric expressions describing emotions as temperature. These were all open-ended conventional metaphoric expressions and they included verb phrases, noun phrases and adjective phrases. Also, some expressions were difficult to provide sensory

materials for in the classroom and had to be excluded. I performed the piloting with seven metaphoric expressions from the domain of temperature and five metaphoric expressions from the domain of texture. Based on the answers of 17 EFL students and four British speakers from the pilot, I kept the seven most correctly answered metaphoric expressions. Four of these were metaphoric expressions from the domain of temperature, and three were metaphoric expressions from the domain of texture. Table 7.3 illustrates the seven metaphoric expressions, the collocation score on the BNC of the conceptual metaphors they derive from, their meanings, and the sensory materials used to teach them in the ETMG-4's interventional teaching session:

Phrase	BNC T-score	Conceptual metaphor	Dictionary meanings	Sensory materials and tactile objects for the learners in the ETMG-4
Burnt out	15.08	ANGER IS HEAT	Ill and unable to continue working after working so hard	Matches and lighter: Each small group lights a match and waits for it to burn out. Teacher explains that energy is like fire. When it burns out, it stops producing new things.
Hot under the collar	4.47	EMOTIONS ARE FLUID IN A CONTAINER	Very annoyed and angry about something	Candle and lighter: Each small group lights a candle close to their hands. Students attempt to recreate the links between hot temperature and anger.
To keep your cool	11.59	EMOTIONS ARE FLUID IN A CONTAINER	To maintain a calm and controlled attitude	Small fans: Each small group waves the fan in an attempt to keep the cool breeze from fading. They recreate the links between object and phrase.
Frozen with fear	3.16	DROP IN BODY TEMPERATURE STANDS FOR FEAR FEAR IS COLD	To be unable to move or think because you are nervous or scared	Ice cubes: Each small group touches an ice cube to the point of no tolerance. Their hands become numb from the ice. They recreate the links between object and phrase.
Nerves of steel	2.92	NERVES ARE STEEL PERSONALITIES ARE TEXTURES	Ability to control emotions and stay calm in difficult situations	Metal rulers: Each small group touches a ruler and attempts to bend it and break it. They recreate the links between object and phrase.
Smooth talker	2.99	PERSONALITIES ARE LIKE TEXTURES	Good at persuading people and should not be trusted	An iron and a wrinkled shirt: Each small group irons the wrinkles until the shirt is smooth to the touch. They recreate the links between object and phrase.
A soft touch	8.74	PERSONALITIES ARE LIKE TEXTURES	Someone who can be persuaded easily	Pieces of fur: Each small group touches the fur. They recreate the links between object and phrase.

Table 7.3: Metaphoric expressions from the domains of texture and temperature

As for the conventional metaphor understanding tests for Study 4, the test design mirrored that of the conventional metaphor understanding tests developed for Study 3 (see Section 6.4.5.1). The difference between the tests in Study 3 and Study 4 is that Study 4 tested only the metaphoric senses of the metaphoric expressions and not the literal senses. This is because the metaphoric expressions in Study 4 did not have parallel literal senses like the expressions in Study 3. A pretest and a posttest consisted of seven multiple-choice questions for each of the taught metaphoric expressions. Please see Appendix D2 for the conventional metaphor understanding pretest and Appendix D5 for the conventional metaphor understanding posttest. Each question consisted of statements containing the metaphoric expression in context. Under every statement, five possible choices were given for the meanings of the metaphoric expressions in context: a correct contextual meaning, two incorrect but possible meanings, a choice for other possible meanings that the participant may write, and a choice for unfamiliarity with the contextual meaning. If a participant added another possible meaning it was considered correct only if it was metaphoric and was mentioned in the Macmillan and Collins online dictionaries. The sentences containing the metaphoric expressions were chosen from the BNC. For each metaphoric expression, two sentences were taken and used for the pretest and posttest. The statements were simplified to suit the intermediate level of the participating students. The correct meanings for the multiple-choice questions were taken from the Macmillan online dictionary. In addition, a clipart image representing the context was added to each sentence. The instructions for the conventional metaphor understanding pretest and posttest read as follows:

For each sentence, please circle the most suitable meaning of the underlined phrase. If you know a meaning that is different from the meaning in A, B or C, please write it down in D. If you do not know the meaning, choose E.

In addition, Figure 7.1 presents a sample of the metaphoric expression '*freeze with fear*' in the pretest and the choices provided for it:


<p>1. I saw an enormous black bear in the woods with eyes so bright. I looked at him and my blood turned cold. My gun nearly fell from my hands, and my whole body <u>froze with fear</u>.</p> <p>a. Felt extremely cold</p> <p>b. Suddenly stopped moving and thinking</p> <p>c. Prevented someone from taking part in something</p> <p>d. It means something else: _____</p> <p>e. I do not know</p>	
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Figure 7.1: A sample from the conventional metaphor pretest of Study 4

The conventional metaphor pretest was given to the participants on the first day of week one, while the conventional metaphor posttest was given to the participants on day three of week one. They both took 15 minutes to answer. The procedure for calculating the correct answers mirrored the procedure in Section 6.4.5.1. A second rater and I scored the option D answers in the pretest and the posttest as either possibly correct or incorrect. We used a binary code in which potentially metaphoric expressions were given a score of 1 and non-metaphoric expressions given the score of 0. Then I examined the inter-rater reliability between the two sets of scores using Cohen's Kappa to check whether we agreed in our opinions as to the metaphoricity of option D answers. The test showed that agreement of the two raters regarding the option D scores

in the pretest was 96%, with a Kappa score of 0.86 at ($p=0.000$) which indicates that the agreement is almost perfect (Landis & Koch, 1977). In addition, the agreement in the option D scores in the posttest was 91%, with a Kappa score of 0.75 at ($p=0.000$) which is substantial (Landis & Koch, 1977). This suggests that we generally agreed in our opinions as to which expressions in the option D answers were potentially metaphoric or non-metaphoric, and that this agreement was statistically significant. Then, the second rater and I discussed the option D differences until we agreed to include or exclude an answer. The number of option D answers that I included in the total count is eight cases in the pretest and five cases in the posttest.

Following this and in agreement with the procedure followed in Chapter Six, I included the agreed-upon option D answers in the final count of correct answers. The analysis for the conventional metaphor understanding tests was performed through a series of the parametric Independent Samples T-Test which is used to compare between two independent groups in SPSS-22 software: once to compare between the results of the pretest and the posttest and a second time to calculate the difference in improvement between the two groups. The results are reported in Section 7.5.1.

7.4.4.2. Pictorial metaphors for teaching and testing

This section begins with the selection procedure for the pictorial metaphor adverts used to teach and test the student participants (for a clear view of the pictorial and multimodal metaphors please refer to Appendices D1 to D8). It then discusses the design of the pictorial metaphor interpretation test and discusses the modified criteria employed and the methodological issues arising during analysis. First, the selection of

teaching and testing pictorial metaphors was limited to the genre of print advertising because of its authenticity and availability. The pictorial metaphors used for teaching (four adverts) and testing (four adverts) were selected from three advertising databases (www.adsoftheworld.com, www.advertolog.com and <http://www.coloribus.com>). I was mainly looking for adverts containing hybrid pictorial metaphors and they had to be for products related to the concepts of texture and temperature, and they also needed to be familiar to the learners. I also limited the search to adverts with tangible materials that could be brought to the classroom. Based on the initial search, I chose 12 adverts. To avoid the prevalence of metonymy in the adverts I performed an analysis of the cognitive operations in multimodal metaphor (Pérez Sobrino, 2015) on each of those adverts. Because this study is mainly concerned with metaphor, I excluded three adverts with cognitive operations that involved a chain of metonymies and/or metonymic complexes. I kept adverts that involved a metaphonymy or a metaphoric complex as long as the visual representation of the metaphor was more prominent than that of the metonymy.

I piloted the remaining nine adverts: five adverts for teaching and four adverts for testing with 17 EFL students and four British speakers. Based on the initial piloting results, one advert was removed from the teaching material because its interpretation required a vocabulary level higher than that of the participating learners. The remaining four adverts for testing and four adverts for teaching are described in Table 7.4 and Table 7.5. The tables involve analyses of the cognitive operations according to Pérez Sobrino (2015) and pictorial metaphor types according to Forceville (2008):

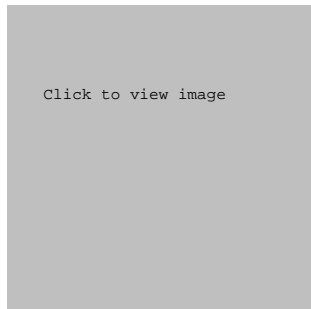
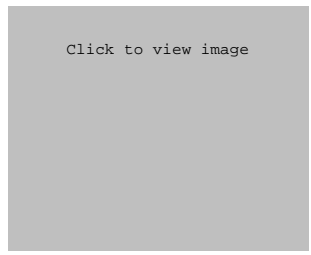
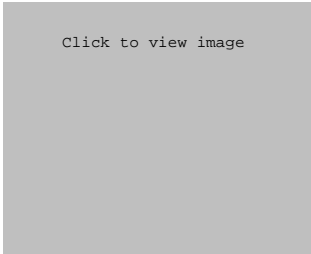

Advert	Cognitive operations	Metaphor type
	Voltas Air Conditioners contains a single-source metaphoric amalgam: Voltas air conditioners is the target domain and the ice cubes are the source domain of the main metaphor. The source domain contains another metaphor in which identical manufacturing is the target domain and the rows of ice are the source domain.	Hybrid pictorial metaphor
	Olay Anti-aging Cream contains a metaphonymy: The nozzle of Olay anti-aging cream is the target domain and the iron is the source domain. The source domain has a metonymy 'part for whole' representing wrinkles for aging.	Hybrid pictorial metaphor
	Burger Treat Fiery Fries contains a metaphonymy: a fiery fry is the target domain and the match is the source domain. The source domain contains the metonymy 'cause for effect' in that matches cause fire, which in turn indicates a hot taste.	Hybrid pictorial metaphor
	Metaphoric chain: Itchy skin is like thorns surrounding the child and causing pain; Fenistil gel is like scissors that can cut the thorns off the child's body and bring relief. Metonymy involved can be 'cause for effect' in that plants like poison ivy cause skin irritation, which represents a stinging sensation.	Hybrid pictorial metaphor

Table 7.4: Pictorial metaphors used for the pictorial metaphor interpretation tests

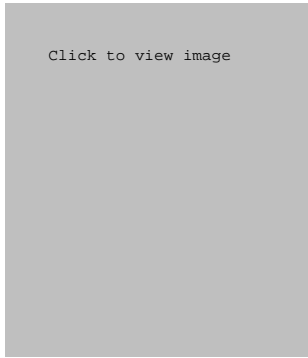



Advert	Cognitive operations	Metaphor type and Tactile materials for the ETMG-4
	<p>Clinique Clinical Dark Spot Corrector contains a double-source metaphoric amalgam as two source domains are mapped onto the same target domain: Clinique serum is an agent that removes impurities and dark spots from skin like water that rinses the dirt from an egg and soothes its surface. The egg is a metaphor for youth.</p>	<p>Multimodal metaphor Spotted egg, clean egg</p>
	<p>Wrigley's Extra Sugar-free Gum contains a metaphonymy: Extra gum is a toothbrush that cleans teeth. The source domain toothbrush contains a metonymy 'agent for process' and acts as a symbol for clean teeth.</p>	<p>Hybrid pictorial metaphor Extra gum, toothbrush</p>
	<p>Haribo Gold-Bears Original Gummy Candy contains a metaphonymy: Haribo gummy bears are fruit. The fruit contains a metonymy for the natural colour. The colours are metonyms for fruit 'part for whole'.</p>	<p>Hybrid pictorial metaphor Apples, strawberries, Haribo candy</p>
	<p>Casio Exilim Digital Camera contains a metaphonymy. Camera is like red rouge. The source domain rouge contains a metonymy for all make-up 'part for whole'. The Camera's 'make-up mode' is like makeup.</p>	<p>Multimodal metaphor Red rouge, camera, photographs</p>

Table 7.5: Pictorial and multimodal metaphors used in the interventional teaching session

As indicated in Table 7.4 and Table 7.5, the adverts employed for the pictorial metaphor interpretation test were all hybrid pictorial metaphors. Two of the adverts used for teaching are multimodal (Casio and Clinique) and two are hybrid pictorial metaphors (Extra and Haribo). The reason for using two multimodal metaphors in the teaching was to conceal the aims of the pictorial metaphor interpretation test. Also, the exclusive testing of pictorial metaphor limits the influence of external stimuli from slogans on learner interpretation.

When designing the pictorial metaphor interpretation test I had to decide between designing two separate advertising tests for pretesting and posttesting or designing a single test and then repeating it before and after the week two interventional teaching session. The problem with having two different tests lies in the difficulty of finding eight different pictorial metaphors of levels that are similar yet varied enough to allow for different answers. On the other hand, providing learners with the same test in a 2-week period runs the risk of familiarity and repetition. To make a decision, I referred to the aims of Study 4, one of which was to test the effect of embodied tactile metaphor awareness on the interpretation of pictorial metaphors in writing. To test this effect, the focus of the tests had to be on the level of metaphor interpretation not the variation between the pretest and posttest. Additionally, as Section 7.2.3 has shown, since the interpretation of the metaphors would vary between the groups, making the pictorial metaphor interpretation posttest identical to the pretest provided a baseline for comparing the quality of interpretation after the interventional teaching sessions. However, one learner from the MCG-4 gave the statement ‘same as first exam’ in response to all the questions of the posttest, so her test results were removed from the final number of participants in the MCG-4.

After settling on a single pictorial metaphor interpretation test, the design of the test was as follows: First, following the questioning pattern of Forceville (1995), the instructions of the test were intended to direct learners to create links between the elements of the advert. Also, the three questions on interpretation, feeling, and effectiveness were added to each pictorial metaphor. These questions prompted the interpretation of the source and target domains, the transferred properties, and the embodied nature of the metaphors. At the piloting stage, 17 students from the same level as the main study participated in the first pilot as well as four British speakers. The Burger Treat Fiery Fries advert was used as a sample, and the other three adverts were set as the main testing materials. The instructions for the piloting test were as follows:

Please look carefully at the advertising pictures and write informally and in about 100 words what you think is being said about the product.

Practice by answering these three questions about the first ad:

1. What is being said in the ad?
2. How does the product make you feel?
3. Is this an effective ad? Why or why not?

After the instructions, each question page comprised the pictorial metaphor and a few empty lines for free writing. It was clear from the piloting answers that the learners answered the questions in relation to the product, not the advertisements. For instance, one student responded to the Haribo Gummy Bears image by saying that:

(45) I love gummy bears. They are so yummy and look like bears, the animals I love. They make me feel like a child again. Wish I could have gummy bears now [*sic*].

Therefore, I changed the wording of the instructions from ‘product’ to ‘advert’ to highlight that the focus in the task is not the product but the pictorial advert. I also added the instruction ‘Try to create links between the elements of the advert’ to the test

in order to guide learners to the ‘metaphorical links’. In addition, the format of the second question was changed from 'How does the *product* make you feel?' to 'How does the *advert* make you feel?' to highlight the embodied nature of the advertisements. Participants in the pilot reported that they found it easier to answer three short questions than to do free writing, so in the main test all the adverts were followed with three questions. Finally, although the interventional teaching sessions for the ETMG-4 involved sensory materials and tactile objects from the pictorial metaphors, no such materials were provided at the pictorial metaphor interpretation tests. These were excluded in order to provide a fair comparison between the learners in the MCG-4 and the ETMG-4. However, this meant testing the ETMG-4 in a condition different from that in which they were trained. As a compromise, learners in the ETMG-4 were told to imagine touching the domains of the adverts. Also, the third question asked learners how would they physically feel about an advert in the hopes that the ETMG-4 participants would relate their tactile embodied training to the test.

After these modifications, a second pilot was performed with eight EFL learners from a higher level than the target participants. The participants were also asked to rate the advertisements from the easiest to answer to the most difficult. Based on their ratings, the Voltas air conditioner advert was used as the sample answer in the main test as it was voted the easiest to answer. The other three adverts were arranged according to the rating as well, so that by the time the learners reached the more complex advert ‘Fenistil Skin Irritation Gel’ they would have had enough practice to respond to it more correctly. A participant’s answers to the Voltas questions from the second pilot were used as sample answers in the main test to show learners how the

questions could be authentically answered. Based on these modifications, the instructions for the main pictorial metaphor interpretation test are as follows:

Please look carefully at the visual advertisements. Try to create links between the elements of the advert. Write those links and report the effect they have on the advert. Do not worry much about style and tell us how the advert makes you feel about the product. The first advert is done for you.

Questions:

1. What is being said in the advert?
2. How does the advert make you feel?
3. Is this an effective advert, why or why not?

Please see Appendix D3 for a copy of the pictorial metaphor pretest and Appendix D5 for the pictorial metaphor posttest. The pictorial metaphor pretest was given to the participants on day three of week one after the conventional metaphor posttest, while the pictorial metaphor posttest was given to the participants on day two of week two. They both took 20 minutes to answer. Participants from the ETMG-4 were encouraged to imagine touching the objects of the adverts and think of how those objects would feel to the touch.

In analysing the participants' answers to the pictorial metaphor interpretation tests, I asked a second bilingual rater familiar with metaphor identification to examine the answers independently. We ignored problems in writing style (e.g. grammatical errors and spelling mistakes) in the rating of the learners' interpretations. There are three reasons for this. Firstly, the focus of Study 4 was exclusive to interpretation of the pictorial adverts, which requires that analysis would follow the same level of focus. Second, since the participants were intermediate-level learners whose language was still developing, the occurrence of mistakes was expected. In addition, the learners were instructed, while answering the pictorial metaphor interpretation tests, to write freely

with no apprehension about grammar or spelling. It would therefore be biased to provide an account for such errors in the analysis. This being said, the example answers used throughout Chapter Seven were minimally edited and normalized for English spelling and grammar without influencing the content.

A sample of the pictorial metaphor interpretation tests was first unsuccessfully analysed using Johnson and Rosano's (1993) criteria which was described in Section 7.2.3. The second rater and I did not agree about the scores, and our different understandings of conceptual predicate and experiential predicate caused problematic variations in their scoring. Instead, a modified version of Pineda's (2015) 4-point scale criteria was alternatively used. The modifications are as follows. First, Pineda accounted for the rich interpretations in the same fourth-level category as the correct interpretations. However, since Study 4 investigated the extent of rich interpretation of the pictorial metaphors the scale was adjusted to a 5-point scale. Consequently, the category of rich interpretation of the metaphor was separated from the correct interpretation of the metaphor and considered as a separate, higher category to account for higher-level interpretations. The new and highly ranked rich interpretation of metaphor (category five) included answers that interpreted the source and target domains of the metaphor and added ideas that elaborated on one or both of the domains that were not originally implied in the pictorial advert. Secondly, the vehicle interpretation category (category three) was modified to include the identification of secondary metaphors to allow for the pictorial metaphor Fenistil Skin Irritation Gel as well as source domain identification. Since Fenistil Skin Irritation Gel is a metaphoric complex with a main metaphor of 'Fenistil gel is like scissors' and a secondary metaphor of 'Itchy skin is like thorns', students may identify the more salient metaphor

related to itchy skin rather than the main metaphor related to the Fenistil Gel. Therefore, the modified category three became the category where the metaphorically used words reflect the basic or literal meanings related to the source domain or the secondary metaphor. Finally, the modified criteria accounted for possible L1 transfer. The second rater and I tagged statements suspected of L1 transfer and judged whether the transfer sounded acceptable or errored. If the L1 transfer led to a lexical error the answer was given a score of one. If, however, the transfer led to an acceptable statement, it was given a score of five and investigated later. Table 7.4 illustrates the detailed criteria with example interpretations:

Category	Description	Example answers	Score
Rich interpretation of the metaphor	Two-domain metaphor: the answer makes sense, contains a rich (i.e. creative) interpretation of the metaphor, and includes meanings or ideas related to both the target and source domain	ETMG-4-3: Olay cream <u>removes the wrinkles just like ironing clothes</u> . The product targets women above 40 years. It makes me feel <u>flawless and much younger</u> . [<i>sic</i>].	5
Correct interpretation of the metaphor	Target domain metaphor: the response makes sense and shows that the metaphorically used words (i.e. focus terms) are linked to the meanings of the target domain	ETMG-4-10: It's smooth and you get the idea that it'll <u>smooth out your skin</u> . Good. Yes, it is, because it looks like it says.	4
Vehicle interpretation	Identification of: <ul style="list-style-type: none"> – Source domain of the metaphor – Secondary metaphor – Secondary metaphor's source domain – The metaphorically used words reflect the basic or literal meanings related to the source domain or a secondary metaphor 	ETMG-4-17: <u>Scissors are the saviour</u> . They make me feel rough. Yes, it has a point. MCG-4-5: A child who is <u>stuck in the branches</u> . It feels itchy and uncomfortable.	3
Identification of tension	The response shows that the tension or incongruity is perceived, but cannot be explained. The interpretation does not include a metaphor but shows suspicion	ETMG-4-24: The boy is stuck. I don't know why.	2
Other answers or no answer	<ul style="list-style-type: none"> – Repetitions of question – Incorrect L1 transfer – Lack of understanding – Interpretation based on other meanings 	ETMG-4-13: Olay anti-aging cream is like a self-care cream [<i>sic</i>].	1

Table 7.6: Modified criteria for scoring pictorial metaphor interpretation tests

The second rater and I scored the answers to the pictorial metaphor interpretation tests independently based on the criteria in Table 7.6. We disregarded grammar mistakes, spelling errors, metaphors resulting from spelling errors, and repeated words from the advert headlines (e.g. *anti-aging*). The results of independent ratings on the pretest and posttest answers of 67 participants were then checked through SPSS software to determine consistency among raters. The results of the inter-rater reliability analysis using Cohen's Kappa showed an agreement between the scores of the two raters of 98.0%, with a Kappa score of .95 at ($p = .000$), which implies that the agreement is almost perfect (Kappa between .81 and 1.00) (Landis & Koch, 1977). After this, the differences in rating were compared and discussed until the second rater and I reached a unanimous decision.

One notable disagreement was common in answers to the Burger Treat Fiery Fries advert. The second rater and I agreed that due to lack of vocabulary regarding 'matchstick', answers containing 'sulfur', 'brimstone' and 'TNT' were acceptable substitutions for the domain of the matchstick since they also cause fires. 'Sulfur' was considered acceptable because it was most likely used due to L1 transfer as the L1-Arabic has a single equivalent for both 'sulfur' and 'matchstick'. As to 'brimstone' and 'TNT', the words provided an extension to the idea of fire, though this extension might have been just due to lack of vocabulary. There was a disagreement between the second rater and me about answers using 'cigarette' to describe the similarity between the fries and the matchstick (e.g. MCG-4-24-pretest: *The potatoes seem like cigarette. It makes me feel hot [sic]*). I considered 'cigarette' to be an unacceptable substitution because it transfers the properties to a different domain from that of the matchstick, and the effects of heat and fire are not present. Rater two, on the other hand, considered the use of

‘cigarette’ to be creative as it transfers the property of the unhealthiness of fast food. After discussion the two of us agreed that the ‘cigarette’ substitution gives a wrong interpretation of the advert and therefore gave it a rating of one.

Another notable disagreement concerned the Fenistil Skin Irritation Gel advert. Even though the modified rating criterion indicates identification of the secondary metaphor ITCHINESS IS BUSHES as a vehicle interpretation there were cases where this criterion was not very clear. For instance, from the ETMG-4-11-posttest: *'The bushes represent the body hair or the dry skin and how it's itchy and the gel can fix such a mess. I feel uncomfortable and it makes me itchy [sic]'*. I considered this statement to be a rich interpretation of the metaphor, as it appears to be an extended metaphor. Rater two, on the other hand, considered it an interpretation of the secondary metaphor, due to the absence of the main target domain ‘scissors’ and its properties and considered it a vehicle interpretation. We finally agreed to consider it as a vehicle interpretation due to the focus being on the vehicle rather than the main target domain.

Analysis of the pictorial metaphor interpretation pretest and posttest was performed through a mixed methods approach. First a statistical analysis of the interpretations of participants in the MCG-4 and the ETMG-4 was performed through two Independent Samples T-Tests: once to compare between the results of the pretest and the posttest independently and once to calculate the difference in improvement between the two groups. Results of both are reported in Section 7.5.2. After this, a qualitative analysis of the rich interpretations of the pictorial metaphors evaluating the patterns of these interpretations was performed following the methods of Musolff (2015) and Forceville (1995). Thematic pattern analysis was performed to identify the recurring patterns in the MCG-4 and the ETMG-4’s rich interpretations. In naming the

patterns, as Forceville (1995) only identified the ‘extensions of pictorial metaphors’ I added two patterns that were prevalent in the data: ‘personalised embodied metaphors’ and ‘metaphorical scenarios’. The analysis was performed manually as the sample was small and manageable. The patterns and examples from both groups are reported in Section 7.5.2.

7.4.4.3. The MI inventory questionnaire

I used an Arabic-translated version of Christison’s (2005) MI inventory questionnaire. The ESL/EFL MI inventory questionnaire consists of eight sections corresponding to Gardner’s eight multiple intelligences (please see Appendix D7 for a copy of the MI inventory questionnaire). Under each intelligence section there are six 3-point Likert-scale statements describing the intelligence. For example, a linguistic intelligence statement is *'I often write notes and letters to my friends and family'* and a bodily/kinaesthetic statement is *'I learn best through hands-on-activities'*. Learners are asked to judge if a statement fully, moderately or never represents their preference. To calculate the results of the questionnaire, the ratings for each section are tallied and compared against the results of other sections. The highest scores correspond to the learners' report of their strongest intelligences and the lowest scores correspond to their report of their weakest intelligences. The questionnaire was sent to participants after the interventional teaching sessions and major tests so that it did not interfere with their answers to the pictorial metaphor interpretation tests and the conventional metaphor understanding tests. As discussed earlier, the results of the MI inventory questionnaire are typically shared and discussed with the learners prior to the MI-based lessons, but

since the questionnaire was given to participants in an online form, their results were sent to them via email after Study 4 was completed.

The L1 version of the MI inventory questionnaire was given to the participants so that they would be able to answer it more truthfully. To ensure the correct transfer of meanings in the translation I first translated the MI inventory questionnaire from English to Arabic. A second person back-translated the Arabic version to English. Variations in the English back-translated version and the original English version were addressed and the Arabic version was modified accordingly. It was then piloted with 17 EFL students successfully. As to the participants of the main study, the MI inventory questionnaire was given to the participants in week three through the online platform Google Docs. 39 participants from the ETMG-4 and 32 participants from the MCG-4 filled out the online version of the MI inventory questionnaire. Analysis of the MI inventory questionnaire began with calculating the results for each type of intelligence. After this, SPSS software was used to perform Pearson correlations between the results of the MI inventory questionnaire, results of the conventional metaphor understanding tests, and results of the pictorial metaphor interpretation tests. Only significant correlations are discussed in Section 7.5.3.

7.4.4.4. Evaluation questionnaire

The same evaluation questionnaire used for Study 2 and Study 3 was minimally modified and used for Study 4 (Please refer to Section 5.4.5.2 for a the design and method for analysis of the evaluation questionnaire and Appendix D8 for a copy of the questionnaire). As in Study 2 and Study 3, the questionnaire was delivered

in Arabic to ensure that the learners reported their attitudes towards the teaching methodology truthfully because there was no language barrier. Minor modifications were made in terms of relevance to the interventional teaching sessions of Study 4. In short, the questionnaire involved questions on the participants' biographical data, EFL learning backgrounds, and four open-ended questions. The open-ended questions asked for their attitude towards the MI-based teaching methodology, reaction to the conceptual metaphor awareness and embodied tactile metaphor awareness, and suggestions for improving the interventional teaching sessions. The last part of the evaluation questionnaire involved a 5-point Likert-scale with five statements about the teaching methodology.

Open-ended questions in the evaluation questionnaire were analysed through NVivo Version 11. The participants' evaluations were first translated into English. After that, I performed a thematic analysis by identifying positive attributes, negative evaluations and suggestions for improvement in the participants' evaluation reports. As for the Likert-scale statements, a quantitative comparison between the evaluations of the MCG-4 and the ETMG-4 was performed through Independent Samples T-Test. Results for both analyses are reported in Section 7.5.4.

7.5. Data analysis

Analysis of the results received from the participants was performed in terms of the sub-research questions which were presented in Section 7.3. I start with an analysis of their answers to the conventional metaphor understanding tests (Section 7.5.1) and move to an analysis of their answers to the pictorial metaphor interpretation

tests (Section 7.5.2). I then discuss the correlations between their answers to the MI inventory questionnaires and the main tests (Section 7.5.3). I follow this with an analysis of their evaluations of the teaching methodologies (Section 7.5.4).

7.5.1. The results of the conventional metaphor understanding tests

Analysis for the first sub-research question involves statistical comparison of the results of the conventional metaphor understanding pretests and posttests of the learners of the MCG-4 and the ETMG-4. Comparison between the MCG-4 and ETMG-4 is performed through two Independent Samples T-Tests, the first of which are used to compare the results of the MCG-4 and ETMG-4 in the pretest and posttest. Because I performed this test twice, I applied the Bonferroni adjustment to the significance values and treated ($p = .025$) as statistically significant at the 0.05 level ($.05/2 = .025$). Figure 7.2 displays the performance of the MCG-4 and ETMG-4 in the conventional metaphor understanding tests:

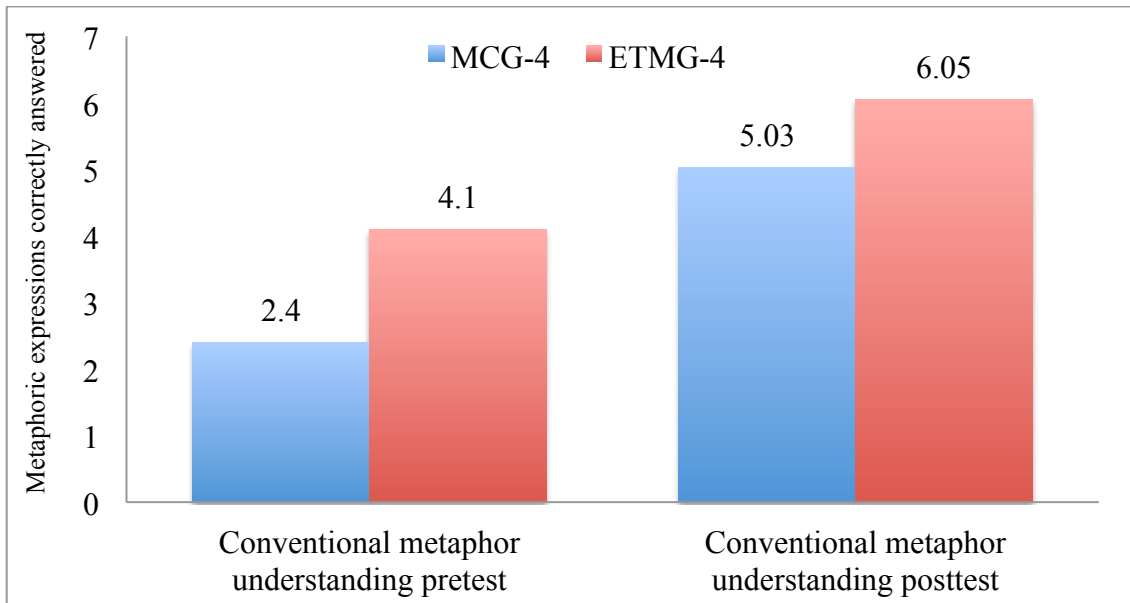


Figure 7.2: Means of the taught metaphoric expressions that were correctly answered in the conventional metaphor understanding pretests and posttests by learners in the MCG-4 and the ETMG-4 in Study 4

Figure 7.2 shows that in the conventional metaphor understanding pretest, out of seven taught metaphoric expressions, the average number of correct answers by the MCG-4 ($n = 30$, $M = 2.4$, $SD = 1.47$) and the ETMG-4 ($n = 37$, $M = 4.1$, $SD = 1.67$) varies considerably. This variation is accompanied by a highly significant difference in pretest performance ($p = .000$) which has a large effect size (eta squared = .36). After the 1.5-hour interventional teaching session for metaphor awareness for the MCG-4 and embodied tactile metaphor awareness teaching for the ETMG-4, there is an improvement in the performance of both the MCG-4 ($n = 30$, $M = 5.03$, $SD = 1.4$), and the ETMG-4 ($n = 37$, $M = 6.05$, $SD = 1.1$). Again, the posttest performances of the MCG-4 and the ETMG-4 are separated by a highly significant difference ($p = .001$) which has a large effect size (eta squared = .24). These results could be misleading, implying that

embodied tactile metaphor awareness is more effective than conceptual metaphor awareness in teaching conventional metaphoric expressions. However, since a highly significant difference is already present in the pretest, a more accurate method for measuring the effect of conceptual metaphor awareness versus embodied tactile metaphor awareness is measuring the differences in improvement (i.e. posttest performance minus pretest performance). Therefore, the second Independent Samples T-Test was used to determine the difference in improvement, and its result shows no difference ($p = .120$) between the improvement of the MCG-4 ($n = 30$, $M = 2.63$, $SD = 2.04$), and the ETMG-4 ($n = 37$, $M = 1.89$, $SD = 1.8$). This result indicates that even though the ETMG-4 started off performing well in the pretest ($M = 4.1$) as opposed to the MCG-4 ($M = 2.4$), it is actually the MCG-4 that improves faster after the intervention ($M = 5.03$), while the ETMG-4 ($M = 6.05$) does not improve well enough to constitute a significant posttest difference. This additional result indicates that conceptual metaphor awareness and embodied tactile metaphor awareness could have had a similar impact on the understanding of the taught metaphoric expressions. As to retention, Study 4 was a short-term study and longer-term testing was not possible. So, whether the similarity in impact persists long after the intervention is up to the work of future research.

Lastly, the participants' scores in the conventional metaphor understanding tests should not be generalized to conventional or novel metaphors other than those covered in this study. As the tests only investigated the contextual senses of seven metaphoric expressions, the correct answers should be taken as indicative rather than conclusive of the understanding of those expressions in context. Even if the participants correctly identified the contextual metaphoric senses of the metaphoric expressions, this

does not guarantee that they fully understand the metaphoric expressions as such answers could be incidental.

7.5.2. The results of the pictorial metaphor interpretation tests

Analysis for the second sub-research question involves a statistical comparison of the results of the pictorial metaphor interpretation tests taken by the MCG-4 and the ETMG-4 followed by a qualitative analysis of the quality of rich interpretations between the two groups.

7.5.2.1. Statistical comparison of pictorial metaphor interpretation tests

I analysed the results of the MCG-4 and the ETMG-4 through two Independent Samples T-Tests. In the first test, I compared their results in the pictorial metaphor interpretation pretest and the posttest. Because I performed this test twice, I applied the Bonferroni adjustment to the significance values and treated ($p = .025$) as statistically significant at the 0.05 level ($.05/2 = .025$). Figure 7.3 demonstrates the results from the pictorial metaphor interpretation pretest and posttest:

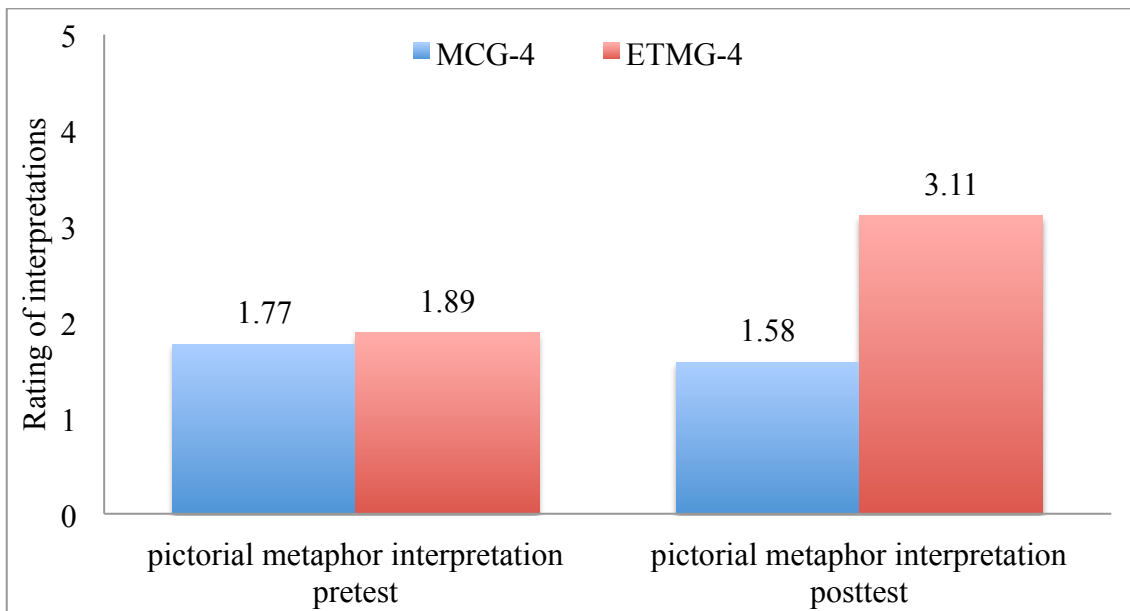


Figure 7.3: Means of the correctly interpreted pictorial metaphors that were identified in the pictorial metaphor interpretation pretests and posttests by learners in the MCG-4 and the ETMG-4 in Study 4

Looking at Figure 7.3, the average for the pictorial metaphor interpretation is similarly low in the pretest of the MCG-4 ($n=30$, $M=1.77$, $SD=0.94$) and the ETMG-4 ($n=37$, $M=1.89$, $SD=1.06$) and the Independent Samples T-Test output indicates that there is no difference in their performance ($p=.647$). However, after the 1.5-hour interventional teaching session on analysing pictorial metaphors we can see an improvement in the performance of the ETMG-4 ($n=37$, $M=3.11$, $SD=1.25$), while the MCG-4 performs consistently low ($n=30$, $M=1.58$, $SD=0.72$). The difference between the two groups is also highly significant ($p=.000$) and supported by a large effect size ($\eta^2=.52$). Figure 7.4 shows the range of results of the learners in the MCG-4 and the ETMG-4:

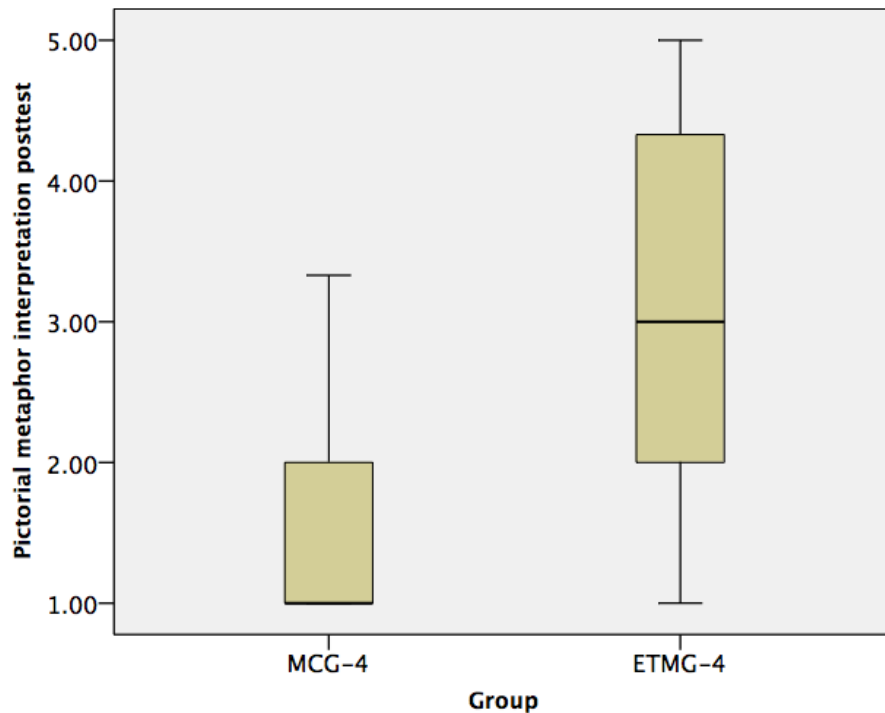


Figure 7.4: Means, medians and distributions of the correctly interpreted pictorial metaphors that were identified in the pictorial metaphor interpretation posttest by learners in the MCG-4 and the ETMG-4 in Study 4

The second Independent Samples T-Test between the ETMG-4 ($n = 37$, $M = 1.22$, $SD = 1.46$) and the MCG-4 ($n = 30$, $M = -.18$, $SD = 1.22$) establishes that the difference in improvement between the MCG-4 and the ETMG-4 is also highly significant ($p = .000$) and supported by a large effect size ($\eta^2 = .33$).

We can conclude from these results that making use of embodied tactile metaphor awareness while teaching pictorial metaphors successfully yielded superior pictorial metaphor interpretation for the ETMG-4. On the other hand, conceptual metaphor awareness seems to have no influence over the interpretation of the tested pictorial metaphors. This result coincides with the recognized limitations of conceptual metaphor awareness as a metaphor awareness-raising activity that has no influence on

the production of metaphoric expressions. Even though the pictorial metaphor tests did not test free production of metaphor it appears that learners who learned through conceptual metaphor awareness interpreted pictorial metaphors insufficiently.

7.5.2.2. Thematic pattern analysis of rich pictorial metaphor interpretations

Looking in detail at the quality of the rich interpretations of the pictorial metaphors by the learners in the MCG-4 and ETMG-4, those in the pretest were mostly in the form of extensions of source domains. As to the rich interpretations of the pictorial metaphor posttest, two patterns emerged in the interpretations produced by learners in the ETMG-4: metaphorical scenarios and personalised embodied metaphors. The MCG-4's posttest rich interpretations continued to manifest in the form of source domain extensions. Each of these patterns is described here with example interpretations from each group.

1. Rich interpretations in the pretest

Results indicate that in the pretest, learners in the MCG-4 provided 90 interpretations in total, and out of those only 2.22% were rich interpretations. As for the ETMG-4, they provided 111 total interpretations, and 9% were identified as rich interpretations. The rich interpretation of both groups is seemingly low. They mostly took the form of extensions of the pictorial metaphors' source domains with ideas that were not expressed in the pictorial metaphor. These extensions seem to be influenced by the learners' knowledge of the world rather than the pictorial metaphors. For example, the source domain 'iron' in the Olay cream pictorial metaphor was extended to the

domain of the ‘sun’ by association with the property of heat. In response to Fenistil Gel advert, the domain of ‘bushes’ was extended to the domain of ‘germs’. To illustrate these source domain extensions, a learner from the MCG-4 described Olay Cream in the pretest as:

- (46) The Olay cream protects our faces from the sun. The sun is like the iron. I feel comfortable when I put [on] the cream, which will protect my face from sun. It’s good and effective because it is a good idea [*sic*]. (MCG-4-39-pretest)

In Example (46), participant MCG-4-39 captured the iron reference and extended that reference into the domain of the sun, which was not represented in the pictorial metaphor. By doing this, she has extended the transferred properties to include heat as well as sun damage. Another pretest example of source domain extension from the ETMG-4 on Fenistil Gel is, as follows:

- (47) That the cream kills or cuts what is around the boy, which is avoiding the germs. It affects me in [a] good way and gives me the idea that the cream is good to use. Yes, it is because it gives the idea about what the scissor and the cream are doing to the bush and the germs it get rid of it [*sic*]. (ETMG-4 -21-pretest)

In Example (47), participant ETMG-4-21 interpreted the main and secondary pictorial metaphors GEL IS SCISSORS and ITCHINESS IS BUSHES and added a new domain of protection against germs, which was not represented in the pictorial metaphor. Even before the interventional teaching sessions, the source domain extensions show the benefits of widening the teaching of metaphor beyond metaphors that are conceptual and/or conventional.

2. Rich interpretations in the posttest

In the pictorial metaphor interpretation posttest the MCG-4 provided 90 interpretations in total, but only 4.44% of them constituted rich interpretations. As to the learners in the ETMG-4, out of 111 total interpretations, rich interpretations constituted 19.81% of all answers. The pattern of rich interpretations from the learners from the MCG-4 and ETMG-4 continued in the form of source domain extensions. In addition, two surprising patterns emerged exclusively in the ETMG-4's rich interpretations: metaphorical scenarios and personalised embodied metaphors. These two patterns were only present in the results of the ETMG-4 and seem to be a reaction to embodied tactile metaphor awareness.

2.1. Extension of source domains pattern

The MCG-4 and ETMG-4 participants continued to provide extensions of source domains in the pictorial metaphor interpretation posttest. For example, from the MCG-4 participants, MCG-4-10 described the Burger Treat fiery fries as follows:

(48) The burger and fiery fries may be match-hot but it gives you high calories, which is dangerous. The same we do. It makes me feel more careful of myself and be fair to it. Yes, they are all dangerous because the food gives you a lot of calories and the match may burn the house [*sic*]. (MCG-4-10-posttest)

In participant MCG-4-10's posttest interpretation the source domain extension lies in extending the property of heat to the domain of 'burning the house'. There is also mixing of the properties of 'matchstick' with the negative connotation of 'high calories' that are bad for a person's health. This negative quality was not represented in the

pictorial metaphor, which indicates that she could have added her knowledge of the world into the interpretation of the advert. An interesting addition here is also the combined word play of ‘match-hot’ which is then followed by another level of interpretation of ‘may burn the house’. As to the ETMG-4, participant ETMG-4-34 provided the following interpretation in the posttest:

(49) The Fenistil skin irritation gel looked like scissors. It makes me feel comfortable about the cream. Yes, because I need the scissors to solve the problem like the cream will solve my skin problem. It can’t solve all problems. Fenistil can’t heal burns because scissors can’t stop fire [*sic*].
(ETMG-4-34-posttest)

In her interpretation of the Fenistil skin irritation gel, participant ETMG-4-34 provided an analogy between ‘scissors’ and ‘Fenistil gel’ that extended throughout the sample. The analogy ended with a negative association between ‘scissors’ and ‘fire’ as opposed to ‘Fenistil gel’ and ‘skin burns’. If we were to compare between the two participants, the extensions of participant ETMG-4-34 were richer and more elaborate than those of MCG-4-10.

2.2. Personalised embodied metaphors pattern

Exclusively to the ETMG-4 after the tactile-embodied intervention, a recurring pattern of rich interpretations appeared as a type of personalised embodied metaphor. Answers to the question ‘How does the advert make you feel?’ were loaded with embodied references to the body, personal feelings and sensory illustrations. This also involved the use of personal pronouns. For example:

- (50) The top of the product irons your way to beauty and wrinkle-free life. It makes me feel feminine. Yes, because it gave me motivation to look more beautiful [*sic*]. (ETMG-4-12-posttest on Olay Cream)
- (51) The French fries they make are fiery as a matchstick. I am hungry and having my tongue burning. Yes, it plants the idea of an extremely hot French fries [*sic*]. (ETMG-4-3-posttest on Fiery Fries)
- (52) That using this gel will stop the irritation like scissors. It makes me want to scratch my arm. Yes, because the picture of the boy gives you goose bumps and an urge to use it [*sic*]. (ETMG-4-23-posttest on Fenistil Gel)

In these examples, metaphoric interpretations were supported by a number of embodied personalised expressions and sensory feelings were used to describe the participants' personal and physical responses to the pictorial metaphors. Instances like '*irons your way to beauty*', '*having my tongue burning*', '*makes me want to scratch my arm*' and '*gives you goose bumps*' are surprising yet very common patterns of interpretations in this group's posttests. The only work that investigates such embodied interpretations is that of Wang and Dowker (2010). However, the cross-sensory interpretations in their data are different from those appearing here because these seem to be motivated by the embodied tactile metaphor awareness intervention. Further research is needed in order to investigate the appearance of this type of personalisation to explore the causes and limitations of such interpretations.

2.3. Metaphorical scenarios pattern

In addition, three participants from the ETMG-4 provided three rich posttest interpretations through metaphorical scenarios. As discussed in Section 2.3.3, Musolff (2006) defined metaphorical scenarios as metaphorical narratives that envelope the metaphors in a narrative frame. They allow speakers to build on a previously mentioned

source and target domain, and they tend to be textually implicit. In the current set of the rich interpretations provided by the ETMG-4, only three instances were found to be metaphorical scenarios. Since rich interpretations were in fact not very numerous these three instances by two different participants were regarded as a pattern. For example, participant ETMG-4-5 created the following short scenario for the Fenistil Gel metaphor:

(53) A boy is about to get killed by angry rash and Fenistil skin gel is the scissors hero helping him. I am excited. I want to know what is going to happen next. Yes! [*sic*]. (ETMG-4-5-posttest)

The superhero scenario in participant ETMG-4-5's interpretation extended the idea of the Fenistil gel as a medicine and scissors into a superhero that saves the boy and wins the war against the angry rash. This playful pattern of rich interpretations did not appear in the ETMG-4's pretest interpretations. This leads us to speculate that it was drawn out by the embodied tactile metaphor awareness intervention.

Lastly, though the rich metaphor interpretations provided by the ETMG-4 participants may not be numerous enough to have a wide-scale impact, they are indicative of the benefits of employing pictorial metaphors and embodied tactile metaphor awareness to have fostered the learners' rich metaphor interpretations. It should be noted that their written interpretations are not elicitation of their pictorial metaphor processing. In his study on the interpretations of the 'body politic' metaphor Musolff (2015, p. 40) highlighted that such interpretations were usually expressed in the form of short responses to a questionnaire and therefore such responses should be taken as "reflective interpretations of an explicitly presented metaphor that required some effort of semantic construal and its formulation in an answer". Musolff here stressed

that these types of interpretations should be taken as possible explanations of the possible meanings of a metaphor rather than indications of metaphor processing. The same understanding of metaphor interpretations is followed in Study 4.

7.5.3. *The correlations between the MI profiles and metaphor tests*

Analysis for the third sub-research question involves performing Pearson correlations across the results of the eight intelligences from the MI inventory questionnaire, the conventional metaphor understanding tests and the pictorial metaphor interpretation tests taken by the learners in the MCG-4 and the ETMG-4. The SPSS output indicated three significant correlations between the eight intelligences and the main tests. They are presented in Table 7.7:

Test	Interpersonal intelligence	Bodily/kinaesthetic intelligence
Pictorial metaphor interpretation posttest	MCG-4 (n= 30, mean of interpersonal intelligence= 9.83, SD= 1.78, $r = .36$, $p = .048$)	ETMG-4 (n= 37, mean of bodily/kinaesthetic intelligence= 7.37, SD= 2.48, $r = .35$, $p = .030$)
Improvement in pictorial metaphor interpretation tests	N/A	ETMG-4 (n= 37, mean of bodily/kinaesthetic intelligence= 7.37, SD= 2.48, $r = .47$, $p = .003$)

Table 7.7: Significant correlations between the MI inventory and tests

As indicated in Table 7.7, only two significant correlations occurred within the pictorial metaphor interpretation posttest. The test results positively correlate with the MCG-4's reports of interpersonal intelligence ($r = .36$, $p = .048$) which according to Cohen (1988) is of medium strength ($r = .30$ to $r = .49$). On the other hand, the pictorial

metaphor interpretation posttest positively correlates with the ETMG-4's reports on bodily/kinaesthetic intelligence ($r = .35$, $p = .030$). In support of this correlation, there is a further highly significant correlation between the improvement in the results from the pictorial metaphor interpretation tests and the bodily/kinaesthetic intelligence ($r = .47$, $p = .003$). Both positive correlations are of medium strength suggesting that there is a medium positive relationship between the ETMG-4 learners' preference for bodily/kinaesthetic intelligence and their answers to the pictorial metaphor interpretation posttest.

The strong relationship between the performance of the ETMG-4 participants on the pictorial metaphor interpretation posttest and their reports on bodily/kinaesthetic intelligence could indicate that they performed better because of an inherent preference for tactile learning. It could, therefore, be argued that this would undermine the effect of embodied tactile metaphor awareness on the quality of metaphor interpretations. However, since the MI inventory questionnaire was given to the participants after the interventional teaching sessions, the results of the questionnaire could have been influenced by the interventional teaching sessions, and these are considered biased. A support of this bias is in the mirroring correlation between the MCG-4's reports on interpersonal intelligence and their answers in the pictorial metaphor interpretation posttest, as the MCG-4's intervention relied heavily on group-work. In addition, as the MI theory lacks empirical support, the participants' answers to the MI inventory questionnaire should not signify their mental capacities or true preferences. It merely provides a means whereby students report their possible preferences in eight areas of life.

7.5.4. Learner evaluations of the teaching methodology

Analysis of evaluation questionnaires involves two complementary analyses. The first is a quantitative comparison of responses to the Likert-scale statements; and the second is a qualitative thematic analysis of the participants' descriptive evaluations. As to the closed questionnaire items of the overall average evaluations per group, the Independent Samples T-Test indicates a significant difference ($p = .034$) between the MCG-4 ($n = 30$, $M = 4.07$, $SD = 0.48$) overall Likert-scale evaluations as opposed to those of the ETMG-4 ($n = 37$, $M = 4.34$, $SD = 0.49$). The magnitude of the differences in the means was moderate ($\eta^2 = .11$). On the part of the learners, it appears that the ETMG-4 participants evaluated the embodied tactile metaphor awareness more highly than the MCG-4. Figure 7.5 presents the scores for each of the five Likert-scale statements:

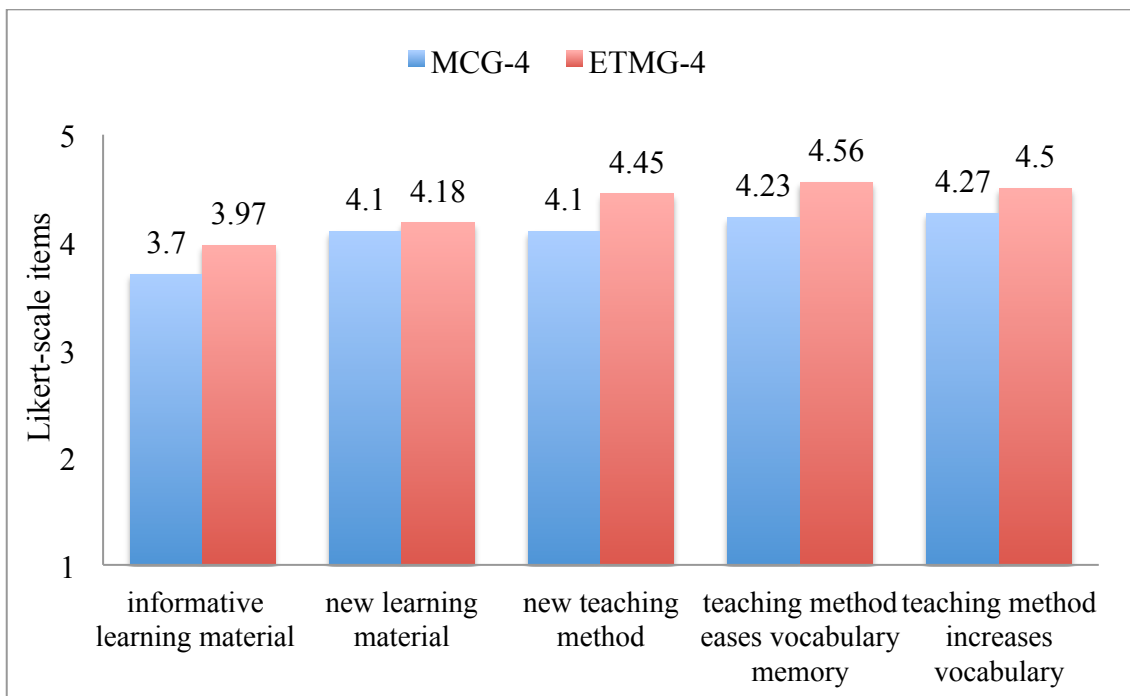


Figure 7.5: Means of the closed-item questions in the evaluation questionnaire as evaluated by learners in the MCG-4 and the ETMG-4 in Study 4

As to the participants' descriptive evaluations, the open-ended answers were classified through NVivo in terms of positive evaluations, negative evaluations and suggestions for improvement. Starting with the positive evaluation, the students from the MCG-4 reported that they enjoyed learning through conceptual metaphor awareness because it helped them understand the vocabulary items by connecting the words to major themes. They especially reported that they enjoyed the use of images with the vocabulary items. For example:

- (54) I liked the new way of learning vocabulary. It was a simple style of learning that can make the information easier, more interesting as well as fun. It is also entertaining. (MCG-4-1)
- (55) I liked that the explanation of every vocabulary is linked to the pictures and a large theme that explains the deep meaning of the words. This way makes us not forget the meanings because I will remember the image. (MCG-4-10)

The students of the ETMG-4 also reported that they enjoyed being made aware of metaphors. More importantly, they also reported that the tactile teaching methodology was refreshing and motivating. They also added that learning to analyze advertisements is helpful to real life situations and that touching the materials mentioned in the adverts helped them to understand the links in them. For instance:

- (56) I liked using the materials and objects to know the meanings of adverts and words. This really helps us to connect things in our real lives with what we learn at the university. (ETMG-4-52)
- (57) Using the physical objects and pictures and trying to hold things with our hands made the advertisements more real to us. We don't learn enough about advertisements and I think we should. (ETMG-4-45)

As indicated in examples (56) and (57), the learners reported that they appreciated being aware of tactile meanings not only to learn about metaphoric expressions but also to

learn about the adverts and to make them more concrete. It was interesting that they overtly pointed out the adverts while the learners from the MCG-4 mostly discussed the metaphoric expressions and the images.

There were only four negative evaluations of the teaching methodology in each group. Two learners from the MCG-4 reported that they did not like the use of ready-made presentations and the length of time of the 1.5 hour-teaching session. For example:

(58) I just did not like how long it took. I suggest devoting less time to these lessons and giving us time to study. (MCG-4-39)

(59) There was too much use of ready presentations. It seemed like a waste of time. (MCG-4-10)

In addition, two participants from the ETMG-4 reported that use of presentations and materials was a waste of the class time and that they would prefer being taught through books and reading. For example:

(60) I didn't like having to touch the objects because I learn vocabulary by reading. (ETMG-4-14)

(61) I don't like new technological teaching like presentations and having the objects in the classroom. This is better for kids not us. As to the pictures they are okay and actually help us understand. (ETMG-4-17)

Lastly, the suggestions for improvement revolved around two issues for each group. For the MCG-4, the learners suggested making conceptual metaphor awareness more learner-centered and increasing the number of vocabulary items to be taught. For example:

(62) I suggest making the lessons more interactive. We could do things ourselves so we could learn faster. It should not just be the teacher

explaining things and us listening. We should have a say about why we learn in class. (MCG-4-43)

- (63) I suggest devoting less time to each vocabulary word or maybe add more vocabulary. (MCG-4-39)

However, the suggestions from the ETMG-4 revolved around the issues of suitability of embodied tactile metaphor awareness to younger learners and the learner-focused classroom. For instance:

- (64) I think if there was more interaction and the students were asked more. Maybe the students should be answering and working more than the teacher. Maybe it was because the time was limited. This doesn't mean it's a bad thing, we just need a little more time. (ETMG-4-15)

- (65) I didn't like it because it was very simplistic and more suitable for children. I didn't feel like I was in a language classroom when I was touching things with my hands. (ETMG-4-16)

In sum, the evaluations by the learners in the MCG-4 and ETMG-4 were closely related to their interventional teaching sessions. The former commented on the vocabulary items and pictorial elucidation while the latter enjoyed learning about the advertisements. This could be because embodied tactile metaphor awareness was more suitable to the teaching of advertisement analysis because it made them more concrete to the learners.

Taken together, the closed- and open-items learner evaluations from the MCG-4 and the ETMG-4 indicate a preference for embodied tactile metaphor awareness. However, the evaluation questionnaires are not to be taken as indicators of their true preferences as such reports can be influenced by other factors such as liking a teacher or aiming for better grades. However, they still indicate a strong preference for embodied tactile metaphor awareness over conceptual metaphor awareness.

7.6. Discussion

To conclude Chapter Seven, analysis of the results obtained from Study 4 indicates the following results. First, it appears that embodied tactile metaphor awareness is similar in effect to that of conceptual metaphor awareness in the understanding of the seven metaphoric expressions. This differs, however, when learners from the ETMG-4 and the MCG-4 interpreted pictorial metaphors in writing. The interpretations provided by the learners in the ETMG-4 were more elaborate, embodied and narrative than the MCG-4 interpretations. There even appears to be a strong correlation between the ETMG-4's performance in the pictorial metaphor interpretation posttest and their reports of bodily/kinaesthetic intelligence. Lastly, the evaluations of the teaching methodologies by the ETMG-4 learners were more supportive of embodied tactile metaphor awareness than those of the MCG-4 with regards to conceptual metaphor awareness. Though these results are not indicative of the level of the participants' metaphoric competence their metaphor processing or their mental processing abilities, they are still encouraging that the awareness-raising activities based on embodied metaphor can help learners. If taken at face-value, these results could indicate that even though embodied tactile metaphor awareness may not differ from conceptual metaphor awareness in the understanding of metaphoric expressions, embodied tactile metaphor awareness could be a better technique for incorporating pictorial metaphors into the EFL classroom. This is because it seems to foster richer metaphor interpretations and higher evaluations. The current discussion provides possible justifications for these results taking into consideration alternative causes and associations.

The results of the conventional metaphor understanding tests in Section 7.5.1 appear to be in agreement with the results of Study 3 in Section 6.5.1, in which the immediate impact of conceptual metaphor awareness and embodied action metaphor awareness was similar between the MG-3 and the EAMG-3. The difference between the performance of the MG-3 and the EAMG-3 in Study 3 came two weeks after the intervention, as the longer-term effects varied significantly. The current results of the conventional metaphor understanding tests conducted in Study 4 suggest that embodied tactile metaphor awareness could have a similar immediate effect to that of conceptual metaphor awareness. Whether the extent of this similarity extends into a longer-term retention would depend on the findings of future research. Additionally, while we know that conceptual metaphor awareness aids with understanding the metaphoric senses of vocabulary items (cf. Boers, 2000a, 2000b), the important issue here is why do embodied action and tactile metaphor awareness lead to similar results about how metaphor was understood as to those observed with conceptual metaphor awareness. It is possible that embodied tactile metaphor awareness has no influence over metaphor retention. In the absence of previous studies to compare these results to, it is difficult to justify the results of the first sub-research question. Before embodied tactile metaphor awareness is incorporated into language teaching, future studies into the processing of metaphor and embodied metaphor should take these issues into consideration. They should also investigate the effects of tactile versus action embodied metaphor awareness in metaphors beyond those used in Study 3 and Study 4.

Furthermore, the results from the pictorial metaphor interpretation tests in Section 7.5.2 raise the following points. First, making use of embodied tactile metaphor awareness while teaching pictorial metaphors appears to yield superior short-term

effects for the ETMG-4 as the approach seems to significantly aid their interpretation of pictorial metaphors. Even though the ETMG-4 only made use of embodied tactile metaphor awareness during the interventional teaching sessions and not the tests, their training may have had an impact on the way they visualize pictorial metaphors. This is likely because during the posttest participants in the ETMG-4 were instructed to imagine touching the physical objects of each pictorial metaphor in the hopes that this would enhance their sensory awareness. Lindstromberg and Boers (2005) discussed the possibility that watching or imagining an action triggers motoric imagery because of our ‘mirror neurons’. In the absence of psychological research investigating the sense of touch and ‘mirror neurons’, it is difficult to say for certain that motoric imagery applies to embodied tactile metaphor awareness as well. As Study 4 is not oriented towards the processing of pictorial metaphors or embodied tactile metaphor awareness, research in psychology and neuroscience should investigate the hypothesis of tactile embodiment visualization. Third, it appears that conceptual metaphor awareness does not have an influence over the interpretation of pictorial metaphors. Whether this holds true for pictorial or multimodal metaphors other than those targeted in Study 4 depends on the findings of future research.

As for MI-based teaching methodology being used to teach metaphoric expressions and pictorial metaphors, in the small-scale context of Study 4 the sensory teaching methodology was appropriate for the aims of the interventional teaching sessions for the ETMG-4 which relied on embodied tactile metaphor awareness. MI-based instruction accommodates embodied tactile metaphor awareness as well as the participants’ individual differences. However, it needs to be thoroughly examined as a language teaching methodology before any claims for its validity can be made. On an

operational note, since there is no precedence of studies employing MI-based teaching methodology to teach metaphors it was not possible to predict its limitations. It was difficult to adjust the target materials to the methodology, and the methodology's time-consuming nature was a confining factor. Also, musical and naturalist intelligences were difficult to use in the course of the interventional teaching sessions. In addition, to account for individual preferences, the MI inventory questionnaire was used after the intervention and reported in Section 7.5.3. According to the ETMG-4's MI inventory reports, the results of the highly bodily/kinaesthetic learners correlated with rich interpretations in the pictorial metaphor posttest. However, we should keep in mind that the MI inventory questionnaire was designed for the purpose of EFL/ESL reflective learning. It would be incorrect to say that it is representative of the participants' true intelligence preferences seeing as it is less than comprehensive and not backed by empirical research. It is also possible that the strong correlation between the ETMG-4's pictorial metaphor interpretation posttest and the MI inventory questionnaire was skewed as it was given to the participants after the intervention.

As to the results from the evaluation questionnaires, the participants from the ETMG-4 reported that the teaching methodology was motivating and entertaining and that it helped them with their analysis of the advertisements. On the other hand, the learners from the MCG-4 did not provide any evaluations concerning the advertisements as their focus was on the metaphoric expressions. This could be a further indication that conceptual metaphor awareness is more suitable as a vocabulary teaching method rather than being used for pictorial metaphors.

In conclusion, with these issues in mind, it should be noted that the intervention of Study 4 was limited to seven conventional metaphoric expressions and

four pictorial metaphors in a context of 67 Saudi EFL learners. With the scarcity of research on embodied tactile metaphor awareness, pictorial metaphor and metaphor interpretations, the present investigation should be taken as an exploratory account of possible implications for embodied tactile metaphor awareness in the course of figurative language teaching. With this last note, the following Chapter Eight presents an overall look into the findings of this thesis and proposes some recommendations for future research.

CHAPTER EIGHT

CONCLUSIONS, IMPLICATIONS AND SUGGESTIONS FOR FUTURE RESEARCH

8.1. Introduction

This thesis has sought to explore the effectiveness of awareness-raising activities that promote the learning of L2 metaphor with 223 female learners in Saudi EFL classrooms. Its aim was to come to a better understanding of three forms of metaphor awareness-raising activities. First, it employed the established conceptual metaphor awareness which promotes knowledge of the conceptual domains that motivate the metaphoric expressions. Second, it introduced embodied action metaphor awareness and embodied tactile metaphor awareness which are two metaphor awareness-raising activities inspired by the insights of embodied cognition research. It investigated the interaction of these three forms of activities and the skills that indicate an appropriate learning of L2 metaphor which are metaphor understanding, longer-term retention, production and interpretation of pictorial metaphors.

In this final chapter, I start with Section 8.2 which brings together the findings of the experimental studies described in Part Two with some of the literature described in Part One in order to propose responses to the main research questions. Then, I consider the theoretical implications this thesis provides for cognitive linguistic research in Section 8.3 and the possible implications of L2 metaphor teaching for Saudi university students and other contexts of EFL/ESL teaching in Section 8.4. Finally, I

close with a discussion of the limitations of experimental classroom research and suggestions for future research in Section 8.5.

8.2. Summary of findings from the experimental studies

This thesis was based on a sequential experimental design that took place with learners in Saudi EFL classrooms. It started with Study 1 in Chapter Four which was an exploratory study that set the scene for the issues to be explored by Study 2 in Chapter Five, Study 3 in Chapter Six and Study 4 in Chapter Seven. In this section, I summarize the findings of these four experimental studies in terms of the three main research questions. I discuss how some of these findings may be generalizable and others may be specific to the context of the female Saudi learners. In doing so, I shed light on how these experimental studies contribute to the literature on conceptual metaphor awareness which was discussed in Chapter Two and embodied metaphor awareness which was addressed in Chapter Three.

8.2.1. Findings of Study 1 and Study 2

To begin with, Chapter Four and Chapter Five reported on Study 1 and Study 2, which together aimed to answer Research Question One. These studies investigated the impact and limitations of conceptual metaphor awareness as metaphor awareness-raising activities as opposed to a teaching approach that involves the semantic clustering of metaphoric expressions - or learning metaphoric senses without reference to the source domains of their conceptual metaphors. To reiterate, Research Question One was as follows:

RQ 1: How do the female Saudi EFL learners respond to awareness-raising activities to the teaching of metaphoric expressions when these activities are based on conceptual metaphor awareness versus semantic clustering?

Starting with Study 1, the interventional teaching session carried out with the learners involved promoting an awareness of 20 metaphoric expressions motivated by conceptual metaphors for happiness and sadness. As an exploratory study, this session was minimal and the testing mainly involved a free writing posttest in which the students wrote freely about their reactions to an emotionally charged video. Study 1 revealed that the learners in the metaphor group employed more of the taught metaphoric expressions in their writing than those in the control group, which is consistent with the second experiment in Boers' (2000b) study. As discussed in Section 2.4.4 in Chapter Two, the experimental group and the control group in Boers' experiment learned over 40 metaphoric expressions for upward and downward economic trends. However, even though there was a highly significant difference between the performance of Boers' experimental group and the control group, the use by each group was much lower than the total number of metaphoric expressions learned. If we were to compare the two studies, both experimental groups that are in Boers' experiment and Study 1 only used a small number of the taught metaphoric expressions in their writing and both studies did not employ a pretesting measure. Thus, the two studies indicate a need for explicit teaching of metaphor but they should be taken with caution. To make up for this limitation, the following studies in this thesis employed pretesting measures to further support the statistical comparisons.

While Study 1 suggested some possible benefits to conceptual metaphor awareness, the teaching of the metaphoric expressions followed a traditional teaching

approach in which the teacher explained a list of metaphoric expressions and learners wrote about their reactions to a video clip. As an exploratory study, it suggested possible avenues for the teaching of metaphoric expressions in the Saudi EFL classrooms but the learners did not get the opportunity to practice the metaphoric expressions in a communicative context. This is something that the following Study 2 takes into consideration. This thesis aimed to integrate the teaching of metaphors in learner-centred teaching methodologies and a very important aspect of Study 2 in Chapter Five was to integrate the teaching of metaphoric expressions in a task-based language teaching (TBLT) setting. As discussed in Section 1.2 of Chapter One, the EFL teaching at King Abdul-Aziz University, where the work of thesis took place, provides EFL teaching programmes that promote communicative competence and enable learners to employ the language in different situations and for various functions. To this end, Littlemore and Low (2006a, p. 200-201) suggested that “[o]ne of the most effective ways to help learners understand and use figurative language to perform [communicative] functions is to engage them in authentic, well-defined tasks with specific functional goals”. One way to promote the communicative functions of metaphor in Study 2 of this thesis was to employ Willis’ (1996) TBLT.

Based on the recommendations of Study 1, Study 2 sought to explore the impact of conceptual metaphor awareness in a structured TBLT interventional setting and to shed light on the participants’ opinions of the teaching methodology. I employed the conceptual metaphor TIME IS MONEY as a theme for the TBLT interventional teaching session in order to teach 17 metaphoric expressions to a metaphor group and a control group. I integrated these metaphoric expressions in a problem-solving task in which the learners searched for solutions to their time management problems, thus

teaching them how to use these expressions. Section 8.4.3 elaborates on the benefits and shortcomings of the TBLT teaching methodology. As to the intervention for the teaching of the metaphoric expressions, the metaphor group learned the chosen vocabulary items through conceptual metaphor awareness while the control group learned them through semantic clustering.

The results of the metaphor understanding pretests, posttests and the 2-week delayed tests in Study 2 indicated that the metaphor group performed better in the immediate posttest than the control group but did not seem to have retained the metaphoric expressions when tested two weeks after the teaching took place. These results are in line with the studies presented in Section 2.4 of Chapter Two. To reiterate, Boers (2000a, 2000b), Li (2002) and Skoufaki (2008) reported significant results in terms of the short-term benefits of conceptual metaphor awareness. In fact, the results of two of Li's (2002) experiments appear to be in agreement with posttest results of Study 2. However, it should be noted that Li's (2002) experiments showed highly significant differences between the conceptual metaphor groups and the semantic clustering groups in 1-week delayed tests but the results of Study 2 here indicate no differences in the 2-week delayed tests. This could be due to a difference in the testing measure used as the tests for Study 2 in this thesis were cloze tasks in which the participants were asked to fill the gaps with appropriate words or phrases while Li's testing relied on the learners providing meanings for the metaphoric expressions in decontextualized tests. Even though Li's studies tested for 1-week delayed effects and Study 2 in this thesis tested for the 2-week delayed effects, it is the closest study, in terms of time, to investigate the effects of conceptual metaphor awareness post the intervention stage. This difference could also be due to contextual differences between Chinese and Saudi EFL learners. In

general, the results of Study 2 indicate that conceptual metaphor awareness in the context of the Saudi university classroom was successful in promoting an understanding of the taught metaphoric expressions. However, as Boers (2004) suggested, a single teaching session of metaphoric expressions does not guarantee longer-term retention. This is a problematic issue because any teaching of conventional metaphoric expressions should ideally lead to the retention of the vocabulary items.

Another important aspect of Study 2 is that it revealed the participants' evaluations of the metaphor teaching methodology. An important aspect of developing a learner-centred teaching of metaphor is to take the learners' evaluations of it into account. In terms of the cognitive linguistic studies investigating learner evaluations, Li (2002) was amongst the few who have systematically explored the evaluation of participants when investigating the influence of conceptual metaphor awareness. The evaluation questionnaire employed in Study 2 of this thesis was an elaborate version of Li's questionnaire and it also asked learners to comment freely on their learning experience. In terms of the Likert-scale items in Study 2, there appears to be no statistical difference between the evaluations of the conceptual metaphor groups and the semantic clustering groups. However, in terms of the newly added questions, the learner evaluations in Study 2 here show more of a preference for conceptual metaphor awareness than towards semantic clustering. It was especially interesting that the participants from the metaphor group overtly reported a positive attitude towards the conceptual metaphor awareness teaching while the control group only evaluated the TBLT methodology. The results from the evaluation questionnaires also indicated that both groups were satisfied with the TBLT methodology.

Lastly, in reply to Research Question One, the results of Study 1 and Study 2 carried out with female Saudi EFL learners indicate that conceptual metaphor awareness appears to be suitable for revealing the hidden relationships between metaphoric expressions and their conceptual metaphors. This awareness thus eases the understanding of the metaphoric senses of vocabulary. It also appears to be more favoured by learners in the conceptual metaphor groups than the semantic clustering by the control groups.

8.2.2. Findings of Study 3

Study 2 which focused on teaching learners through conceptual metaphor awareness revealed some shortcomings in terms of longer-term retention. This indicated a need to develop metaphor awareness-raising activities that promote not only awareness of conceptual metaphors but also the retention of the metaphoric senses for at least a period of two weeks. Study 3 which was presented in Chapter Six aimed to answer Research Question Two and explore the retention of metaphoric expressions. To recap, it was as follows:

RQ 2: How do the female Saudi EFL learners respond to awareness-raising activities to the teaching of metaphoric expressions when these activities are based on embodied action metaphor awareness, conceptual metaphor awareness or semantic clustering?

This study was dedicated to exploring the impact of embodied action metaphor awareness (i.e. awareness of the sensorimotor motivations of the conceptual metaphor's source domains) on the understanding, retention and the production of 11 LIFE IS A

JOURNEY metaphoric expressions by 60 Saudi EFL learners. The intervention for Study 3 involved six teaching sessions. The learners were divided into three groups: the first group learned the metaphoric expressions through embodied action metaphor awareness while the second group learned them through conceptual metaphor awareness, and the third group learned them through semantic clustering. The teaching approach adopted for the embodied action metaphor group was a TPR-inspired teaching methodology in which the learners enacted the metaphoric expressions and played charades in the classroom. In addition, the teaching methodologies delivered to the conceptual metaphor group and the semantic clustering group were based on the teaching methodology Presentation, Practice and Production.

Starting with metaphor understanding, the results for Study 3 indicated that semantic clustering is still the least effective teaching method for understanding and retention of the meanings of metaphoric expressions. As to embodied action metaphor awareness and conceptual metaphor awareness, the learners in the embodied action metaphor group and the metaphor group performed similarly well in the metaphor understanding posttest as opposed to the control group. This immediate result suggests that as long as learners become aware of the metaphoric motivations of metaphoric expressions in any way they were taught, understanding of the metaphoric senses can take place. In terms of retention, though, the two approaches seem to differ. We already know from the results of Study 2 in this thesis that conceptual metaphor awareness may not be the most effective method to use to promote 2-week retention and it appears that the results of Study 3 agree with this finding. The most interesting result in terms of metaphor retention was that the learners who acted out the vocabulary items in the embodied action metaphor group achieved high scores two weeks later.

Thus, there is a dual advantage that can be gained from embodied action metaphor awareness: one for the awakened embodied meanings of the metaphoric expressions and one for the enactment effect on memory. First, it familiarized the learners with the sensorimotor motivations behind the conceptual metaphors and their metaphoric expressions. This was also observed in Lindstromberg and Boers' (2005) study on action verbs. The important addition provided by Study 3 is that the learners acted out not only action verbs but also more complex constructions like nouns, collocation, lexical phrases, etc. though action verbs were easier to enact and mime. Also, even though Lindstromberg and Boers (2005) have employed the enactment and miming of embodied action verbs with language learners, their investigation did not explore beyond the immediate recall of vocabulary. So, the second advantage for embodied action metaphor awareness in Study 3 is that it appears to be linked to the enactment effect on memory. As discussed in Section 3.6.1 of Chapter Three, memory research (cf. Engelkamp & Krumnacker, 1980; Macedonia & Klimesch, 2014) has shown that enacting abstract words plays a role in retaining them for long periods of time.

However, even though embodied action metaphor awareness seems to cater for different learning preferences and is more motivating and learner-centred than the teacher-centred semantic clustering, it does not seem to promote the production of metaphor in writing. None of the participating groups seemed to produce many of the taught metaphoric expressions in their writing. As was shown, the 60 learners provided writing samples that ranged from 20 words to 200 words and appeared to be able to express themselves well without using the taught metaphoric expressions. In the course of the small-scale experiments that were conducted this result is expected because of the

non-generative nature of metaphor awareness-raising activities. However, compared to the findings of Study 1 of this thesis and experiment two in Boers (2000b) study, the weak performance in metaphor production in Study 3 could be due to contextual differences between the three studies but since Study 1 of this thesis and Study 3 were conducted in the same context of Saudi university classrooms, the geographical influence of context is unlikely. The more likely explanation is that the earlier two studies followed the format of cause-and-effect experiments and did not integrate the teaching of metaphor using dynamic and authentic teaching methodologies. MacArthur (2010) has an interesting view with regards to the limitations of such experiments. She viewed language learning in terms of a complex and dynamic environment in which the replication of the results of controlled classroom experimental research would be “variable, and no one method or technique will work for all learners; initial states, cognitive styles, mood swings, the L1 of the learners, group dynamics, and a host of other variables will be working together to affect the developing system” (MacArthur, 2010, p. 158). As the interventional teaching sessions for Study 3 were closer to the authentic classroom teaching than Study 1 and Boers’ (2000b) study that were probably one-dimensional, MacArthur’s dynamic system view provides a probable justification here. To this end, MacArthur (2010) suggested some techniques that could promote the production of metaphor in authentic EFL classrooms. Examples include the use of written or spoken texts, dictionaries and corpora which could be employed inside or outside the classroom. She also emphasized the importance of providing learners with feedback on their use of metaphor, not on the basis of correctness of use but on the acceptability of a metaphoric expression in the context of speech or writing. Since Study 3 did not employ these teaching techniques in the integrated teaching of

metaphor, the absence of metaphor in the participants' writings is understandable. Section 8.4.5 suggests another technique based on the recommendations of second language acquisition research i.e. a vocabulary knowledge questionnaire that could be also used to observe the development of the productive use of conventional metaphoric expressions.

Another insight from Study 3 was the correlation of cognitive learning styles with conceptual metaphor understanding. While the preceding studies only focused on the impact of conceptual metaphor awareness, Study 3 added the possible influence of imager-verbalizer learning styles on the learning of metaphor. This is because while the language level is the common denominator in the EFL classroom, MacArthur (2010) noted that other variables like aptitude, motivation and learning styles should be featured into the learning of metaphor in the classroom. Study 3 focused on one of those features, i.e. the role of the style of processing on the learning of the taught metaphoric expressions. The analysis of the correlations between the test results of embodied action metaphor awareness group and their answers on the SOP questionnaire indicated that there were no correlations between the learners' style of processing and their performance in the tests, thus suggesting that this type of cognitive processing may not have been a factor in what they gained from the embodied action metaphor awareness. In contrast, the imager learners in the conceptual metaphor group appear to have gained cognitive benefits because of their inclination to be visual thinkers. These results are in line with Boers et al.'s (2008) study which also indicated the preference of imager learners for pictorial-supported conceptual metaphor awareness. Lastly, in terms of learner evaluations, these appear to be consistent with the other results from Study 3.

In reply to Research Question Two, the results obtained from Study 3 indicate that embodied action metaphor awareness and conceptual metaphor awareness encouraged similar outcomes for the Saudi EFL learners in terms of their understanding of the taught metaphoric expressions. Semantic clustering, though, continued to fail as a metaphor teaching technique. More importantly, embodied action metaphor awareness had the advantage of promoting longer-term retention of the metaphoric senses of vocabulary up to two weeks after the intervention.

8.2.3. Findings of Study 4

Since fostering the production of metaphors through embodied action metaphor awareness was not an achievable task through the short-term experimentation of Study 3, Study 4 which was reported in Chapter Seven took a different direction to the teaching of metaphor. It was among its aims to promote richer interpretations of pictorial metaphors through embodied tactile metaphor awareness. One of the aims was to answer Research Question Three which was as follows:

RQ 3: How do the female Saudi EFL learners respond to awareness-raising activities to the teaching of linguistic and pictorial metaphors when these activities are based on embodied tactile metaphor awareness or conceptual metaphor awareness?

Study 4 was dedicated to exploring the impact of embodied tactile metaphor awareness on the understanding of seven metaphoric expressions from the domains of texture and temperature and the extension of three pictorial metaphors. The interventional teaching took place through a teaching methodology based on Multiple

Intelligences theory with only two groups: a conceptual metaphor group that learned through awareness of conceptual metaphors and an embodied tactile metaphor group that learned through manipulating physical objects relating to textures and temperatures. This tactile teaching approach was inspired by the research in social psychology rather than cognitive linguistics which has yet to explore tactile metaphors. In an attempt to expand the interest of figurative language teaching research to nonverbal metaphors, an important aspect of Study 4 involved the teaching of a number of pictorial metaphors. This was done because Low (1988, p. 134) considered that advertisements provide a great opportunity to promote an awareness of “the multiple layering in metaphors” which is among the skills of metaphoric competence as he viewed it in 1988. Advertisements also introduce learners to some of the social functions that metaphor has outside of language.

In reply to Research Question Three, the results of Study 4 that took place with 67 Saudi students indicated that both conceptual metaphor awareness and embodied tactile metaphor awareness influence the understanding of metaphoric expressions in similar ways, which is consistent with the findings of Study 3 in this thesis. However, the students who learned through touch were able to express these pictorial metaphors in writing in more elaborate and rich ways than the learners who learned through conceptual metaphor awareness. Their interpretations involved personalised and embodied metaphors and some of them were enclosed in short metaphorical scenarios that surrounded the extended metaphor in a short narrative. This is a very important result because even though these students did not touch physical objects during the tests, they became more aware of the source and target domains of the pictorial metaphors. This is indicative of how the sense of touch can make abstract visual

concepts more concrete. Explaining why participants produced such rich interpretations would require further evidence from neurolinguistic and psycholinguistic research about the processing of pictorial metaphors and the interaction they have with embodied tactile metaphor awareness. To my knowledge, Study 4 is the first to employ embodied tactile metaphor awareness to teach metaphoric expressions and future research is needed to explore this further.

8.3. Theoretical implications from the four experimental studies

Though the studies performed as part of this thesis were conducted in the small-scale context of Saudi university classrooms, together they suggest the following theoretical contributions to the research on metaphor awareness-raising activities. First, employing conceptual metaphor awareness appears to benefit only the understanding of conventional metaphoric expressions. In Chapter Two, I have elaborated on the criticisms surrounding CMT as a cognitive linguistic theory. One of those criticisms is that CMT overlooks multimodal and pictorial metaphors in favour of conventional linguistic metaphors. In her investigation of multimodal metaphors, Pérez Sobrino (2015) also noted the linguistic bias of CMT and the need to expand this theory's interests to nonlinguistic manifestations of metaphor. She stressed that "[i]n order to prove metaphor as a central conceptual mechanism in everyday thought, finding alternative instantiations of metaphor arises as a primary goal to build a stronger CMT" (Pérez Sobrino, 2015, p. 54). In terms of figurative language teaching, Study 4 in this thesis suggests that perhaps CMT is linguistically biased because it describes linguistic metaphors more than other manifestations of metaphor. This is because awareness of conceptual metaphors has aided the learners' understanding of linguistic metaphors

repeatedly but did not affect the quality of their interpretations of pictorial metaphors. On the other hand, embodied metaphor awareness, being based on primary motivations of conceptual metaphors, appears to promote not only the understanding of linguistic metaphors, but also the longer-term retention of linguistic metaphors and the rich interpretation of pictorial metaphors.

In relation to Grady's (1997) theory of primary metaphors which was discussed in Section 3.2 of Chapter Three, primary metaphors seem to not only serve CMT with much-needed theoretical support but also serve the teaching of embodied metaphors in the L2, thus overcoming the theoretical issues of conceptual metaphor awareness. The results of Study 3 and Study 4 indicate that adopting embodied metaphor awareness-raising activities for the teaching of pictorial metaphors supports the understanding of metaphor at a more grounded level than that of conceptual metaphor awareness.

In addition, in his review of how embodied metaphor relates to conceptual metaphors and image schemas, Gibbs (2014, p. 168) has described the role of embodied metaphor to language speakers:

Conceptual metaphors extend experiential gestalts [i.e. image schemas] to structure and organize abstract concepts. Embodied metaphors are ... part of who we are and serve as the underlying cause of why our language, gestures, music, art, and so on seem so grounded in everyday bodily actions.

Looking at the impact of conceptual metaphor awareness and embodied metaphor awareness in the Saudi EFL context, we could apply Gibbs' understanding of embodied metaphor to the teaching of metaphor in the EFL classroom as well. In other words, Gibbs' (2014) explanation of the roles of conceptual and embodied metaphors could be extended to the awareness-raising activities for metaphors with motor and tactile

motivations. On the other hand, conceptual metaphor awareness merely structures and organises metaphoric expressions according to conceptual metaphor themes thus aiding understanding. Embodied metaphor, however, is rooted within language speakers whether they are speakers of L1 or L2. Thus, promoting the awareness of embodied metaphors in the teaching of L2 metaphor is expected to influence not only the surface of language but also the nonlinguistic manifestations of metaphors.

8.4. Pedagogical implications

The four experimental studies in this thesis have attempted to provide theoretical and pedagogical contributions to the teaching of metaphor by integrating the teaching of metaphor in authentic language classrooms. Here I discuss some of the pedagogical implications for young and adult language learners in the Saudi context and in other language learning programmes.

8.4.1. The teaching of metaphor in Saudi EFL classrooms

This thesis has two important implications relevant to the context of Saudi EFL classrooms. In Section 1.2 of Chapter One I elaborated on the context of EFL teaching in Saudi universities in which EFL teachers explain vocabulary lists through semantic clustering and translation and learners receive their learning whilst sitting down in fixed rows in their classrooms. Even though teachers at King Abdul-Aziz University aim to deliver communicative and functional teaching of English, vocabulary teaching for metaphoric or non-metaphoric vocabulary items is somewhat traditional. The four experimental studies performed as part of this thesis suggest ways in which vocabulary

teaching could be improved. First, conceptual metaphor awareness helps understanding and the learners who participated in the studies appreciated being made aware of the conceptual motivation of metaphoric expressions. Instead of having to translate and memorize lists that may mean nothing to them, they were given the etymological background of how these vocabulary lists came to mean what they do.

Second, and more importantly, the two action and tactile metaphor awareness-raising activities used for teaching embodied metaphors have been shown to aid learners in the Saudi teaching context where they are usually passive receivers of knowledge rather than active performers. The adult learners in Study 3 learned the vocabulary items by enacting each individual expression which was a new learning method for them. The students at King Abdul-Aziz University take the EFL course for 3.5-hours per day and carrying out the actions during this long period gave a positive atmosphere to the classroom and motivated them. The recommendation here is that even though some students might be uncomfortable with doing something physical, they are likely to agree to act, mime and gesture the metaphoric expressions once they know that this learning method could help them retain the vocabulary items in their long-term memory. As to the learners in Study 4, promoting awareness of the embodied metaphors though touching objects while sitting down was different from the effects of acting something out since the learners remained seated and their focus was on handling the physical objects I provided for them. Preparing for these objects beforehand could be a little time-consuming but during the class time it does not take up much time for learners to touch the objects related to the learning materials. They were enthusiastic about playing with objects which helped them not only to understand the conceptual mappings motivating the metaphoric expressions but also connect with the most

primary meanings of these metaphoric expressions and pictorial metaphors. The implication here is that teachers, even in the most traditional EFL classrooms, can make use of very simple objects to engage and motivate their students.

8.4.2. The teaching of metaphor to young and adult learners

In addition, although the studies in this thesis were performed in an EFL context with adult Saudi university learners, the metaphor awareness-raising activities explored, especially the activities based on multisensory awareness and embodied metaphor, can benefit young and adult learners alike. As to young learners, early childhood education programmes already employ multisensory modalities for the teaching of vocabulary. Examples include Glenberg's (2008) vocabulary teaching through miniature toys, which is discussed in Section 3.6, as well as teaching methods like the Montessori method (cf. Lillard's (1997) book *Montessori in the Classroom*). This is because children respond well to a teaching based on hands-on activities like enactments, mime, touch, etc. However, whether children should be given awareness-raising activities for conceptual metaphors that mirror the activities suitable for adult learners' is doubtful. Experimental studies with young learners (cf. Piquer Píriz, 2004) have shown that the approach best suited for young learners involves the semantic extension of core lexical vocabulary items. So, young learners would benefit from embodied teaching of vocabulary items, especially if it was delivered to them through enactment, touch, etc. In fact, a part of the reason embodied metaphor awareness is advantageous for adult language learners is because it mimics the teaching methods they received as children.

In addition, the experimental studies in this thesis have shown that the presentation of metaphoric expressions through semantic clustering is less helpful to adult learners than promoting an awareness of metaphor. Instead of semantic clustering, teachers can employ tools like conceptual metaphor awareness or embodied metaphor awareness. Even with established textbooks where teachers have to follow a certain curriculum they could make use of metaphor awareness-raising activities in the course of their teaching. Take for example the image in Figure 8.1, which is an excerpt from the *English Unlimited Special Edition* textbook (Rea, et al., 2015, p. 75) for the B2 CEFR level, the textbook employed by language teachers at King Abdul-Aziz University for the upper-intermediate course. The figure shows an activity where learners are asked to fill the gaps with words for emotions:

How do you feel?

1 a Choose words from the table to complete the conversations.

ordinary adjectives	extreme adjectives
angry cold pleased hot	amazed boiling delighted
hungry frightened sure	exhausted freezing furious
surprised tired	positive starving terrified

- A I'm very **hungry**. Shall we make some dinner?

B Good idea. I'm absolutely _____.
- A Are you **sure** the shops will be open tomorrow?

B Yes, I'm _____. Don't worry.
- A You look really _____. Have you had a long day?

B Yeah, I'm **exhausted**. I'm going to bed.
- A It's very **hot** in here, isn't it?

B Hot? It's _____.! Can we open a window?
- A How could you do that parachute jump? Weren't you _____?

B Yeah, I was absolutely **terrified**, but it was fun!
- A I heard Kirsten found a job. She must be really _____.

B Oh, yes, she's **delighted**.
- A Will Ron be _____ if we don't go to the meeting?

B I think he'll be absolutely **furious**!
- A Is it **cold** there at the moment? Should I bring a winter coat?

B Yes. It's _____.
- A Were you **surprised** you passed the exam?

B I was really _____. I don't know how I did it.

Figure 8.1: Activity 9.1 from *English Unlimited Special Edition* (Rea et al., 2015, p. 75)

From a cognitive linguistic point of view, many of the expressions in the activity are motivated by conceptual metaphors treating emotions as containers or temperatures. The metaphoric examples in the excerpt are *hot*, *cold*, *boiling*, *furious*, and *freezing*. One way of teaching such expressions through conceptual metaphor awareness is through revealing the relationship between the expressions and the conceptual metaphors. Also, if a teacher chooses to employ embodied metaphor awareness they should have learners touch hot and cold objects when exploring the meanings of the metaphoric expressions. Whichever method the teacher chooses, the recommendation here is to adopt a cognitively based metaphor teaching approach rather than semantic clustering.

8.4.3. Incorporating metaphor in EFL/ESL teaching methodologies

An important feature of this thesis is that instead of taking a standalone teaching approach to metaphor, it has embedded the teaching of metaphor in established teaching methodologies adopted as frames for the interventional teaching sessions. The teaching methodologies were Willis' (1995) TBLT, Asher's (1977) TPR and Ray and Sealy's (2004) TPR storytelling, and finally Gardner's (1983) MI-based teaching approach. The chapters in Part Two discussed in detail the benefits and limitations of these approaches. Here, I present some recommendations for how these teaching methodologies could be adapted in order to promote a better teaching of L2 metaphor.

First, Willis and Willis' (2007) TBLT is amongst the most popular communicative language teaching approaches in EFL teaching. An important feature of TBLT is that it allows for the embedding of metaphoric expressions in real

communicative settings as a part of a communicative task. It relies on repetition and recycling, so that by the time the focus is put on the metaphoric expressions the learners are already familiar with them and it should not take long to explore the metaphoric senses. Boers (2004) recommended designing conventional metaphor teaching lessons according to conceptual metaphor themes, which would envelope metaphoric expressions. This would work well to a TBLT-based teaching methodology, especially if the language lesson involves a naturalistic task. However, the format of TBLT does not adapt well with the format of a structured syllabus. So, if the aim were to incorporate metaphor awareness in a syllabus to be taught at for an extended period of time, then TBLT-based conceptual metaphor awareness lessons would be difficult to prepare in advance. This is because the selection of metaphoric expressions for teaching would entail detailed selection criteria. One possibility for teachers would be to prepare the target metaphoric expressions in advance and to work on adjusting the TBLT lesson plan throughout the actual lesson.

As to Asher's (1977) TPR and Ray and Sealy's (2004) TPR Storytelling, this teaching approach is shown to have mnemonic and motivating benefits despite its uncommunicative nature. This is because the constant repetition of commands and actions can mainly benefit in strengthening the embodied-bodily motivations behind the metaphoric expressions. Learners, especially in an EFL setting would still need an introduction to the functional and communicative roles of the metaphoric expressions. The approach can also become repetitive and students may lose interest in the learning process if they feel that they are not gaining enough new knowledge. My recommendation for employing TPR for the teaching of metaphoric expressions is to

use this teaching methodology alongside communicative-language teaching curriculums.

Third, employing Gardner's (1983) MI-based teaching methodology for the teaching of metaphoric expressions is perhaps the least practical of the three methodologies employed in this thesis. However, it has the advantage of accommodating embodied tactile metaphor awareness and multisensory learning. If employed for embodied tactile metaphor awareness, the approach would require time to prepare and collect materials and multisensory objects. So, if the approach were to be employed on a regular basis, this can become inconvenient for teachers. Also, Christison's (1997) instructions for MI-based lesson planning are difficult to employ in practice. These issues relate in part to the lack of empirical support for the MI theory and its corresponding teaching methodology. This being said, the MI-based teaching methodology can still be used periodically to energize the classroom environment, and perhaps after introducing the metaphoric expressions in the context of the TBLT teaching methodology.

8.4.4. Lesson planning based on conceptual metaphors

With regards to conceptual metaphors being used as themes for teaching as suggested by Boers (2004), this has been shown in the course of this thesis to be useful as a lesson planning strategy. However, there are two disadvantages to this approach. First, choosing conceptual metaphors as themes for teaching limits the selection criteria to the metaphoric expressions at the core of the conceptual metaphor rather than those on the periphery of it. In Study 2, for example, with the conceptual metaphor TIME IS

MONEY, I excluded the expression '*to count the hours*' because it was less relevant to this conceptual metaphor than expressions like '*to sell time*' or '*to save time*' (please refer to Section 5.4.2 of Chapter Five for the frequency of these metaphoric expressions in the BNC). Though the metaphoric expression could be useful to the learners, the thematic planning according to conceptual metaphors would exclude it.

The second issue relates to how the nominal form of conceptual metaphors (i.e. A IS B conceptualization) does not typically represent the behaviour of linguistic metaphors in natural discourse; so, employing conceptual metaphors as themes would not symbolize how L2 metaphors truly behave in language. The fact is that linguistic metaphors do not always behave according to these fixed mappings and that they tend to extend and mix together in natural speech. As discussed in Section 2.3.3 of Chapter Two, Kimmel (2010) has described the linguistic behaviour of metaphor with mixing between different domains. Also, MacArthur and Littlemore (2011) have found that in conversations between native and non-native speakers of English, speakers tend to repeat each other's metaphors and mix them with other domains. This mixing of metaphors became clear during the design process for Study 4 when it was difficult to specify a single conceptual metaphor for promoting awareness of embodied tactile metaphors, particularly as a theme when choosing the metaphoric expressions for temperatures and textures. The thematic grouping of metaphoric expressions according to conceptual metaphors may not always work well for other contexts. In designing Study 4, the alternative was to expand the selection process to metaphors involving the sense of touch which would involve many conceptual metaphors whose target domains describe people's emotional states.

So, it might be more useful for teachers to teach learners about metaphorical language rather than describing the conceptualizations through nouns or states (i.e. conceptual metaphors) because these states are not linguistic metaphors, they are merely descriptors of underlying mappings and it is clear that they do not always adapt as themes for lesson planning. This can be done through the use of embodied metaphors which can be represented through primary actions and sensory experiences. One example would be choosing metaphors involving the sense of smell, which would involve words for trustworthiness and suspicion.

8.4.5. Promoting the production of metaphor

Moreover, the work of this thesis has explored the difficulty in promoting free production of taught metaphoric expressions. For the language classroom where continuous assessment is preferred, free writing-based assessment may not always be a useful way to measure the learning of metaphoric expressions that they have been taught. Instead, language teachers could employ some form of a vocabulary knowledge rating questionnaire to explore the extent of students' knowledge of the metaphoric expressions.

To explore learners' knowledge of vocabulary, Second Language Acquisition research makes use of vocabulary knowledge rating questionnaires as an alternative to the less than accurate testing of the productive use of vocabulary. One example of the vocabulary knowledge rating questionnaire is proposed by Paribakht and Wesche (1993). This asks learners specifically how accurately they know a word or a phrase and then asks them to provide an example of their knowledge. Employing the vocabulary

knowledge rating questionnaire for metaphoric expressions would involve self-reporting categories that range from unfamiliarity with a metaphoric expression to the proactive use of this expressions. This method, though not employed in this thesis, could be a suitable answer to the problem of productive-knowledge of metaphoric expressions for language teachers. It could provide them with a monitoring tool to observe the learners' progress when teaching metaphoric expressions. The following is a brief example of a metaphor knowledge rating questionnaire adapted from Paribakht and Wesche (1993):

For each phrase, please indicate how well you know the following metaphoric words or phrases. If you choose options *c* or *d*, please provide a synonym or a translation of the meaning. If you choose *d* or *e*, please use the word/phrase in a sentence.

- With a heavy heart:

- a) I don't remember having seen this phrase before.
- b) I have seen this phrase before, but I do not know what it means.
- c) I have seen this phrase before, and I think it means:

- d) I know this phrase. It means: _____

- e) I can use this phrase in a sentence like: _____
and like: _____

The metaphor knowledge rating questionnaire could be used at the beginning of the teaching programme to give teachers some insight into the level of metaphor knowledge of their learners. It can also be used periodically throughout the teaching programme to check their progress.

In conclusion to this section on the pedagogical applications of metaphor, Boers (2004) made a suggestion with regards to the teaching of conventional metaphoric

expressions that could be applied to several of the issues discussed here. He suggested that the target of conceptual metaphor awareness should be adapted according to the needs and objectives of the language learning programme. If the objective is native-like accuracy, employing conceptual metaphor awareness as a tool for language production may not be suitable and teachers should only target conventional metaphoric expressions. If, however, the programme is aimed at intercultural communication and less emphasis is put on sounding 'native', a little creativity on the part of the learners may be acceptable and teaching learners to be creative with metaphor can be helpful. Teachers then can teach learners to extend the source domains of conceptual metaphors and produce more creative metaphoric expressions.

The same concept can be applied to choosing an EFL/ESL teaching methodology to envelop the metaphor awareness-raising activities. If the objective of the language-teaching programme is for learners to reach a certain level of language accuracy then the teaching of metaphoric expressions should promote more conventional metaphoric expressions. This teaching is better suited for teaching methodologies that promote language accuracy and communicativeness like that of Willis and Willis' (2007) TBLT which prompts learners to employ metaphoric expressions through the main communicative skills. However, if the learning objectives were less structured then teaching methodologies like TPR and MI-based language teaching would be suitable. In such cases, learners would enjoy the active use of metaphor. A combination of the two approaches is also feasible, and in such a case learners would appreciate the change of pace in the classroom environment.

8.5. Drawbacks and opportunities for further research

Some avenues for further research can be proposed based on the findings of this thesis; the most important relates to embodied metaphor and its awareness-raising activities. The results of this thesis suggest that there is a stronger relationship between embodied cognition and metaphors than that of conceptual metaphors and linguistic metaphors. It also provides some indication that promoting awareness of embodied metaphor in the classroom provides several benefits to learners, but since this was the first attempt into employing embodied metaphor awareness-raising activities further research is needed to justify its results. For the time being, the majority of the work on embodied metaphor is available from psychological and neuroscientific research, some of which was presented in Chapter Three. Cognitive linguistic research could usefully explore how embodied metaphor could be manifested in language, communication and multimodal avenues.

In addition, future research could investigate how embodied metaphor awareness-raising activities could be employed for the benefit of language learners, not only with action and tactile metaphors but also with metaphors motivated by the auditory, gustatory and olfactory senses. Aside from Lindstromberg and Boers' (2005) experimental studies and this thesis, there are yet no studies exploring the impacts of this approach. A part of this investigation should involve the cognitive processing of embodied metaphor in the learners' L1 and L2 metaphors. This thesis has focused on the pedagogical aspects of conceptual and embodied metaphor awareness-raising activities and has made no claims with regards to the processing of EFL embodied metaphor. Still, the justification of the effects of embodied metaphor awareness would require the insights of future research on the processing of embodied metaphor. In

addition, although this thesis did not systematically investigate the cultural influence of the learners' L1 on their learning of L2 metaphors, there did not appear to be much evidence of L1 transfer. This could be of interest for future research especially how embodied metaphors may vary between L1 and L2.

Moreover, as this thesis investigated the influence of promoting awareness of metaphors, it fell short with other senses of metaphoric expressions. Promoting awareness of one metaphoric sense runs the risk of highlighting the taught metaphoric sense over other meanings for those words especially for highly polysemous words. The downside of highlighting one metaphoric sense of the words over others is that it could lead to confusion or misunderstanding on part of the learners when other senses are used in a different context. Another approach to promoting awareness of metaphor would be through exploring the metaphoric extensions of polysemous words. There is already some exciting research by Piquer Píriz (2004, 2008), MacArthur and Piquer Píriz (2007) with young EFL learners and MacArthur and Littlemore (2011) with adult nonnative speakers which suggests that promoting awareness of various semantic and figurative extensions of polysemous words helps in fostering the social functions of those polysemous words, and further research to these areas would be appreciated.

In addition, the results of Study 4 in Chapter Seven indicated that embodied tactile metaphor awareness had a positive influence on learners' interpretations of pictorial metaphors. It would be interesting to find out whether similar results could be achieved in the field of English for Specific Purposes (ESP) research, especially ESP programmes for learners interested in advertising or film studies. Also, cognitive linguistic studies can foster pictorial metaphor interpretation through embodied metaphor awareness in non-pedagogical contexts. Pérez-Sobrino (2015) explored the

interpretations of multimodal metaphors with British, Chinese and Spanish speakers. A follow up to this study could involve training participants to observe the conceptual operations in the advertisements through embodied metaphor awareness-raising activities.

In conclusion, further research could also address a number of limitations in the experimental design of this thesis. First, longitudinal classroom-based experimental research is crucial to gain an accurate picture of the impacts of conceptual and embodied metaphor awareness-raising activities. The experimental studies in this thesis were unable to test for impacts for more than two weeks after the interventional teaching sessions, and their results are to be taken only as suggestions of the possible benefits and limitations of conceptual and embodied metaphor awareness-raising activities. Although difficult to execute, longitudinal experimental studies could ultimately promote the production of metaphoric expressions; that is if they provide several interventional teaching sessions for writing with metaphor. Second, the fact that the participants in this thesis were registered in systematized EFL classrooms could also be considered problematic, as it would be difficult to control for learner differences, and personal variables would play a role in the research results. Researchers in classroom-based experimental research rarely have the opportunity to implement any control criteria beyond the language level of the learners. Similar studies employing learners who participate of their own free will, who share personal learning preferences may go a long way towards rectifying this problem. Lastly, the focus of this thesis was on conceptual and embodied metaphors. Would an awareness of English conceptual metonymy aid the understanding of metonymic senses of vocabulary with language learners? This is also a question for future research to take into consideration.

APPENDICES

APPENDICES A1 to A2: STUDY 1

The use of metaphor in the writing of
upper-intermediate Saudi EFL learners

	Control group (CG-1)	Metaphor group (MG-1)	Section	Appendix
Week 1	Consent form		4.4.1	A2
	Vocabulary teaching through conceptual metaphor awareness	Vocabulary teaching through semantic clustering	4.4.2	A1
	Paragraph writing posttest		4.4.2	A2

Appendix A1: CG-1 and MG-1 list of metaphoric expressions

Vocabulary list for CG-1:

Words for happiness and sadness

Happiness Vocabulary	Sadness Vocabulary
to feel up	to drown in sorrow
on top of the world	in a black mood
mood lightens up	dark thoughts
my face lit up	gets you down
lift somebody's spirits	low spirits
over the moon	dark days
looking on the bright side	to feel down
brightened	in a gloomy mood
made somebody's day rise	feeling very low
light of my life	dark times

Vocabulary list for group 1:

Words for happiness and sadness

HAPPINESS IS UP

to feel up
over the moon
on top of the world
made somebody's day rise
lift somebody's spirits

SADNESS IS DOWN

in a black mood
dark days
dark thoughts
in a gloomy mood
dark times

HAPPINESS IS LIGHT

brightened
mood lightens up
My face lit up
light of my life
looking on the bright side

SADNESS IS DARK

To feel down
to drown in sorrow
feeling very low
gets you down
low spirits

Appendix A2: Consent form and paragraph writing posttest

Student consent:

I _____ agree to participate in the PhD experimental study for Rawan Saaty from the University of Birmingham. I was assured that the results of this study are private and do not influence my course grades.

Signature _____

Email _____

Paragraph writing:

Imagine yourself as one of the two Rwandan girls and you just reunited with your family after twelve years. Write about how sad you felt when you were alone in a new country? Then, write about your happiness when you saw your family for the first time. Use emotion words to describe your sadness and happiness? Please do not worry about grammar or spelling.

[illegible]

APPENDICES B1 to B6: STUDY 2

Conceptual metaphor awareness in a task-based setting
with Saudi EFL learners

	Control group (CG-2)	Metaphor group (MG-2)	Section	Appendix
Week 1	Consent form		5.4.1	B1
	Metaphor pretest		5.4.5.1	B2
Week 2	The pre-task: time log and interview questions		5.4.4	B3
	The task-cycle: reading an article for advice on time management			
	The language focus: Teaching 17 metaphoric expressions via the theme of time management	The language focus: Teaching 17 metaphoric expressions via conceptual metaphor awareness		
	Metaphor immediate posttest		5.4.5.1	B4
Week 3	Evaluation questionnaire		5.4.5.2	B5
Week 4	Metaphor 2 week-delayed test		5.4.5.1	B2

Appendix B1: Arabic and English consent forms



نموذج موافقة



عنوان المشروع :

"تعليم مفردات اللغة الانجليزية من خلال مهام تحاكي الممارسة اليومية: تجربة علمية على طالبات السنة التحضيرية في معهد اللغة الانجليزية بجامعة الملك عبدالعزيز "

العاملين في مجال البحث, اسم الجامعة و مجال الدراسة:

أنا باحثة دكتوراه في جامعة برمنجهام ببريطانيا قسم اللغويات التطبيقية ، اقوم بدراسة ميدانية الهدف منها تطوير اكتساب الطالبة لمفردات اللغة الانجليزية بطريقة مبتكرة تشابه الاستخدام اليومي للغة الانجليزية من خلال تدريسها في سياق من المهارات. كما اني معيدة في معهد اللغة الانجليزية بجامعة الملك عبدالعزيز.

شرح للإجراءات:

هذه الدراسة تتطلب منك: 3 اختبارات للمفردات ، ودرس علمي ، ثم استبيان قصير.

* الأسبوع الأول ستشاركون في :

- اليوم الاول ستتلقين اختبار مفردات
- اليوم الثاني ستشاركون في درس
- بعد انتهاء الدرس ستتلقين اختبار مفردات مشابها للاختبار الاول
- ستعبرين عن رأيك في الدرس في استبيان

* الأسبوع الثاني ستشاركون في :

اختبار مفردات الهدف منه معرفة مدى اكتساب المفردات التي تم تدريسها لك

سرية المعلومات:

جميع المعلومات التي سيتم الحصول عليها خلال هذه الدراسة ستعامل بسرية تامة بما فيها المعلومات الشخصية ، الغرض من طلب اسمك في الاختبارات هو تقييم الأداء قبل وبعد الدراسة. ساقوم بتزويدك بنتائج الاختبارات بعد انتهاء التجربة. ولزيادة سرية المعلومات ستفصل استمارة الموافقة على المشاركة في الدراسة عن الاختبارات و الاستبيان ، وللعلم نتيجة البحث النهائية لن تتناول أيا من معلوماتك الشخصية ولن تكون للدراسة أي علاقة بالمستوى التعليمي ، وبإمكانك الانسحاب من الدراسة في أي وقت وسيتم توفير المزيد من المعلومات عن الدراسة عند الانتهاء ، ويمكنك الاستفسار عن أي شئ من الباحثة

بيان تطوع

انا اتطلعت على المعومات الواردة في هذا النموذج وقرأتها وفهمتها. وأنا اعلم بأنني يمكنني أن اناقش أية مسألة مع الباحثة و انا موافقة على المشاركة في هذه الدراسة. والباحثة أبلغتني بأنني يمكنني الانسحاب متى ما اردت ذلك.

الاسم
التوقيع
التاريخ.....

Consent form

Project title: Teaching vocabulary through task-based approach to Saudi university students:
Experiment and evaluation

Persons involved in the research, research body and field:

I am a postgraduate student from Applied Linguistics Department at the University of Birmingham. I am also a teaching assistant at King Abdul-Aziz University. The aim of the study is to help your vocabulary acquisition by teaching you vocabulary through lifelike tasks.

Participation procedure:

This study asks you to volunteer by taking part in an experiment, which involves teaching English vocabulary using a task-based approach. It involves 3 vocabulary tests, a teaching session and an evaluation questionnaire.

- During the first week, you will participate in the following events:
 - On day 1, you will receive a vocabulary test
 - On day 2, you will participate in a classroom-teaching session
 - You will then have similar vocabulary test
 - You will also answer a questionnaire about your opinion of the lesson
- On week 2 you will receive a similar vocabulary test to see whether or how your vocabulary learning has improved

Privacy:

All information obtained during the study is confidential and used for research purposes only. Your personal information will also be maintained. You will not be asked to reveal any personal details except for your name in the three vocabulary tests. The purpose of requesting your name is to provide you with feedback on your performance before and after the teaching session. The questionnaire will be kept anonymous and no names will be used to identify who the participants are. The consent forms will be kept separate from the tests and questionnaire. The final research will not have any of your personal information.

You are under no obligation to take part in this study and there are no risks in taking part. Results of the study will not affect your course-grades and will not be shared with your teachers. If at any time you decide that you do not want to continue in the study, you are free to withdraw. Further information on the study will be provided upon completion of the experiment and you are free to ask me any questions you might have. You can also contact me at

Yours sincerely,
Researcher: Rawan Saaty
University of Birmingham

Appendix B2: Metaphor cloze pretest and 2-week delayed test

Name: _____

Group: _____

Pretest: A Working Mom Story

You are going to read a story about Laura, a mother-of-four/teacher who works 50 hours a week. There are words missing from the text, fill each blank with ONE word:

I've been a teacher for 10 years. I used to love my job but now I wish I could quit. Being a teacher means that you have to take your work home with you, but I can't do that because I have four children and I want to (1) _____ time with them too. My kids are Tommy and Jimmy (10 years), Sara (6 years), and little Bobby (3 years). Unfortunately, I am always running (2) _____ on time at work and at home and I feel guilty. You might think that teachers have (3) _____ of time outside of school, but the reality is that I am overwhelmed and I can't (4) _____ the time to be with my children. The time I spend with my kids is really (5) _____ to me and it is a (6) _____ that I have to work all the time even at home. I work 6 days a week. I finish work at 4:30 pm but I get home at 6:00 pm because I (7) _____ a lot of time in traffic every day. When I finally arrive home, I have to prepare next day's lessons and grade papers. I often realize that I have (8) _____ out of time and it's too late to cook dinner so I order pizza takeout. I sometimes try to (9) _____ a couple of extra hours by waking up at 4:00 am to have a head start on the day. The problem with that is that I feel exhausted in the afternoon. I (10) _____ a lot of hours in my job at the expense of my family. I value the time I spend with my children but I can't seem to (11) _____ any time for them. I try to make every minute with them (12) _____ but I still can't manage. Last week I decided to take a couple of days off work to make up for (13) _____ time. I took my kids camping and they loved it. It was the first time for us as a family and it felt like a (14) _____ activity. It felt good to spend that (15) _____ of time with my children. I need to learn how to (16) _____ more time for my kids because spending time with them is (17) _____ it.

Appendix B3: Interventional teaching session for the CG-2 and MG-2

Time Management

Name: _____

Group: _____

Pre-Task: Daily Time Log

Part One: (Individual)

On a typical day, what do you do and when?

Fill out this time-log to see how you manage your time:

6 am	7 am	8 am	9 am	10 am	11 am
12 pm	1 pm	2 pm	3 pm	4 pm	5 pm
6 pm	7 pm	8 pm	9 pm	10 pm	11 pm
12 am	1 am	2 am	3 am	4 am	5 am

Part Two: (Pairs-both answer)

Now, work with a partner. Both of you ask and answer these questions:

How much time do you spend on these activities everyday?

Activity	24 hours per day
Sleep	
Family and friends	
University	
Time spent =	HOURS

24 hours – TIME SPENT (____) = SPARE TIME (____)

- *What do you do in your spare time?*
-

- *Do you ever feel that you are short on time? When? What do you do when this happens?*
-

- *Do you ever feel like you are wasting your time? How much time do you waste in one day? And how?*
-

- *Have you ever run out of time in a test or a task? If so, how do you feel about it?*
-

- *Is there anything in your life you wish you could invest time and energy into? If so, what is it? What can you do to spend more time on it?*
-

Part Three: *(Individual reading)*

Instructions for the MG-2:

Now read the following magazine article on time management:

1. *What advice can give your friend to help with their time issues?*
2. *Underline words and phrases that you think have to do with **time** or **money**, e.g. in the second line we find “***to not waste any precious time***”, which refers to ***time*** as being ***wasted***, as if it were ***money***.*

Instructions for the CG-2:

Now read the following magazine article on time management:

1. *What advice can give your friend to help with their time issues?*
2. *Underline words and phrases that you think have to do with **time management**, e.g. in the second line we find “***to not waste any precious time***”, which refers to ***time*** as being ***wasted***.*

Reading Task

Dear Student: You Have More Time than You Think

From the first day of college, we are told to do our assignments on time, to not waste any precious time, to go to class on time, to invest our time in things that matter... etc. Such sayings give a sense that time is valuable, and how we must spend it well. The problem, however, is that freshman college students usually feel frustrated by the fact that they do not have enough time for school and family, let alone sleep or eat!

Like any other student, you might feel you cannot afford to spend hours on a good book or go to the gym when you have so much studying to do. But actually, you have all the time in the world, you just spend too much of it on less rewarding activities, says Laura Vanderkam in her 2010 book, *168 Hours: You Have More Time Than You Think*. College life can become very overwhelming and the only way to do it all is by making every minute of your day count.

Now, let's look deeper into the questions: Why shouldn't you waste your time? What is a time well-spent? And what can you do to make every minute of your day count?

Every week, we get 168 hours in which to study, sleep, do chores, and spend time with our friends and family. Let's say you go to school 40 hours a week and sleep for 8 hours a night, that still leaves 88 hours to do other things. Instead of wasting these precious hours, you can save time by making better choices. Sure, you can get stuck in traffic, have lots of homework and other responsibilities, but 88 hours is a lot of time. What exactly are you doing with it? Odds are, you have no idea, says Laura Vanderkam. And when it comes to the important stuff like studying for a final exam, you may find that you are occasionally short on time or that you have run out of time completely.

Though Vanderkam's book talks a lot about wasting time, it stands in the way of people who say, "I'M TOO BUSY". It even offers some practical time-use advice, that we as college students can definitely make use of. Some of those suggestions are:

- . **Figure out where your time goes:** Fill out the time-use log to get started. (And be honest!)
- . **Get organized:** Make a schedule and then stick to it. When you receive your syllabus at the start of the semester, write down all your test dates and homework deadlines. Include your other appointments, then block out time for studying and working out. Use a paper list, a daily planner or an app like "Schedule Planner", whichever works for you.
- . **Prioritize your plans:** What can be done only by you? For example, only you can do well in a final exam. If you invest more time on such personal tasks, you'll be more efficient - and feel more satisfied by your efforts.
- . **Multi-task:** buy some extra time by doing two things at once. Listen to recorded lectures as you clean your room. Complete a math problem during TV commercials. Multi-tasking, however, is not always effective. If you have two tests in chemistry and psychology. It is better that you divide your time between them rather than studying them both at the same time.
- . **Watching TV is not the best use of your spare time:** We waste plenty of time on television, but sitting in front of the TV is not the most profitable use of free time. It is not as rewarding as an evening with friends or a quality time with family.

• **Stop wasting time on twitter and Instagram:** Spending 15 hours a week on Facebook or Twitter is not worth it. It distracts us from real work. Finish your assignments then take the time you've been spending on social media—and instead, use it to meet your friends in person. You will have more fun by talking to them face-to-face than on the Internet.

Finally, while changing schedules might not be possible for everyone, you could still benefit from a little more awareness about the value of your time. And if you are always complaining about how overwhelmed you are, *Laura Vanderkam* tells you, politely, to stop whining and make better choices. Just remember, we all have the same amount of time. The difference is in how we spend it!

Part Four: Planning (*Individual - Pair*)

Instructions for the CG-2:

Now that you have read the magazine article:

- What advice can give your friend to help them with their time issues? Write down their answers from the pre-task. Try to use more words from the reading task and suggest some solutions for better time management.
- Write down all the words and phrases that you think have to do with **time management** E.g. In the second line we find “**to not waste any precious time**”, which clearly refers to ***time*** as being ***wasted***
- Match your findings with the person next to you

Instructions for the MG-2:

Now that you have read the magazine article:

- What advice can you give your friend to help them with their time issues? Write down their answers from the pre-task. Try to use more words from the reading task and suggest some solutions for better time management.
- Write down all the words and phrases that you think have to do with **time** or **money** E.g. In the second line we find “**to not waste any precious time**”, which clearly refers to ***time*** as being ***wasted***, as being ***money***.
- Match your findings with the person next to you.

<u>My friend's time management problems:</u>	
<u>Possible solutions:</u>	
<u>Instructions for the CG-2:</u> <i>Words/phrases on time management</i> E.g. In the second line we find “ to not waste any precious time ”, which clearly shows how <i>time is important</i> . Try to find similar phrases and match your findings with the person next to you	<u>Instructions for the MG-2:</u> <i>Words and phrases for time and money</i> E.g. In the second line we find “ to not waste any precious time ”, which clearly refers to <i>time</i> as being <i>wasted</i> , as being <i>money</i> . Try to find similar phrases and match your findings with the person next to you

Part Five: Report (*Class discussion*)

Now: Tell the rest of the class your suggestions for a better time management. Practice by writing three possible solutions here

E.g. *my friend wastes five hours a day on twitter. She can save some time by reducing that to only 1 hour and spend time with her family instead.*

Part Six: Language Focus (*Teacher instruction + Pairs*)

Word	Metaphoric Meaning	Word	Metaphoric Meaning
Spend (v)	to stay somewhere or do something for a period	Invest (v)	to use your time with the aim of making a profit from it
Count the hours (v)	to wait for something that you want very much to happen	Worth (adj)	there is a good enough reason for spending time on something
Valuable (adj)	important time because there is not much of it available	Ran out of (v)	You do not have long to do something
Afford (v)	if you can afford time, you have enough time to be able to do things with it	Lost time (v-n)	to have less available time than you expected, problem caused a delay
Buy (v)	to do something in order to get more time to do or finish something else	Save (v)	to avoid using something such as money, time, or energy, or to use less of it
Waste (v)	Spend time in things that do not matter	Spare (v)	time when you can do what you like
Waste (n)	a situation in which time, is used without bringing any useful result	Short on (adv)	Having little time
Plenty of (adv)	A large amount of time	Rewarding activity (adj)	giving you satisfaction, pleasure, or profit
Amount of time (n)		Quantity of time	

Practice (*Pairs*)

Each sentence has one word missing. With a partner, circle the correct answer:

- I've had to go to the doctor about my eyes. I _____ at least 6 hours a day in front of my computer.
a. spend b. invest c. valuable d. waste
- Instead driving in traffic, Tom started going to work on his bicycle to _____ time.
a. short on b. waste c. save d. spare
- I want to spend every minute with my ill father. You don't really realize how _____ your time together is until it starts to run out.
a. plenty of b. valuable c. worth d. rewarding
- If you're thinking of travelling on a cruise ship, don't. It's a _____ of time and money. You'll end up feeling seasick and you won't enjoy it.
a. waste b. lost time c. bought d. amount of

5. I couldn't answer the last 3 questions of the test. I just _____ out of time doing the long essay questions.
a. invested b. wasted c. ran d. saved
6. Can you _____ a minute or two? I just want to ask you something.
a. afford b. spend c. spare d. waste
7. Eric spent the whole morning at school, finished his homework, and attended football practice. When you think how much that time is _____, it says a lot.
a. bought b. valuable c. rewarding d. worth
8. I think we should hurry up. We're running _____ on time.
a. afford b. short c. waste d. run out of
9. I _____ us some time with the professor and just asked for an extension.
a. spent b. bought c. afforded d. saved
10. There's _____ of time. Don't worry! The train doesn't leave for an hour.
a. plenty b. amount c. rewarding d. short on
11. Every minute _____ in an exam. Don't waste time on reading all questions first, just read and answer at the same time.
a. invests b. valuable c. counts d. spares
12. In the exam, don't spend most of your time trying to figure out something that you just don't understand. If you can't get it quickly, don't _____ time on it and move on.
a. save b. count c. invest d. waste
13. I just started a new job. I can't _____ to waste time. I want to have a permanent position so I need to prove myself from the beginning.
a. afford b. buy c. spare d. waste
14. On my way to work yesterday, traffic was bad and I was making up for _____ time by answering my emails through my phone.
a. spare b. lost c. valuable d. save
15. It is better that you _____ time and effort in learning the skills that your job requires and you will be able to do it more smoothly.
a. count b. afford c. invest d. spend
16. Ray is a travel journalist so he spends a considerable _____ of time travelling from one country to the other.
a. spend b. waste c. plenty d. amount
17. Spending time with old people is such a _____ activity. You get to learn from their experience in life.
a. valuable b. ran out of c. rewarding d. spare

Appendix B4: Metaphor cloze posttest

Name _____

Group: _____

Posttest: A busy businesswoman story

You are going to read a story about Mary, a mom/businesswoman who works 80 hours a week. There are words missing from the text, fill the blanks with one word:

Women in business are busy all the time and I have to say that I am one of them. Still, I do manage to lead a happy family life as well as a successful career. My husband and I both work 80 hours a week at the same company. We have two children who we always (1) _____ time with. Our kids are John and Mike (10 years) and little Jane (5 years). How can we do it all? Let me tell you. I learned from the beginning that a woman can have a career and be a mother, as long as she is careful about how she spends her time. So, if I wanted to succeed in life, I couldn't (2) _____ any minute of my day. To push myself, I always ask, what is my time (3) _____? And this makes me work harder. Every hour I spend at work is (4) _____ so I try to make every minute of it (5) _____. When I'm working on my computer, I turn off the Internet to (6) _____ time. I ask myself how much useful work can I do in one day, and then I do it. I always (7) _____ my time in developing my skills and the skills of my employees. One thing I never do around the office is hold business meetings; I believe that they are a (8) _____ of time. I cannot (9) _____ to lose a significant (10) _____ of time in things I could discuss with others better by email. When my kids were little, I started a nursery at the company to (11) _____ some extra time with the kids and to help out other employees as well. After a hard day at work, I still have (12) _____ of time to be with my kids and I make sure that we do some (13) _____ activities such as going to the zoo or reading a story together. I also make sure to have some (14) _____ time to travel as a family. Whenever we get too busy with work, we try to make up for (15) _____ time by taking short vacations with the kids. My philosophy is that "life is (16) _____" so I need to make the most of my time before it starts to (17) _____ out.

Appendix B5: Arabic and English evaluation questionnaires

استبيان المشاركة في البحث

تعليم مفردات اللغة الانجليزية من خلال مهام تحاكي الممارسة اليومية: تجربة علمية على طالبات السنة التحضيرية بجامعة الملك عبدالعزيز

سأكون ممتنة لو تفضلت بالإجابة على الأسئلة التالية التي تقيم درس تنظيم الوقت بكل صدق. ستعامل جميع بيانات هذا الاستبيان بسرية تامة وستستخدم فقط في سياق رسالة الدكتوراة فقط وشكرا			
الشعبة:	المسار: علمي / ادبي	التاريخ / 2014 /	العمر:

اسم الطالبة: _____ الباحثة: روان عدنان ساعاتي , باحثة دكتوراة بجامعة برمنجهام بريطانيا

1. منذ كم عام وانت تتعلمين اللغة الانجليزية؟

☐ 1 سنوات ☐ 3 سنوات ☐ 4 سنوات ☐ 7 سنوات ☐ 8 سنوات ☐ 11 سنة ☐ أكثر من ذلك، الرجاء التحديد: _____

2. هل حصلت على تعليم اللغة الإنجليزية في نطاق خارج المدارس والجامعات (مثال: دورات ، الإقامة بالخارج ، التحدث باللغة الانجليزية في المنزل) ؟

☐ نعم ☐ لا ☐ اذا كانت الاجابة بنعم، الرجاء التحديد: _____

3. هل استمعت بتعلم مفردات اللغة الإنجليزية بالطريقة الغير تقليدية والتي تشابه الممارسة اليومية للغة الانجليزية ؟

☐ نعم ☐ لا لماذا؟ _____

4. ما هي الامور التي أعجبتك في درس ادارة الوقت؟

5. ما هي الامور التي لم تعجبك في درس ادارة الوقت؟

6. ماهي الاشياء التي تودين تغييرها في درس ادارة الوقت كي يصبح أفضل لك كطالبة؟

7. على مقياس من 1 إلى 5، (5 اوافق بشدة) ضعي دائرة حول الرقم الذي ترينه مناسباً لدرس ادارة الوقت:

أعارض بشدة	أعارض	محايد	أوافق	أوافق بشدة	العبارة
1	2	3	4	5	المادة التعليمية كافية المعلومات
1	2	3	4	5	المادة التعليمية جديدة
1	2	3	4	5	اسلوب التدريس جديد
1	2	3	4	5	اسلوب التدريس يسهل حفظ المفردات
1	2	3	4	5	اسلوب التدريس يساعد على زيادة المفردات

Participant Evaluation Questionnaire

Teaching Vocabulary through Task-Based Approach

Researcher: Rawan Saaty - PhD student at University of Birmingham

For evaluative purposes, I would be grateful if you could answer the following questions honestly. All data of your questionnaire will be kept strictly confidential, anonymous and exclusively in the context of my dissertation. Thank you.

Age:	Date: / / 2014	Major: Arts <input type="checkbox"/> Sciences <input type="checkbox"/>	Group: A <input type="checkbox"/> B <input type="checkbox"/>
------	----------------	--	--

How many years have you been learning English?

1-3 years ☐ 4-7 years ☐ 8-11 years ☐ More, specify: _____

Have you had any English training outside of school and university curriculums (e.g. external courses, living abroad, home use)?

Yes ☐ No ☐ If yes, specify: _____

Do you enjoy learning English vocabulary through task-based approach (i.e. *learning vocabulary in context of other skills and getting learners involved in a lifelike task*)?

Yes ☐ No ☐ Not sure ☐ Why? _____

What are the things you liked about the Time Management lesson?

What are the things you did not like about the Time Management lesson?

Is there anything you would change about the Time Management lesson?

On a scale of 1 to 5, (5 being *Strongly agree*), circle the number you think is appropriate to the Time is Money lesson?

Item	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
The learning material is informative	5	4	3	2	1
The learning material is new	5	4	3	2	1
The teaching method is new	5	4	3	2	1
The teaching method makes vocabulary easier to memorize	5	4	3	2	1
The teaching method can be good to increase vocabulary	5	4	3	2	1

APPENDICES C1 to C11: STUDY 3

Conceptual metaphor awareness in a task-based setting
with Saudi EFL learners

	Control group (CG-3)	Metaphor group (MG-3)	Embodied action metaphor group (EAMG-3)	Section	Appendix
Week 1	Consent form			6.4.1	C1
	Metaphor understanding pretest			6.4.5.1	C2
	Metaphor production pretest			6.4.5.2	C3
Week 2	5 metaphoric expressions and metaphoric short story	5 metaphoric expressions metaphoric and literal short stories	5 metaphoric expressions metaphoric and literal short stories	6.4.4	C4
					C5
					C6
Week 3	6 metaphoric expressions and metaphoric short story	6 metaphoric expressions metaphoric and literal short stories	6 metaphoric expressions metaphoric and literal short stories	6.4.4	C4
					C5
Week 4	Metaphor understanding posttest			6.4.5.1	C7
	Metaphor production posttest			6.4.5.2	C8
	SOP questionnaire			6.4.5.3	C9
Week 5	Evaluation questionnaire			6.4.5.4	C10
	Metaphor understanding 2-week delayed test			6.4.5.1	C11

Appendix C1: Arabic and English consent forms



نموذج موافقة



عنوان المشروع :

"تعليم مفردات اللغة الانجليزية باستخدام وسائل تعليمية بصرية وحركية: تجربة علمية على طالبات السنة التحضيرية في معهد اللغة الانجليزية بجامعة الملك عبدالعزيز "

العلمين في مجال البحث, اسم الجامعة و مجال الدراسة:

أنا روان ساعتاني باحثة دكتوراه في جامعة برمنجهام ببريطانيا قسم اللغويات التطبيقية ، اقوم بدراسة ميدانية الهدف منها تطوير اكتساب الطالبة لمفردات اللغة الانجليزية بطريقة غير تقليدية تساعد على فهم المعاني المتعددة للكلمات والعبارات. كما اني معيدة في معهد اللغة الانجليزية بجامعة الملك عبدالعزيز.

شرح للإجراءات:

هذه الدراسة تتطلب منك: 3 اختبارات للمفردات ، و ٦ دروس قصيرة ، بالإضافة الى استبيان قصير.
*في خلال الاسبوع الاول :

- اليوم الاول سنتلقين اختبار مفردات ثم درس مفردات
- اليوم الثاني ستشاركين في درس
- اليوم الثالث ستشاركين في درس

*في خلال الاسبوع الثاني :

- اليوم الاول ستشاركين في درس
- اليوم الثاني ستشاركين في درس
- اليوم الثالث ستشاركين في درس
- بعد انتهاء الدرس سنتلقين اختبار مفردات الهدف منه معرفة مدى اكتساب المفردات التي تم تدريسها لك كما ستعبرين عن رأيك في الدرس في استبيان
- *في خلال الاسبوع الرابع سنتلقين اختبار مفردات مدته

سرية المعلومات:

جميع المعلومات التي سيتم الحصول عليها خلال هذه الدراسة ستعامل بسرية تامة بما فيها المعلومات الشخصية ، الغرض من طلب اسمك في الاختبارات هو تقييم الأداء قبل وبعد الدراسة. ساقوم بتزويدك بنتائج الاختبارات بعد انتهاء التجربة. ولزيادة سرية المعلومات ستفصل استمارة الموافقة على المشاركة في الدراسة عن الاختبارات و الاستبيان ، وللعلم نتيجة البحث النهائية لن تتناول أيا من معلوماتك الشخصية ولن تكون للدراسة أي علاقة بالمستوى التعليمي ، وبإمكانك الانسحاب من الدراسة في أي وقت وسيتم توفير المزيد من المعلومات عن الدراسة عند الانتهاء ، ويمكنك الاستفسار عن أي شئ من الباحثة

بيان تطوع

انا اطلعت على المعلومات الواردة في هذا النموذج وقرأتها وفهمتها. وأنا اعلم بأنني يمكنني أن اناقش أية مسألة مع الباحثة و انا موافقة على المشاركة في هذه الدراسة. والباحثة أبلغتني بأنني يمكنني الانسحاب متى ما اردت ذلك.

الاسم
التوقيع
التاريخ.....

Consent form

Project title: Teaching vocabulary through visual (and physical) modalities to Saudi university students: Experiment and evaluation

Persons involved in the research, research body and field:

I am a postgraduate student from Applied Linguistics Department at the University of Birmingham. I am also a teaching assistant at King Abdul-Aziz University. The aim of the study is to develop learners' vocabulary acquisition by teaching vocabulary through untraditional and active methods that could help remembering them.

Participation procedure:

This study asks you to volunteer by taking part in this experiment. It involves 3 vocabulary tests, 6 teaching sessions and evaluation questionnaire.

- During the first and second week, you will participate in the following events:
 - On day 1, you will receive a vocabulary test and participate in a classroom-teaching session
 - On day 2, you will participate in a classroom-teaching session
 - On day 3, you will participate in a classroom-teaching session, a vocabulary test and answer a questionnaire about your opinion of the lesson
- On week 4 you will receive a similar vocabulary test

Privacy:

All information obtained during the study is confidential and used for research purposes only. Your personal information will also be maintained. You will not be asked to reveal any personal details except for your name in the three vocabulary tests. The purpose of requesting your name is to provide you with feedback on your performance before and after the teaching session. The questionnaire will be kept anonymous and no names will be used to identify who the participants are. The consent forms will be kept separate from the tests and questionnaire. The final research will not have any of your personal information.

You are under no obligation to take part in this study and there are no risks in taking part. Results of the study will not affect your course-grades and will not be shared with your teachers. If at any time you decide that you do not want to continue in the study, you are free to withdraw. Further information on the study will be provided upon completion of the experiment and you are free to ask me any questions you might have at: [REDACTED]

Yours sincerely,
Researcher: Rawan Saaty
University of Birmingham

Appendix C2: Metaphor understanding pretest

Vocabulary Test 1

Name: _____ Section: _____ ID: _____
For each sentence, please circle the letter of the best meaning of the underlined word or phrase. Choose the letter of the meaning that best fits the context. If you believe the meaning is different from those cited in A, B or C, please write it down in D. If you do not know it, choose E.

1. As we were travelling through the desert, the car GPS navigation system led us incorrectly to a **dead-end street**. We were so scared, but luckily we found our way back.
 - A. A road or passage that has no way out
 - B. An animal that has passed away
 - C. A situation that provides you with no chance of improvement or further progress
 - D. It means something else: _____
 - E. I do not know

2. Medical students normally follow a clearly marked career **path**. However, it takes them over 10 years to become fully qualified doctors.
 - A. A work environment that is friendly and encouraging
 - B. A way from one place to another that people walk along
 - C. The steps that someone takes to achieve something
 - D. It means something else: _____
 - E. I do not know

3. Sally's horse **stumbled into** the fence, throwing her to the ground. Sally broke her leg as a result of the accident.
 - A. To find something or meet someone by accident
 - B. To fall or almost fall while walking or running
 - C. To dance happily without a care
 - D. It means something else: _____
 - E. I do not know

4. Recruiting a new staff manager is **a step in the right direction**. The old staff manager is doing a bad job in the position and we had to fire him.

- A. The ideal angle to place something to ensure it points towards something else
- B. The name of an employment agency
- C. An action that increases the possibility of success
- D. It means something else: _____
- E. I do not know



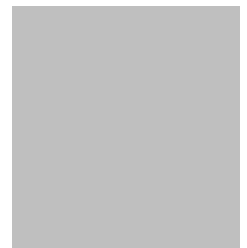
5. To get to the Children's Hospital, drive down Second Street until you are **at the crossroads**, and then turn left.

- A. A place where one road crosses another
- B. The point during the development of something when you have to make an important decision about what to do next
- C. An area up a hill which overlooks town
- D. It means something else: _____
- E. I do not know



6. It did not take Mary long to **climb** the company hierarchy. Some even say that she did not deserve her most recent promotion.

- A. To win a race with the help of someone else
- B. To move to a higher level in a company or area of employment
- C. To use your hands and feet to move up mountains
- D. It means something else: _____
- E. I do not know



7. When they walked to town in the snow, the father told his young daughter **to follow in his footsteps** so she would not become exhausted.

- A. To carry a heavy object for a long period of time
- B. To do the same work or achieve the same success as someone else before you
- C. To walk or drive behind someone or to go in the same direction as them
- D. It means something else: _____
- E. I do not know



8. Disabled people **overcome many obstacles** in their everyday life. The obstacles vary from crossing the streets to getting a job.

- a. Having a difficulty or a problem that prevents you from achieving your goals but you still succeed in dealing with it
- A. Removing a rock or a wall in order to move forward
- B. Walking from one place to another
- C. It means something else: _____
- D. I do not know



9. You are not supposed to drive slowly **in the fast lane**. You could cause an accident this way. If you do not want to speed up, move to the lanes on the right.

- A. An exciting, busy way of life
- B. The outer lane on a road used by the vehicles travelling fastest
- C. A school dedicated only to girls
- D. It means something else: _____
- E. I do not know



10. The invention of the solar panels was a **major step forward** in our efforts to save the environment on our planet.

- A. Doing something to advance a plan or move closer to a goal
- B. The physical movement of putting one foot in front of the other
- C. Feeling trapped in a problem
- D. It means something else: _____
- E. I do not know



11. The fireman climbed **the ladder** to save the children from a burning building.

- A. To use a piece of equipment in order to reach high places
- B. To progress or advance in the rankings in a society or organization
- C. To use an instrument that records people's movements and points to their locations
- D. It means something else: _____
- E. I do not know



Appendix C3: Metaphor production pretest

Writing Activity 1

Have you ever been in a situation where you had to make a decision between two alternative choices? Write about this situation. Explain how you were undecided between the two choices and what made you make this life-changing decision. What factors influenced you to reach this decision? What would have happened if you have taken the alternative choice? Please draw a map or a picture to further explain your writing.

Appendix C4: MG-3 and EAMG-3 list of metaphoric expressions

The Journey of Life Vocabulary List

Phrase	Literal Meaning	Journey Meaning
Climb	To use your hands and feet to move up cliffs, mountains or stairs	To move to a higher level in your job or social position
In the fast lane	The outer lane on a road, used by cars travelling fastest	The exciting busy and sometimes dangerous way of life some people have
Step in the right direction	The way that something faces or points towards the right	The feeling of having a definite purpose or an action that increases the possibility of success
Stumble into	To fall or almost fall into an object while walking or running	To meet someone by accident
Dead-end	A road that has no way out at one end	A job that provides you with no chance of getting a better job
Up the ladder	Climbing up a piece of equipment dedicated for reaching high places	Progressing up in a society or an organization that has different levels
To take a step forward	Making a movement by putting a foot in front of another	Doing something that makes a situation better
To overcome an obstacle	Removing an object (e.g. rock or wall) or going around it in order to move forward	To succeed in dealing with a problem that prevented you from achieving something
Follow in someone's footsteps	To walk behind someone, and going in the same direction as them	To do the same work or achieve the same success as someone else before you
Path	A small road leading from one place to another that people can walk along	The way that someone takes to achieve something or the way that someone's life develops
At a crossroads	A point in the street where one road crosses another	A point during the development of something when you have to make a decision about what to do next

Appendix C5: CG-3, MG-3 and EAMG-3 reading activities

Sarah's Career Path

I'd like to tell you the story of how I became a painter. I've always enjoyed drawing and coming up with new images, but this is not the career direction my parents wanted for me. My parents are both doctors, and they wanted me to become a doctor too. After I finished

high school I started down the **path** to earning my medical degree. This

wasn't what I wanted, but I felt like I had to follow **in my parents' footsteps**. The

first step in medical school was to take a science placement exam. I failed it. They told me that medicine may not be the right path for me, but they still offered to allow me to

retake the test in a week. I was **at a crossroads** then I could retake the science exam and start down the same road my parents had taken, or I could listen to my heart and

follow my dream to make a living in painting. I decided that I could not follow my parents this time. Therefore, I took control of my life and changed my major to Art Design. Of

course, first I had **to overcome the obstacle** of convincing my parents. I decided to **take a step forward** in asserting my own interests regarding my future, and to my surprise, my parents were really supportive and understanding. They said that they would be by my side if this was definitely where I wanted to go in life. Now that I'm an accomplished painter, I'm so glad I made the decision to take my own path.

Dana's Career Story

I'd like to tell you the story of how I got my dream job and became a journalist. When I graduated, I had no working experience, so I had to work as a saleswoman at clothing store. It

was a **dead-end job**, and the salary was not good enough. I hated that job, but I could not find anything else at the time. My plan was to work there and save up some money until I

could find a better job in journalism. I worked at the clothing store for two years. I started to lose hope. What if I never found anything better? When reading the newspaper one day, I **stumbled into** an old friend who told me about an entry-level job opening at a small

online magazine. When I went in for an interview, they told me that this online magazine was new, which meant that if I could prove myself, I could easily **climb** my

way up the ranks. I was finally heading in the **right direction** towards success.

My newspaper job was a small position at the beginning, but this only made me work harder. I was determined. I did interviews with all kinds of people, including business people,

doctors, and even zookeepers, and I interacted with as many people as I could. I made

sure I stayed in the **fast lane** to success. In 5 years, I was promoted 3 times. I started to achieve my career goals. Now, I am at the top of **the career ladder** as a senior editor, and I could not be happier.

Appendix C6: MG-3 and EAMG-3 reading activities

Directions to the Grocery Store

When we moved to our new house, my mom wanted me to go to the grocery store to get us some food and supplies. I did not know the area yet, so she gave me some simple directions. She said to **take my first step forward** out of the house then to avoid the busy street by taking the green **footpath** to the left instead. **At the crossroads**, I should turn left again. She warned me to watch out for a small stream along the **path**. It would have yellow footprints painted on the biggest stones in the water; if I **followed in those footsteps** exactly, then I would stay dry and find the grocery store in just less than a quarter of a mile. What my mom didn't tell me was that there were construction **obstacles** on the road that I would not be able to **overcome**. In the end, I had to take a completely different road and ask a total of five strangers for help to reach the store.

The Hiking Race

My friends and I entered a hiking competition. It started on top of the mountain and ended in the middle of town. Every team had to reach the mountaintop where the starting point was. During the race down the mountain, the teams then had to stop by the lake on the mountainside, pass through the small forest, and finally walk to the center of town. First, we had to **climb** the mountain. There were several ladders set up to help the hikers. We went **up each ladder** until we reached the top, but it was exhausting. We found the lake quickly, but we **stumbled into** mud, water and rocks, which slowed us down. In the forest, we hit a **dead-end** of thick thorny bushes and had to go back and take the **right direction**. Finally, to reach the centre of town, we had to run across the **fast lane of a highway**. It was a big challenge, but we won the race in the end.

Appendix C7: Metaphor understanding posttest

Vocabulary Test 2

Name: _____	Section: _____	ID: _____
For each sentence, please circle the letter of the best meaning of the underlined word or phrase. Choose the letter of the meaning that best fits the context. If you believe the meaning is different from those cited in A, B or C, please write it down in D. If you do not know it, choose E.		

1. Houses in this area are built facing the **right direction**, so they all have good exposure to sunlight.

A. The ideal angle to place someone or something to ensure it points toward something else
B. A definite purpose that increases the possibility of success
C. The name of an employment agency
D. It means something else: _____
E. I do not know

2. I used to be afraid of heights, but when I started rock climbing, I got over my fear. I would like to **climb** Mount Everest some day.

A. To win a race with the help of someone else
B. To use your hands and feet to move up cliffs or mountains
C. To move to a higher level in a company or area of employment
D. It means something else: _____
E. I do not know

3. To protect your flower garden, you should have strong fences. Fences present an **obstacle** that animals cannot **overcome**. Unless your garden is completely by fences, wandering animals can ruin the flowers.

A. A walking distance from one place to another
B. A rock or a wall that prevents one from moving forward
C. A difficulty or a problem that prevents one from achieving their goals but they succeed in dealing with it
D. It means something else: _____
E. I do not know

4. Instead of taking the main road, we walked along the lovely **path** that goes through the woods before eventually leading to the village.

- A. A way from one place to another that people can walk along
- B. A work environment that is friendly and encouraging
- C. The steps that someone takes to achieve something
- D. It means something else: _____
- E. I do not know



5. After she finished her Master's Degree, she was **at a crossroads**. She could pursue a PhD degree or find a job to establish her career. She chose the second option because she knew she needed work experience.

- A. The point during the development of something when you have to make an important decision about what to do next
- B. A place where one road intersects another
- C. An area up a hill which overlooks town
- D. It means something else: _____
- E. I do not know



6. If you want to climb **the career ladder** in this company, you need to work hard and make no excuses for yourself.

- A. To use an instrument that records people's movements and points to their locations
- B. To move up the hierarchy of a society positions or organization
- C. To use a piece of equipment for reaching high places
- D. It means something else: _____
- E. I do not know



7. The first rule in dancing the waltz is to **take one step forward** then two steps back while keeping eye contact with your dance partner.

- A. Feeling trapped in a problem
- B. The physical movement of putting one foot in front of the other
- C. Doing something to advance a plan or move closer to a goal
- D. It means something else: _____
- E. I do not know



8. I **stumbled into** Maha at the mall but I did not recognize her. She looked so different from how I remember her.

- A. To dance happily without a care
- B. To find something or meet someone by accident
- C. To fall or almost fall while walking or running
- D. It means something else: _____
- E. I do not know



9. Alice did not like life **in the fast lane**. All she did was party, shop and travel. She wanted something more fulfilling, so she slowed down and started to volunteer in homeless shelters.

- A. The outer lane on a road used by the vehicles travelling fastest
- B. A school dedicated only to girls
- C. An exciting, busy way of life
- D. It means something else: _____
- E. I do not know

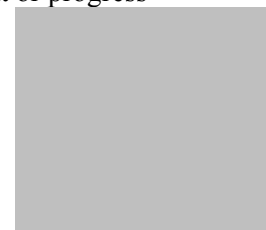


10. Hoping to take over the family business one day, Mary **followed in her father's footsteps** and became a lawyer. The problem is that she does not like being a lawyer at all.

- A. To carry a heavy object for a long period of time
- B. To walk or drive behind someone or to go in the same direction as them
- C. To do the same work or achieve the same success as someone else before you
- D. It means something else: _____
- E. I do not know

11. Lina has **a dead-end job** at a call-centre. She responds to customers' complaints and gets no job satisfaction at all. She is not happy at this job, but she has to do it because she has no degree and she needs the steady income.

- A. A situation that provides you with no chance of improvement or progress
- B. An animal that has passed away
- C. A road or passage that has no way out
- D. It means something else: _____
- E. I do not know



Appendix C8: Metaphor production posttest

Writing Activity 1

Think of two alternative careers that you would like to pursue in the future. Write about these two jobs. Which career would you enjoy more and why? Which career do you think you will finally choose? Are there any external or internal factors that might influence your decision to pursue one rather than the other? How will you reach your final decision? Please draw a map or a picture to further explain your writing.

Appendix C9: Style of processing questionnaire in Arabic and English

الاسم: _____ الرقم الجامعي: _____ الشعبة: _____

م	العبارة	صحيح دائماً	صحيح عادة	خطأ عادة	خطأ دائماً
1	أستمتع بالأعمال التي تتطلب استخدام الكلمات والعبارات	4	3	2	1
2	هناك ذكريات مميزة في حياتي أحب أن أعيشها مجدداً بأن أتخيل صورة كل شيء فيها عقلياً	4	3	2	1
3	أنا لا أجد الكلمات المناسبة التي تعبر عما بداخلي عندما أحتاجها	4	3	2	1
4	أنا أقرأ كثيراً	4	3	2	1
5	عندما أحاول أن أتعلّم شيئاً جديداً أفضل أن أشاهد فيديو تعليمي أكثر من قراءة التعليمات	4	3	2	1
6	أحس عادة أنني أستخدم الكلمات بطريقة خاطئة	4	3	2	1
7	أستمتع بتعلّم كلمات جديدة	4	3	2	1
8	أحب أن أتصور و أتخيل كيفية تصميم غرفتي أو بيتي قبل أن أشتري الأثاث	4	3	2	1
9	أنا غالباً أكتب مذكرات صغيرة لنفسي	4	3	2	1
10	أحب أن أحلم أحلام اليقظة	4	3	2	1
11	أفضل أن أستخدم الرسوم البيانية أكثر من التعليمات المكتوبة	4	3	2	1
12	تعبيراً عما يجول بداخلي (to doodle) أحب أن أخربش وأرسم	4	3	2	1
13	أرسم في ذهني صورة للشيء قبل تنفيذه	4	3	2	1
14	بعد مقابلتي للأشخاص من أول مرة أجد نفسي أتذكر مظهرهم العام وأشكالهم ولا أتذكر حديثهم	4	3	2	1
15	أحب أن أفكر في مرادفات للكلمات	4	3	2	1
16	عندما أنسى شيئاً أحاول أن أكوّن صورة عنه في عقلي من أجل أن أتذكره	4	3	2	1
17	أحب أن أتعلّم كلمات جديدة	4	3	2	1
18	أفضل أن أقرأ التعليمات عن كيفية عمل شيء على أن أتعلّمها من شخص آخر	4	3	2	1
19	أفضل الأعمال التي لا تتطلب قراءة كثيرة	4	3	2	1
20	أحلم أحلام اليقظة نادراً	4	3	2	1
21	أقضي قليلاً من الوقت في تنمية مفرداتي اللغوية	4	3	2	1
22	تفكيري مليء بالصور عادة	4	3	2	1

Style of Processing Questionnaire (SOP)

The aim of this questionnaire is to determine the style or manner you use when carrying out different mental tasks. Your answers to the questions should reflect the manner in which you typically engage in each of the tasks mentioned. There are no right or wrong answers, I only ask that you provide honest and accurate answers. Please answer each question by writing the corresponding number of the five possible responses on the right.

	Item	Strongly disagree	Disagree	Agree	Strongly agree
1.	I enjoy doing work that requires the use of words. (W)	1	2	3	4
2.	*There are some special times in my life that I like to relive by mentally “picturing” just how everything looked. (P)	1	2	3	4
3.	I like to think of synonyms for words. (W)	1	2	3	4
4.	I do a lot of reading. (W)	1	2	3	4
5.	*When I am trying to learn something new, I would rather watch a demonstration than read how to do it. (P)	1	2	3	4
6.	*I think I often use words in the wrong way. (W)	1	2	3	4
7.	I enjoy learning new words. (W)	1	2	3	4
8.	I often make written notes to myself. (W)	1	2	3	4
9.	*When the teacher introduces or explains new words, images related to these words pass through the mind. (P)	1	2	3	4
10.	I generally prefer to use a diagram rather than a written set of instruction (P)	1	2	3	4
11.	*I like to draw something aimlessly or absent-mindedly, usually while doing something else such as having a telephone conversation or listening to the teacher in class. (P)	1	2	3	4
12.	*I find it helps to think in terms of mental pictures when doing many things. (P)	1	2	3	4
13.	*After I meet someone for the first time, I can usually remember what they look like, but not much about them. (P)	1	2	3	4
14.	*When I have forgotten something, I frequently try to form a mental picture to remember it. (P)	1	2	3	4
15.	I like learning new words. (W)	1	2	3	4
16.	I prefer to read instructions about how to do something rather than have someone show me. (W)	1	2	3	4
17.	*I prefer activities that do not require a lot of reading. (W)	1	2	3	4
18.	When the teacher introduces or explains new words, rarely do images related to these words pass through the mind. (P)	1	2	3	4
19.	I spend very little time attempting to increase my vocabulary. (W)	1	2	3	4
20.	*My thinking often consists of mental pictures or images. (P)	1	2	3	4
21.	*I can never seem to find the right word when I need it. (W)	1	2	3	4
22.	*I like to picture how I could fix up my room if I could buy anything I wanted. (P)	1	2	3	4

Appendix C10: Arabic evaluation questionnaires

استبيان المشاركة في البحث

تعليم مفردات اللغة الانجليزية باستخدام وسائل تعليمية بصرية وحركية: تجربة علمية على طالبات السنة التحضيرية في معهد اللغة الانجليزية بجامعة الملك عبدالعزيز

Teaching Vocabulary through Visual Aids: Experiment and Evaluation

اسم الطالبة: _____ الشعبة: _____ الباحثة: روان عدنان ساعاتي , باحثة دكتوراة بجامعة برمنجهام بريطانيا

سأكون ممتنة لو تفضلت بالإجابة على الاسئلة التالية التي تقيم درس طريق الحياة بكل صدق. ستعامل جميع بيانات هذا الاستبيان بسرية تامة وستستخدم فقط في سياق رسالة الدكتوراة فقط وشكرا		
العمر:	المسار: علمي / ادبي	التاريخ / / 2014

1. منذ كم عام وانت تتعلمين اللغة الانجليزية؟

☐ 1 ☐ 3 سنوات ☐ 4 7 سنوات ☐ 8 11 سنة ☐ أكثر من ذلك، الرجاء التحديد: _____

2. هل حصلت على تعليم اللغة الإنجليزية في نطاق خارج المدارس والجامعات (مثال: دورات ، الإقامة بالخارج ، التحدث باللغة الانجليزية في المنزل) ؟

☐ نعم ☐ لا ☐ اذا كانت الاجابة بنعم، الرجاء التحديد: _____

3. هل استمعت بتعلم مفردات اللغة الإنجليزية بالطريقة الغير تقليدية والتي تعتمد على عدة وسائل تعليمية كالصور والفيديو والخرائط وغيرها؟

☐ نعم ☐ لا لماذا؟ _____

4. ما هي الامور التي أعجبتك في دروس طريق الحياة؟

5. ماهي الاشياء التي لم تعجبك في دروس طريق الحياة وتودين تغييرها كي تصبح أفضل لك كطالبة؟

6. هل ترين ان استخدام الوسائل التعليمية كالفيديو والصور والحركة وغيرها فيه مضيعة لوقت الدرس؟ ولماذا؟


7. على مقياس من 1 إلى 5، (5 اوافق بشدة) ضع دائرة حول الرقم الذي ترينه مناسباً لدروس طريق الحياة:


العبارة	أوافق بشدة	أوافق	محايد	أعارض	أعارض بشدة
المادة التعليمية كافية المعلومات	5	4	3	2	1
المادة التعليمية جديدة	5	4	3	2	1
اسلوب التدريس جديد	5	4	3	2	1
اسلوب التدريس يسهل حفظ المفردات	5	4	3	2	1
اسلوب التدريس يساعد على زيادة المفردات	5	4	3	2	1

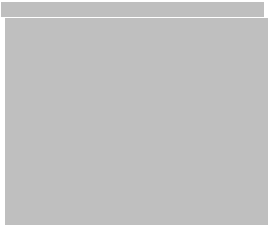
Appendix C11: Metaphor understanding 2-week delayed test

Vocabulary Test 3

Name: _____	Section: _____	ID: _____
--------------------	-----------------------	------------------

1. Hoping to take over the family business one day, Mary **followed in her father's footsteps** and became a lawyer. The problem is that she does not like being a lawyer at all.
 - A. To carry a heavy object for a long period of time
 - B. To walk or drive behind someone or go in the same direction as them
 - C. To do the same work or achieve the same success as someone else before you
 - D. It means something else: _____
 - E. I do not know

2. After she finished her Master's Degree, she was **at a crossroads**. She could pursue a PhD degree or find a job to establish her career. She chose the second option because she knew she needed work experience.
 - A. The point during the development of something when you have to make an important decision about what to do next
 - B. A place where one road intersects another
 - C. An area up a hill which overlooks town
 - D. It means something else: _____
 - E. I do not know

3. The first rule in dancing the waltz is to **take one step forward** then two steps back while keeping eye contact with your dance partner.
 - A. Feeling trapped in a problem
 - B. The physical movement of putting one foot in front of the other
 - C. Doing something to advance a plan or move closer to a goal
 - D. It means something else: _____
 - E. I do not know

4. It did not take Mary long to **climb** the company hierarchy. Some even say that she did not deserve her most recent promotion.

- A. To win a race with the help of someone else
- B. To move to a higher level in a company or area of employment
- C. To use your hands and feet to move up mountains
- D. It means something else: _____
- E. I do not know



5. Instead of taking the main road, we walked along the lovely **path** that goes through the woods before eventually leading to the village.

- A. A way from one place to another that people can walk along
- B. A work environment that is friendly and encouraging
- C. The steps that someone takes to achieve something
- D. It means something else: _____
- E. I do not know



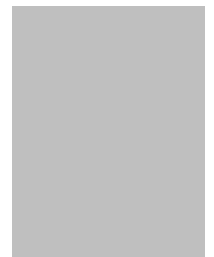
6. Recruiting a new staff manager is **a step in the right direction**. The old staff manager is doing a bad job in the position and we had to fire him.

- A. The ideal angle to place something to ensure it points towards something else
- B. The name of an employment agency
- C. An action that increases the possibility of success
- D. It means something else: _____
- E. I do not know



7. Sally's horse **stumbled into** the fence, throwing her to the ground. Sally broke her leg as a result of the accident.

- A. To find something or meet someone by accident
- B. To fall or almost fall while walking or running
- C. To dance happily without a care
- D. It means something else: _____
- E. I do not know



8. Alice did not like life **in the fast lane**. All she did was party, shop and travel. She wanted something more fulfilling, so she slowed down and started to volunteer in homeless shelters.
- A. The outer lane on a road used by the vehicles travelling fastest
 - B. A school dedicated only to girls
 - C. An exciting, busy way of life
 - D. It means something else: _____
 - E. I do not know
9. As we were travelling through the desert, the car GPS navigation system led us incorrectly to a **dead-end street**. We were so scared, but luckily we found our way back.
- A. A road or passage that has no way out
 - B. An animal that has passed away
 - C. A situation that provides you with no chance of improvement or further progress
 - D. It means something else: _____
 - E. I do not know
10. The fireman climbed **the ladder** to save the children from the burning building.
- A. To use a piece of equipment in order to reach high places
 - B. To progress or advance in the rankings in a society or organization
 - C. To use an instrument that records people's movements and points to their locations
 - D. It means something else: _____
 - E. I do not know
11. Disabled people **overcome many obstacles** in their everyday life. The obstacles vary from crossing the streets to getting a job.
- A. Having a difficulty or a problem that prevents you from achieving your goals but you still succeed in dealing with it
 - B. Removing a rock or a wall in order to move forward
 - C. Walking from one place to another
 - D. It means something else: _____
 - E. I do not know

APPENDICES D1 to D8: STUDY 4

Embodied tactile metaphor awareness with Saudi EFL learners

		Control metaphor group (MCG-4)	Embodied tactile metaphor group (ETMG-4)	Section	Appendix
Week 1	Day 1	Consent form		7.4.1	D1
		Conventional metaphor understanding pretest		7.4.4.1	D2
	Day 2	Teaching 7 metaphoric expressions		7.4.3	D4
	Day 3	Conventional metaphor understanding posttest		7.4.4.1	D5
		Pictorial metaphor interpretation pretest		7.4.4.2	D3
Week 2	Day 1	Teaching interpretation of 4 visual metaphors		7.4.3	D6
	Day 2	Pictorial metaphor interpretation posttest		7.4.4.2	D3
Week 3		Online MI inventory questionnaire		7.4.4.3	D7
		Online evaluation questionnaire		7.4.4.4	D8

Appendix D1: Arabic and English consent forms



نموذج موافقة



أنا روان ساعتي طالبة دكتوراة من قسم اللغويات التطبيقية في جامعة برمنجهام (بريطانيا) . وأعمل معيدة في معهد اللغة الإنجليزية في جامعة الملك عبد العزيز. يهتم بحثي بتدريس المفردات الإنجليزية من خلال منهج قائم على التمارين والأنشطة. مشاركتك في هذه الدراسة هي محل تقديري. حيث تنطوي التجربة على تدريس مفردات اللغة الإنجليزية باستخدام الأنشطة بدلا من حفظ الكلمات.

الهدف من هذه الدراسة هو تطوير اكتساب الطالبة لمفردات اللغة الانجليزية بطريقة مبتكرة وذلك من خلال تدريسها باستخدام الاعلانات البصرية. الفئة المختارة للدراسة هن طالبات السنة التحضيرية في معهد اللغة الانجليزية بجامعة الملك عبدالعزيز.

شرح للإجراءات:

ستمتد التجربة على مدى أسبوعين بالشكل التالي:

* الأسبوع الأول ستشاركين في :

1. اليوم الاول ستلتقين اختبار مفردات
2. اليوم الثاني ستشاركين في درس
3. اليوم الثالث ستلتقين اختبار اخر

* الأسبوع الثاني ستشاركين في :

1. اليوم الاول ستشاركين في درس
2. اليوم الثاني ستلتقين اختبار مفردات و الهدف منه معرفة مدى اكتساب المفردات التي تم تدريسها لك
3. اليوم الثالث ستعبرين عن رأيك في الدرس في استبيان مدته.

هام: جميع المعلومات التي سيتم الحصول عليها خلال هذه الدراسة ستعامل بسرية تامة بما فيها المعلومات الشخصية من اسم وعمر وغيرها و ستستخدم في نطاق هذا البحث فقط ومع المشرفة القائمة على البحث فقط. الغرض من طلب اسمك في الاختبارات هو تقييم الأداء قبل وبعد الدراسة . وستكون استمارات الموافقة على المشاركة في الدراسة منفصلة عن الاختبارات و الاستبيان لزيادة سرية المعلومات. نتيجة البحث النهائية لن تتناول أيا من معلوماتك الشخصية ولن تكون للدراسة أي مخاطر أو عواقب سلبية وليس لها علاقة بدراستك أو علامتك. أخيرا أنت غير مطالبة بالمشاركة في هذه الدراسة وبامكانك الانسحاب من الدراسة في أي وقت.

إذا كان لديك أي أسئلة ، أرجو منك التكرم بطرحها الآن. كما اني سأقوم بتوفير المزيد من المعلومات عن الدراسة وعن نتائجك فيها عند الانتهاء من التجربة.

الاسم
التوقيع
التاريخ

Consent form

Project title: Teaching vocabulary through visual (and tactile) modalities to Saudi university students: Experiment and evaluation

I am a postgraduate student from Applied Linguistics Department at the University of Birmingham. I am also a teaching assistant at the English Language Institute-King Abdul-Aziz University. The aim of the study is to develop learners' vocabulary acquisition by teaching vocabulary through untraditional and active methods that could help remembering them.

Participation procedure:

This study asks you to volunteer by taking part in this experiment. It involves 2 vocabulary tests, 2 advertising tests, 3 teaching sessions and evaluation questionnaire.

- During the first week:
 - On day 1, you will receive a vocabulary test and an advertising test
 - On day 2, you will participate in a classroom-teaching session
 - On day 3, you will participate in a vocabulary test
- During the second week:
 - On day 1, you will participate in a classroom-teaching session
 - On day 2, you will participate in a vocabulary test and an advertising test
 - On day 3, you will answer an evaluation questionnaire about the teaching method

Privacy:

All information obtained during the study is confidential and used for research purposes only. Your personal information will also be maintained. You will not be asked to reveal any personal details except for your name in the three vocabulary tests. The purpose of requesting your name is to provide you with feedback on your performance before and after the teaching session. The questionnaire will be kept anonymous and no names will be used to identify who the participants are. The consent forms will be kept separate from the tests and questionnaire. The final research will not have any of your personal information.

You are under no obligation to take part in this study and there are no risks in taking part. Results of the study will not affect your course-grades and will not be shared with your teachers. If at any time you decide that you do not want to continue in the study, you are free to withdraw. Further information on the study will be provided upon completion of the experiment and you are free to ask me any questions you might have at:


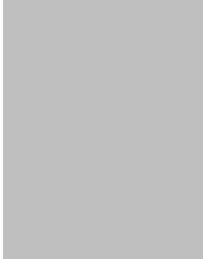

Yours sincerely,

Researcher: Rawan Saaty
University of Birmingham

Appendix D2: Metaphor understanding pretest

Vocabulary Test 1

Name: _____ Section: _____ ID: _____

1. 'Bright Builders Company contacted me to take out a loan on my credit card to start my own business', says 69-year-old Elizabeth Morgan. 'I told them I did not want to. They transferred me to a smooth talker who had me believing I could do anything. After I gave him my credit card information, I received an information packet in the mail on how to start my business. After that, the company did not return any of my calls and I never got my money back'.

 - A. Someone who is good at persuading people
 - B. Someone who talks a lot
 - C. A person who bothers you with their questions
 - D. It means something else: _____
 - E. I do not know
2. Dr. Leanne Johnson on the television drama 'Code Black' is one of TV's strongest characters with nerves made of steel. As the director of the busiest hospital ER in the country, Dr. Rorish stays cool under pressure. With limited resources and more patients than medical staff, she manages to keep the entire team on course.

 - A. Rulers made of strong metal
 - B. A force that is unbreakable and impossible to destroy
 - C. An ability to control fear in extremely difficult situations
 - D. It means something else: _____
 - E. I do not know
3. Mary's anger had consumed itself by its own intensity. She felt burnt out, an empty shell. 'Let him have the final word', she thought. She was too drained to carry on this impossible, pointless war with her husband any longer.

 - A. Hurt their skin with fire
 - B. Excited for an opportunity
 - C. Exhausted and unable to carry on
 - D. It means something else: _____
 - E. I do not know

4. I saw an enormous black bear in the woods with eyes so bright. I looked at him and my blood turned cold. My gun nearly fell from my hands, and my whole body froze with fear.
- A. Felt extremely cold
 - B. Suddenly stopped moving and thinking
 - C. Prevented someone from taking part in something
 - D. It means something else: _____
 - E. I do not know
5. Louise, the daughter of Liverpool council leader Sir Trevor Jones, describes her father as a soft touch despite his strong political image. She says, 'Dad used to give us a list of chores every Monday, but come Friday we never saw any trouble if we hadn't done them'.
- A. Someone who can be persuaded easily
 - B. A parent who is firm and disciplinarian
 - C. Someone who likes a person despite their flaws
 - D. It means something else: _____
 - E. I do not know
6. She put her jacket on quickly, expecting the client to come back in at any minute. She had yelled at him again, though he hadn't deserved it. 'I must keep my cool', she thought; 'losing my temper like this isn't going to get me the job now, is it?'
- A. To remain calm in a difficult situation
 - B. To feel blessed for a rare opportunity
 - C. To act distant to people around
 - D. It means something else: _____
 - E. I do not know
7. We become hot under the collar over local issues, whether it is crowded streets, noisy construction sites, or littering fines. Instead of just complaining about an issue, why not write a letter with your views and publish it in your local paper?
- A. Sweaty due to high temperature
 - B. Very annoyed and ready to disagree about something
 - C. Very sincere and agreeable
 - D. It means something else: _____
 - E. I do not know

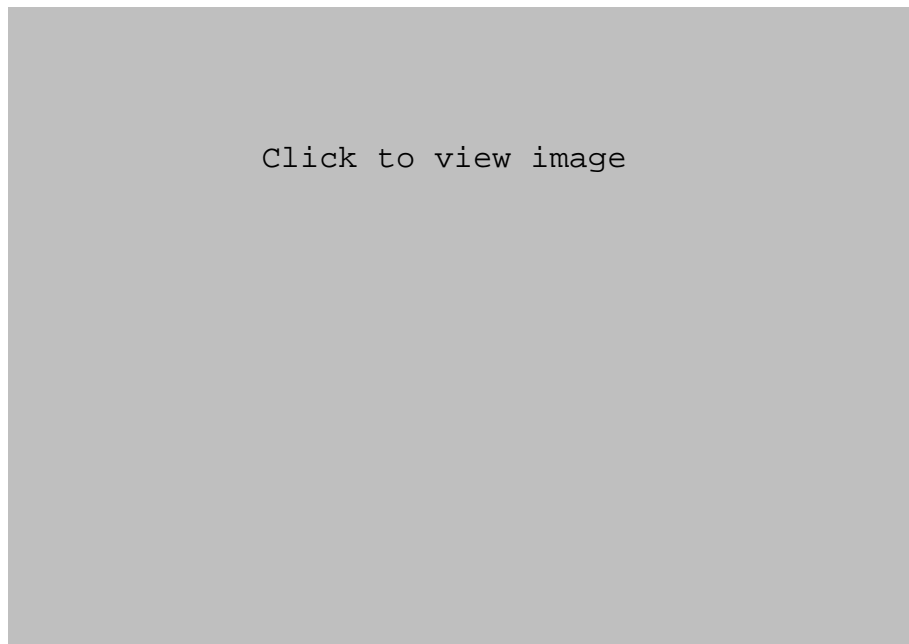
Appendix D3: Pictorial metaphor interpretation pretest and posttest

Advertising Test 1 and 2

Name: _____	Section: _____	ID: _____
-------------	----------------	-----------

Please look carefully at the visual advertisements. **Try to create links between the elements of the advert.** Write those links and report the effect they have on the advert. Tell us how the advert makes you feel about the product. *The first advert is done for you.*

Advert 1: Voltas Air-conditioners:



1. What is being said in the advert?

Example answer → *Voltas air-conditioners are like ice cubes. They are similar to ice cubes because they all look the same and they make you feel cold.*

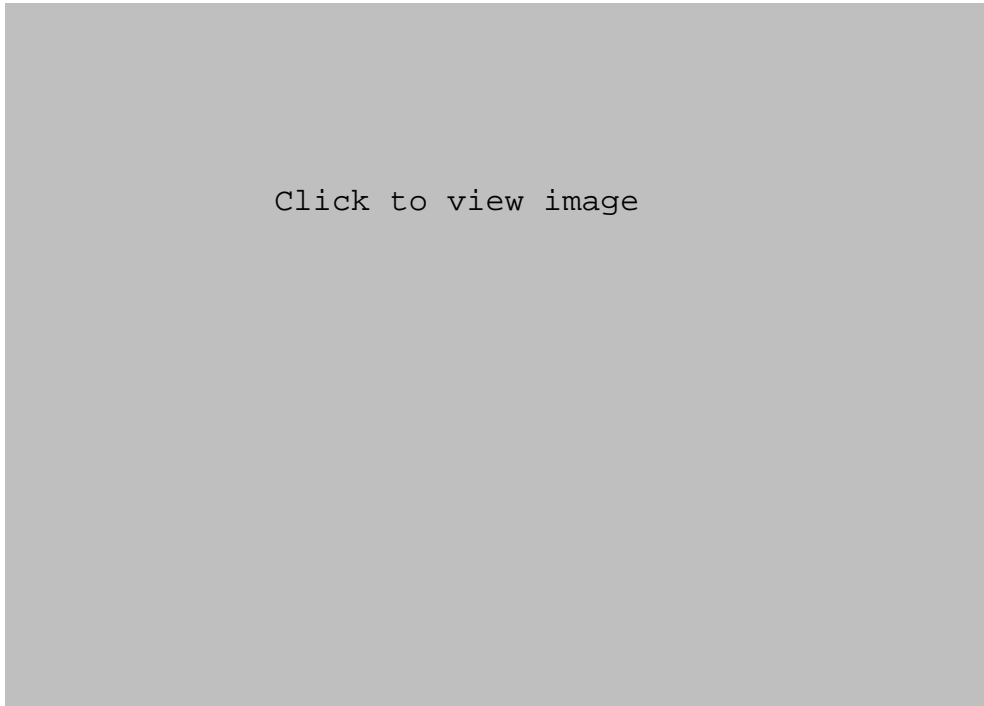
2. How does the advert make you feel?

Example answer → *It makes me feel chilly as I am touching an ice cube.*

3. Is this an effective advert, why or why not?

Example answer → *Yes, because I need the air-conditioner in hot weather like I need icy drinks.*

Advert 2: Olay Anti-aging Cream:

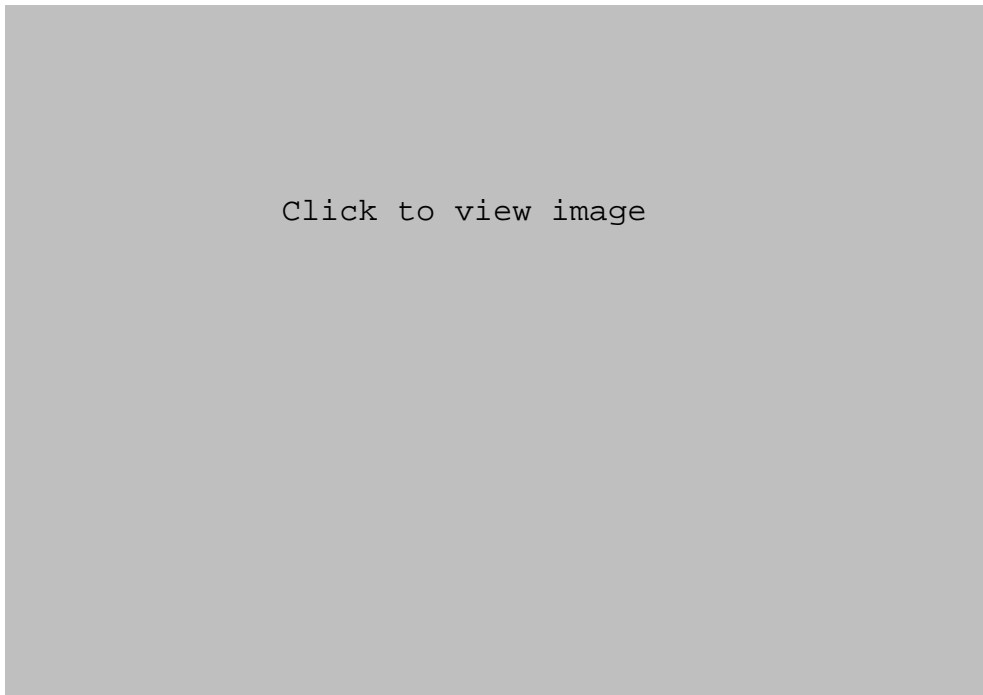


1. What is being said in the advert?

2. How does the advert make you feel?

3. Is this an effective advert, why or why not?

Advert 3: Burger Treat Fiery Fries:



1. What is being said in the advert?

2. How does the advert make you feel?

3. Is this an effective advert, why or why not?

Advert 4: Fenistil Skin Irritation Gel:



1. What is being said in the advert?

2. How does the advert make you feel?

3. Is this an effective advert, why or why not?

Appendix D4: MCG-4 and ETMG-4's list of metaphoric expressions

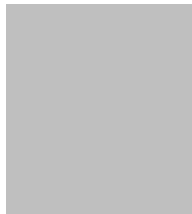
Describing People Vocabulary List


Phrase	Meaning	Example
Burnt out	Ill and unable to continue working after working so hard	Spelling bee competitions are known for their aggressiveness. Kids <u>burn out</u> after the first two rounds, some even get sick from the pressure.
To get hot under the collar	Very annoyed and angry about something	Magazine editors get <u>hot under the collar</u> over spelling errors just like grammar teachers do.
To keep your cool	To maintain a calm and controlled attitude	When she heard that someone else got the promotion, she managed to <u>keep her cool</u> even though she felt like it was stolen from her.
Frozen with fear	To be unable to move or think because you are nervous or scared	The gun fell from the robber's hand and my whole body <u>froze with fear</u> .
Nerves of steel	Have the ability to control your emotions and stay calm in extremely difficult and dangerous situations	If you want to become a fire fighter, you need to develop nerves of steel. Otherwise, this job is not for you.
Smooth talker	Good at persuading people and should not be trusted	If anyone else was speeding that fast they would be in jail, but Johnny is such <u>a smooth talker</u> the cop ended up escorting him home.
A soft touch	Someone who can be persuaded easily to do something	My brother has always been a soft touch for stray animals. We once found a box of newborn cats in the basement and has given them all his breakfast.


Appendix D5: Metaphor understanding posttest

Vocabulary Test 2

Name: _____ Section: _____ ID: _____

1. Genius Children (i.e. prodigies) struggle without the right challenges, but others burn out by the time they reach university. Unfortunately, there are a few who face another obstacle — parental jealousy.
 - A. Feel exhausted and unable to carry on
 - B. Hurt their skin when lighting candles
 - C. Become excited for an opportunity
 - D. It means something else: _____
 - E. I do not know

2. The salesman at the car dealer I went to was a smooth talker. He told little jokes to put me at ease. He said he didn't care which car I bought. He even suggested other salesmen I should go to! Never in my wildest dreams I thought I would own a van; but that day I drove out of there with an expensive van that was already a couple of years old.
 - A. Someone who talks a lot
 - B. Someone who is good at persuading people
 - C. A person who bothers you with their questions
 - D. It means something else: _____
 - E. I do not know

3. Vicky Merino is a police officer with nerves of steel and a kind heart. At home, she's a dedicated mother of two, but when she puts on her uniform, she is a sergeant in charge of a unit of police officers and much of her work revolves around violent crime. Her passion for police work earned her the title of 'Coral Gables Police Officer of the Year 2014'.
 - A. An ability to control fear in difficult situations
 - B. Rods made of strong metal
 - C. An unbreakable force which is impossible to destroy
 - D. It means something else: _____
 - E. I do not know

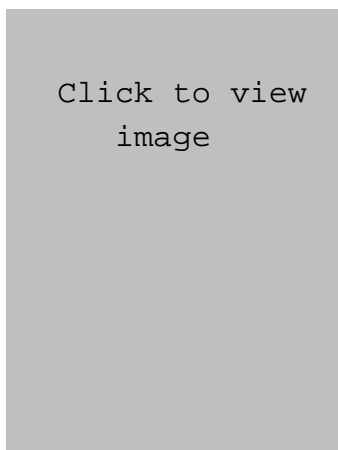
4. My wife is getting hot under the collar about the rising cost of travel insurance. She would rather us be careful and spend the insurance money on our trip.
- A. Very annoyed and ready to quarrel about something
 - B. Sweaty due to high temperature
 - C. Alert and suspicious
 - D. It means something else: _____
 - E. I do not know
5. While Rachel was checking supplies at the restaurant, Joan mentioned that the new head chef seemed to be more popular with the staff than the old chef had been. Rachel replied, 'Just as long as they don't think he's a soft touch and that they can come in here with a finger ache and think he'll send them home.'
- A. Someone who likes a person despite their flaws
 - B. A person who is strict and firm
 - C. Someone who can be influenced easily
 - D. It means something else: _____
 - E. I do not know
6. If your baby cries easily, you may increase his ability to think first and hold his temper by disciplining him for failing to do so. This way you can motivate him to keep his cool.
- A. To remain calm in a difficult or scary situation
 - B. To feel blessed for a rare opportunity
 - C. To act distant to people around
 - D. It means something else: _____
 - E. I do not know
7. As John entered the dark room, he saw an old woman sitting in a chair by the fireplace. In the corner, a rope hung down from the ceiling. He froze with fear and the flashlight fell from his trembling hand. With a feeling of horror, John recognized the unfortunate thing that had happened in this room.
- A. Felt extremely cold
 - B. Suddenly stopped moving and thinking
 - C. Stopped someone from taking part in something
 - D. It means something else: _____
 - E. I do not know

Appendix D6: MCG-4 and ETMG-4 advertisement activity

Advert Analysis Task

1. Within your group, study these visual advertisements and complete the chart. The first ad is done for you
2. MCG-4: You will touch the product and what it is compared to. As you are touching the objects, try to recreate the links between the product and what it is compared to
EAMG-4: Recreate the links between the product and what it is compared to
3. Explore the qualities transferred by this comparison their effects on the advert
4. Report your answers to the class

Product What is the ad for?	Slogan Does it have a slogan? What does it mean?	Metaphor What is the product compared to?	Qualities What qualities are suggested by this metaphor	Market Who is the ad designed to appeal to?	Effectiveness Would the advert work in your country?
Clinique Skin cream	The power to even skin tone	Your skin will be as clear and soft as a shiny egg	The cream will make your skin look clearer and brighter. The egg is for younger age	Women who want to get rid of dark spots	Yes!



Appendix D7: Arabic and English multiple intelligences questionnaire

استبيان الذكاءات المتعددة

اسم الطالبة: _____ الشعبة: _____ الرقم الجامعي: _____

الرجاء قراءة كل عبارة وكتابة الرقم ٢ إذا كانت العبارة صحيحة تماماً، وكتابة الرقم ١ إذا كانت العبارة صحيحة إلى حد ما، كالتالي: ٠ = لا أوافق ١ = أوافق إلى حد ما ٢ = أوافق تماماً

الذكاء اللغوي:

- _____ أحب قراءة الكتب والتحدث عنها
_____ أحب كتابة المذكرات والرسائل إلى عائلتي وأصدقائي
_____ أحب أن ألقى النكات والقصص الطريفة في الحفلات
_____ ألاحظ الإعلانات في المجلات والتلفزيون ولوحات الإعلانات
_____ أحب أن أتحدث مع أصدقائي عبر الهاتف المنزلي أو المحمول
_____ أمتلك كمية مفردات لغوية جيدة

الذكاء الرياضي والمنطقي:

- _____ أستطيع حل المسائل الرياضية بعقلي بسهولة عند احتياجي لذلك
_____ أجيد مهارة تنسيق الميزانية المنزلية والالتزام بها
_____ أجيد لعبة الكلمات المتقاطعة والشطرنج والداما وأي لعبة أرقام
_____ أجيد حل المشكلات اليومية بسهولة
_____ أحب أن أحلل الأشياء التي تواجهني
_____ أتعاش مع من حولي بسهولة

الذكاء البصري والمكاني:

- _____ إذا وضعت في مكان جديد أستطيع أن أستخدم الخريطة بسهولة لأجد طريقي
_____ أحب أن أختار ديكور منزلي أو غرفتي بنفسني
_____ أحب أن أرسم رسومات وأشكال على الورق
_____ أحب النظر إلى الصور واللوحات الفنية
_____ أحب الكتب التي تحتوي على الصور والرسومات
_____ أستطيع أن أرى العلاقة بين الأشكال الهندسية بسهولة

الذكاء الجسدي والحركي:

- _____ من الصعب علي الجلوس في مكان واحد لمدة طويلة
_____ تأتيني أفضل أفكارني عندما أجري أو أمشي أو أمارس الرياضة
_____ أجيد الخياطة والنجارة وتركيب المكعبات

- _____ أحب الرياضة وأجيد رياضة واحدة على الأقل
_____ أتعلم أفضل عندما المس المواد التعليمية
_____ أحب النشاطات الخارجية

ذكاء العلاقات الاجتماعية:

- _____ دائماً يتم اختياري كقائد
_____ أحب التحدث مع أصدقائي
_____ أحب أن أدعو أصدقائي إلى منزلي
_____ أحب أن أساند أصدقائي
_____ أنا مستمعة جيدة
_____ أحب أن أذهب إلى حفلات مع أصدقائي

الذكاء الشخصي:

- _____ أفضل أحياناً الذهاب إلى أماكن لوحدي
_____ لدي هوايات عديدة وأفضل أن أمارسها لوحدي
_____ أستطيع تمييز ووصف مواهي الشخصية
_____ أتذكر أحلامي جيداً وأحب التحدث عنها
_____ أحب أن أضع أهدافاً لنفسني وأن أسعى لتحقيقها
_____ أحب أن أخذ وقتاً للتفكير في واجباتي اليومية

الذكاء الموسيقي:

- _____ أعرف الحان أغاني كثيرة
_____ صوتي معبر جداً
_____ أعزف على آلة موسيقية أو أغني مع مجموعة
_____ أستطيع التمييز عندما تكون الموسيقى خارجة عن اللحن
_____ أدق على الطاولة بأصابعي عادة عندما أستمع إلى الأغاني

- _____ أحب الاستماع إلى الموسيقى

الذكاء الطبيعي:

- _____ أحب النباتات المنزلية
_____ لدي حيوان منزلي اليف أو أتمنى اقتناءه
_____ أعرف الأسماء لكثير من الورود
_____ أعرف أسماء الكثير من الحيوانات
_____ أحب أن أمشي في الطبيعة والوجود في الخارج
_____ ألاحظ النباتات والأشجار في الحي الذي أعيش فيه

Multiple intelligences inventory

Adapted from Christison, M. (2005). Multiple intelligences and language learning. California: Alta Books

Directions: read each statement. Write 2 if you agree. Write 1 if you are somewhere in between. Total the number of points you have in each intelligence. Compare your scores. Which score is the highest (strongest intelligence)? Which is the lowest (weakest intelligence)?

Linguistic intelligence

1. I like to read and talk about books
2. I often write notes and letters to my friends and family
3. I like to tell jokes at parties
4. I notice advertisements in magazines, on TV, and on billboards
5. I like to talk to my friends on the phone
6. I have a good vocabulary

Logical/mathematical intelligence

1. When I have to, I can do arithmetic easily in my head
2. I am good at creating a budget and sticking to it
3. I am good at solving day-to-day problems
4. I like to analyze things
5. I generally get along well with other people
6. I am good at and like to do crossword puzzles

Visual/spatial intelligence

1. If I get lost in a new place, I can use a map to help me
2. I like to decorate my house or apartment
3. I often doodle (make small drawings and patterns on paper)
4. I like to look at pictures
5. I love books with illustrations
6. It is easy for me to see spatial relationships

Bodily/kinesthetic intelligence

1. It is hard for me to sit for a long time
2. I get my best ideas when I am jogging, walking or doing physical things
3. I am good at sewing, woodworking, building or mechanics

4. I like sports and play at least one sport
5. I learn best through hands-on activities
6. I enjoy outdoor activities

Interpersonal intelligence

1. I am often chosen as a leader
2. I enjoy talking to friends
3. I like to invite people to my house
4. I like to support my friends
5. I am a good listener
6. I like to have parties with my friends

Intrapersonal intelligence

1. I sometimes prefer to go places alone
2. I have hobbies that I enjoy pursuing on my own
3. I can identify and describe my talents
4. I remember my dreams and like to talk about them
5. I like to set goals and achieve them
6. I like to have time to reflect on my work

Musical intelligence

1. I know the tunes of many songs
2. I have a very expressive voice
3. I play a musical instrument or sing in a choir
4. I can tell when music is off-key
5. I often tap rhythmically on the table or desk when I am listening to music
6. I like to listen to music

Naturalist intelligence

1. I like houseplants
2. I have or would like to have a pet
3. I know names of many different flowers
4. I know the names of many animals
5. I like to hike and be outdoors

Appendix D8: Arabic evaluation questionnaire

استبيان المشاركة في البحث

تعليم مفردات اللغة الانجليزية باستخدام وسائل تعليمية بصرية وحركية: تجربة علمية على طالبات السنة التحضيرية في معهد اللغة الانجليزية بجامعة الملك عبدالعزيز

Teaching Vocabulary through Visual Aids: Experiment and Evaluation

الباحثة: روان عدنان ساعاتي , باحثة دكتوراة بجامعة برمنجهام

اسم الطالبة: _____ الشعبة: _____

سأكون ممتنة لو تفضلت بالإجابة على الأسئلة التالية التي تقيم أسلوب التدريس بكل صدق. ستعامل جميع بيانات هذا الاستبيان بسرية تامة وستستخدم فقط في سياق رسالة الدكتوراة فقط وشكرا		
العمر:	المسار: علمي / ادبي	التاريخ / / 2014

1. منذ كم عام وانت تتعلمين اللغة الانجليزية؟

☐ 1 ☐ 3 سنوات ☐ 4 7 سنوات ☐ 8 11 سنة ☐ أكثر من ذلك، الرجاء التحديد: _____

2. هل حصلت على تعليم اللغة الإنجليزية في نطاق خارج المدارس والجامعات (مثال: دورات ، الإقامة بالخارج ، التحدث باللغة الانجليزية في المنزل) ؟

☐ نعم ☐ لا ☐ اذا كانت الاجابة بنعم، الرجاء التحديد: _____

3. هل استمعت بتعلم مفردات اللغة الإنجليزية بالطريقة الغير تقليدية والتي تعتمد على عدة وسائل تعليمية كالصور والفيديو والخرائط وغيرها؟

☐ نعم ☐ لا ☐ لماذا؟ _____

4. ما هي الامور التي أعجبتك في أسلوب التدريس؟

5. ماهي الاشياء التي لم تعجبك في أسلوب التدريس وتودين تغييرها كي تصبح أفضل لك كطالبة؟

6. هل ترين ان استخدام الوسائل التعليمية كالفيديو والصور والحركة وغيرها فيه مضيعة لوقت الدرس؟ ولماذا؟

7. على مقياس من 1 إلى 5، (5 اوافق بشدة) ضع دائرة حول الرقم الذي ترينه مناسباً أسلوب التدريس

العبارة	أوافق بشدة	أوافق	محايد	أعارض	أعارض بشدة
المادة التعليمية كافية المعلومات	5	4	3	2	1
المادة التعليمية جديدة	5	4	3	2	1
اسلوب التدريس جديد	5	4	3	2	1
اسلوب التدريس يسهل حفظ المفردات	5	4	3	2	1
اسلوب التدريس يساعد على زيادة المفردات	5	4	3	2	1

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