THE DEVELOPMENT OF METAPHORIC COMPETENCE IN FRENCH AND JAPANESE LEARNERS OF ENGLISH

by

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ABSTRACT

The study of metaphor has enjoyed a great deal of interest in recent years. Far from being considered a mere rhetorical or poetic device, metaphor has now been shown to play a fundamental role in human language and cognition. However, despite its prominence and utility in discourse, learners of English have been shown to struggle with both the production and comprehension of metaphor. The concept of 'metaphoric competence' should thus be considered an important aspect of language teaching and learning, but its definition and measurement remain problematic.

This thesis uses an investigation of metaphor use in the written examinations of French and Japanese learners of English to address four main areas. The first investigates the development of metaphor use across different levels of written language. The second seeks to exemplify the way in which metaphor use is related to other aspects of language in this context, particularly lexis and phraseology, while the third explores the functions learners use metaphor to perform. The fourth area draws together these insights to explore what 'metaphoric competence' might mean in the context of learners' exam-based written language, and how it might be measured.

DEDICATION

This thesis is dedicated to the memory of my grandmother, whose support and interest in my academic endeavours encouraged me to make it this far:

Elizabeth Sarah Ruth Carter

1920 - 2010

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1.1 Introduction

This study investigates metaphor production in the written language of two groups of learners of English, one French, one Japanese, at different levels of language proficiency as measured by the Common European Framework of Reference for Languages, or CEFR. The CEFR proposes a number of frameworks to evaluate second language competence at all stages of proficiency, from novice to near-native standard, and five of its six levels are represented in this study, from 'Basic' to 'Proficient.' The data used are written examination scripts written for the Cambridge ESOL examinations corresponding to each of these levels, from 'KET' (Basic) to 'CPE' (Proficient). These data are used to explore four main areas. The first area is that of metaphor development in general; how the amount and type of metaphor used by each group of learners changes as they progress through the CEFR levels, and the similarities and variation both between and within the groups. This area is primarily addressed in Chapter Three, which presents the results of a number of quantitative analyses designed to provide an overall portrait of metaphor use by the two groups of learners at different levels of the CEFR. The second area seeks to find links between metaphor development and other areas of linguistic competence, focusing specifically on lexical and phraseological development. Chapter Four focuses on lexical development, using Lexical Frequency Profile analysis to investigate developing vocabulary breadth and its relationship to metaphor, and polysemy levels and word sense identification to examine metaphor's relationship to developing vocabulary depth. Chapter Five uses corpus-based techniques to investigate the relationship between metaphor and phraseological competence by identifying the

degree to which the metaphors used in student writing are part of conventional collocations or formulaic sequences. The third area examines the functions language learners use metaphor to perform in their written examinations in order to explore the links between developments in the use of metaphor and increasing competency in broader conceptions of communicative language ability. Chapter Six is devoted to this area, and reports the results of three analyses inspired by Hallidayan functional analysis. The fourth area draws these three preceding themes together to reach a new definition of 'metaphoric competence' and how it can be measured, and to discuss its implications for English language teaching and assessment.

This first chapter introduces the main concepts involved and outlines their significance, and constitutes a preliminary review of the literature. However, as this study presents a number of different analyses, each focusing on a different aspect of language and each using a different analytical technique, the subsequent chapters also include reviews of the relevant literature where more information is needed.

1.1.1 What are metaphors, and why are they important?

Simply conceived, metaphor is the device by which a concept is described in terms of another, unrelated concept (Cameron, 2003). In its linguistic manifestation, a metaphor is produced by 'a lexical item that can have an interpretation which is incongruous with the discourse context, or with the meaning created by the co-text' (Cameron, 2003: 9). Cameron (2003: 9) gives the example 'the atmosphere is a blanket of gases,' where 'blanket' seems incongruous with the context of the rest of the sentence. In this example, 'blanket' is the *vehicle* term. The term 'domain' is then used to refer to the ideas and concepts associated with the term. In this case, the domain of *blanket* may

invoke such concepts as *made of wool,* or *keeps people warm* (Cameron, 2003: 11). In mapping these concepts from the vehicle domain onto the topic domain, the atmosphere, a reader is able to understand that the earth's atmosphere functions to keep the earth at a suitable temperature.

Metaphor has enjoyed a revived interest in recent years. This has been partly due to the increased importance of cognitive linguistics as a field of research. Cognitive linguistic theories hold that language, previously considered separate from other aspects of human cognition, is in fact closely linked to them (Evans et al., 2007). Figurative language was given special attention by researchers in the field, as it was considered to reflect underlying patterns of figurative thought. In particular, conceptual metaphor theory, proposed by Lakoff and Johnson in their seminal book *Metaphors we Live By* (1980, 2003) and developed in the following years, proposed that we are capable of engaging with and expressing abstract concepts because we relate them to our more physical, familiar experiences (Lakoff, 1993). The mappings between these two domains, the source and the target, in the mind form what are known as *conceptual metaphors*, which are in turn expressed linguistically as *linguistic metaphors*. For example, they claim, we cognitively relate the abstract concept of the emotion 'anger' – the target domain - to our experience of a hot fluid in a container – the source domain, leading to the conceptual metaphor ANGER IS A HOT FLUID IN A CONTAINER. This is expressed linguistically through a number of phrases, such as 'blowing off steam,' 'his pent-up anger welled up,' or, if we add a dimension of the liquid being under pressure due to our knowledge of how hot fluids in a closed container react, 'he just exploded' or 'he hit the roof' (Kövecses, 2000: 162). Far from being considered mere rhetorical embellishments

that authors might choose to use to creatively describe a concept, therefore, metaphor began to be seen as a fundamental aspect of human language and cognition; 'metaphors as linguistic expressions are possible precisely because there are metaphors in a person's conceptual system' (Lakoff and Johnson 1980: 6).

Because of metaphor's status not only as a linguistic but as a cognitive device, it is hardly surprising that metaphor has been shown to be very common in all types of discourse, including university lectures (Littlemore, 2001a), newspapers (Krennmayr, 2011) and fiction (Dorst, 2011). To give statistics, Steen et al. (2010b) analysed different registers to ascertain the degree to which metaphor was used in them. They found the distribution of metaphorically-used words to vary across registers, with academic texts having 18.5% of lexical items being metaphorically used, news 16.4%, fiction 11.7%, and conversation 7.7%. It is perhaps surprising to note the relatively low metaphoric density found in fiction texts, a testament to the fact that metaphor is much more than a creative, literary device.

Why might metaphorical language be so pervasive in everyday discourse? As was seen above, the cognitive linguistic paradigm holds that metaphor is as much a conceptual phenomenon as a linguistic one, and 'since communication is based in large part on the same conceptual system that we use in thinking and acting, then language is an important source of evidence of what that system is like' (Danesi, 1995: 8). In other words, metaphoric language is frequent because human cognitive processes are also, frequently, metaphorical; 'metaphor, metonymy, irony, and other tropes are not linguistic distortions of literal mental thought but constitute basic schemas by which people conceptualize their experience and the external word' (Gibbs, 1994: 1).

Furthermore, quite simply, it is useful. As Kaal (2012: 31) states, 'Many proposed functions of metaphor in discourse can be organized by means of Halliday's functional categorizations of language', and Semino (2008) gives more examples of how this can occur. She notes that regarding the ideational metafunction (Halliday, 1978), metaphor is frequently used to represent certain aspects of reality, and it is particularly used to 'persuade, reason, evaluate, explain, theorize, offer new conceptualizations of reality and so on' (Semino, 2008: 31). Halliday's (1978) interpersonal metafunction refers to how language is used to construct relationships between participants, and metaphor is frequently used to 'express attitudes and emotions, entertain or involve, reinforce intimacy, convey humour, maintain or attack others' "faces", manage the transition from one topic to the next in interaction and so on' (Semino, 2008: 32). Finally, the textual function (Halliday, 1978) is fulfilled by metaphor's ability to summarise, draw attention to different parts of a text, and provide a structure (Semino, 2008). Given this range, it is perhaps unsurprising to note that the use of figurative language differs depending on the genre of the text in which it is found. Following an examination of metaphor in the genres of literature, political discourse, science in academic journal articles, the media and educational texts, advertising and illness, Semino (2008: 218) concludes that while metaphor is used to fulfil different 'dominant functions' according to the genre in which it is found, it nonetheless fulfils a range of functions in each genre. She gives the example of metaphor in scientific articles, where metaphor is (unsurprisingly) used to explain new concepts, but is also used to persuade and even add humour at times. Her findings suggest that metaphor has the potential to be, and is, used for a multitude of purposes and it is thus unsurprising that it is so frequent in discourse.

Semino's (2008) research addresses the discursive functions of metaphor, but a further factor that goes towards explaining the relatively high metaphoric densities in discourse that Steen et al. (2010) noted is that much of everyday, conventional language is metaphorical. The senses of many metaphors have become so conventionalised that the casual observer may not perceive them as metaphor, and indeed Black (1993:25) claims that such a 'so-called dead metaphor is not a metaphor at all'. Lakoff and Turner (1989a) on the other hand, place great importance on these highly conventionalised metaphors, as they form the evidence for the conceptual metaphors in thought described above. For Lakoff (1987), the term 'dead' is applicable only to those metaphors whose conceptual and/or linguistic mappings are no longer used. The term 'pedigree', for example, was originally the linguistic instantiation of a conceptual mapping between a crane's foot (*pie du grue*, in French, *pedegru* in Middle English) and the design of a family tree. This conceptual mapping no longer is accessible to most language users, and neither do English speakers use the French term to refer to a crane's foot, so 'pedigree' would be an example of a dead metaphor in Lakoff's terms. Similarly, while a term like 'comprehend' has its roots in the Latin 'comprehendere', meaning 'to grasp' both physically and mentally, it is only used to refer to understanding today. The underlying conceptual metaphor UNDERSTANDING IS GRASPING is still commonly used, but is no longer related to the term 'comprehend'. Conventional metaphors, on the other hand, are polysemous, with their original and metaphorical meanings commonly used, the links between them discernible (Nacey, 2013). These conventional metaphors are the most frequent form of metaphor; 'an estimated 99% of all metaphor-related words have their metaphorical sense described in contemporary language users' dictionaries' (Steen, 2013: 51). Metaphor's frequent appearance in language is also due

to the fact that many conventionally-used words are the result of metaphorical meaning extension of more basic senses (Taylor, 2002).

1.1.2   Classifying Metaphor

Far from being a mere rhetorical device, therefore, metaphor is a key facet of language. However, it has been noted by numerous researchers that 'some metaphors are more metaphorical than others' (Hanks, 2006: 17). Some metaphors, as has been shown, are highly conventional and would possibly not be considered metaphorical at all by the majority of language users, being 'just one more kind of normal use of language' (Hanks, 2006: 17). Others, however, are more creative. Deignan (2005: 34) uses the following phrases to exemplify this point:

(1) She must *espouse* the everlasting sea. (Wordsworth *The Extinction of the Venetian Republic*, cited in Kittay 1987: 259)

(2) He *attacked* every weak point in my argument. (Lakoff & Johnson 1980: 4)

(3) Freddie's life has been *dogged* by love troubles. (Bank of English)

(4) ...an *ardent* lover. (Bank of English)

(5) You're *making* a serious mistake. (Bank of English)

She notes that example (1) would probably be considered highly metaphorical by most readers, as 'she' here relates to the city of Venice, an unconventional target domain. However, examples (2) and (3) are conventionally used in these contexts, and so would probably not be considered highly metaphorical. Similarly, *ardent* only ever appears in the context of example (4), but historically would have been considered a metaphoric extension of the basic sense meaning 'burning'. (It should be noted that the

methodology used in the current study would not class *ardent* as being metaphorically used, as there is no current basic sense to refer back to). Finally, *making,* in example (5), is an example of a delexical verb which would probably not be considered metaphorical by many language users.

From these observations, Deignan (2005: 39) proposes the following model of metaphor classification:

Types of metaphorically-motivated linguistic expression	Example
Living metaphors	
1. Innovative metaphors	…the *lollipop* trees He held five *icicles* in each hand (*icicles* = fingers)
2. Conventionalized metaphors	The wind was *whispering* through the trees *Grasp* (of understanding) (spending) *cut* There is no *barrier* to our understanding
3. *Dead metaphors*	*Deep* (of colour) *Crane* (machine for moving heavy objects)
4. *Historical metaphors*	*Comprehend, pedigree* *ardent*

Table 1.1 Deignan's (2005: 39) model of metaphor classification

However, she notes that the boundaries between these categories are not clear-cut, and different speakers may disagree on the appropriate categorisation.

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Similar categorisation schemes have been proposed by Goatly (2011) and Gentner and Bowdle (2001). Goatly's scheme splits conventional metaphors into four categories: tired, sleeping, dead and buried, as shown below:

Classification	Example	Description
Dead	*Germ,* a seed *Germ,* a microbe *Pupil,* a student *Pupil,* opening in the iris of the eye	Examples where the connection is too distant to be recognised by most speakers, or the non-metaphorical sense is rarely used. Homonyms.
Buried	*Clew,* a ball of thread *Clue,* a piece of evidence	As above, but the two senses are formally different.
Sleeping	*Vice,* a gripping tool *Vice,* depravity *Crane,* a bird *Crane,* a machine for moving objects	Metaphorical meaning is conventional. Literal meaning is also still in use. Polysemous.
Tired	*Cut,* an incision *Cut,* a budget reduction *Fox,* a mammal *Fox,* a cunning person	As for 'sleeping', but the metaphorical sense is more likely to evoke the literal sense. Polysemous.
Active	*Icicles,* rod-like ice formations *Icicles,* fingers. ('He held five icicles in each hand', Larkin).	The metaphorical sense requires the literal sense to be evoked to be understood. No established lexical relationship between the senses.

Table 1.2 Goatly's model of metaphor classification, adapted from Goatly (2011: 31-35) and Deignan (2005: 38).

Goatly's model is problematic for two reasons. The first is that a key factor in categorising examples of metaphor is how they are processed, i.e. the extent to which they evoke the literal sense. Given that the metaphoricity of a word may vary among

different speakers (Cameron, 2003, Cameron and Deignan, 2003) this is very difficult to identify and operationalise (Deignan, 2005, Nacey, 2013). Second, there may be some disagreement as to the relationship between the senses he gives as examples. The Metaphor Identification Procedure (Pragglejaz, 2007, see also Chapter Two) would not consider the two senses of *pupil*, *vice* or *crane* that Goatly proposes as metaphorically related, as the senses are too semantically distinct. This is partly due to the fact that this identification procedure does not take shared etymology into consideration, but here again, Goatly's scheme lacks consistency. The two senses of *pupil* are etymologically linked, while the 'depravity' and 'tool' senses of *vice* are not (Deignan, 2005: 38).

Gentner and Bowdle (2001: 229-230) present a four-fold typology encompassing novel, conventional, 'dead$_1$' and 'dead$_2$' metaphor. Novel metaphor, such as *glacier* in the phrase '*Science is a glacier*', occurs when a term is used that has a literal sense but no related metaphorical sense (which in this case would be something like 'anything that progresses slowly but steadily'). Conventional metaphors have both a literal and a related metaphorical sense: they give the term *blueprint* as an example, which is both 'a blue and white photographic print in showing an architect's plan' and 'anything that provides a plan'. 'Dead$_1$' metaphors occur when the two senses are no longer semantically linked: *culture* in 'a university is a culture of knowledge' could be metaphorically linked to the literal sense 'a preparation for growth', i.e. *bacteria culture*, but the meanings no longer seem related. 'Dead$_2$' metaphors, on the other hand, are those where the original sense no longer exists. *Blockbuster*, for example, means 'anything that is highly effective or successful'; its original meaning relating to a bomb that could demolish a whole block of a city is no longer used. While it is difficult to

operationalise these distinctions in metaphor research, they are important because they have significant implications on the way in which metaphors are processed, a question to which we now turn.

1.1.3 Metaphor Processing

Because this study focuses on the written language production of learners, it is not possible to draw any firm conclusions on the ways in which they are processing the metaphors they use. However, despite the fact that metaphor processing is not therefore explicitly addressed in this study, it is worth introducing some of the main theories in the area. This is because current theories on the topic suggest that metaphors are processed differently according to their conventionality, and that a language user's personal experience of a metaphor is also likely to have a significant effect on the way in which it is processed. This will become particularly relevant in Chapter Five, which investigates the conventionality of metaphor more specifically and its implications for defining and measuring metaphoric competence.

The processes by which metaphors are interpreted and understood remain a matter of controversy, with a number of models having been proposed. Gibbs (2001, Gibbs and Colston, 2012) reviews many of these models, some of which are introduced below.

1.1.3.1 The Standard Pragmatic View - Literal-first model

The literal-first model proposed that a literal interpretation of a metaphor will always be activated first, and a figurative interpretation will only proceed if the literal interpretation is shown to be inappropriate (Grice, 1989, Searle, 1993). This theory was borne out of Grice's (1989) theory of conversational implicature, or the 'standard pragmatic' view. Grice claimed that figurative processing occurs when an utterance

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appears to violate any of conversational maxims: that speakers should avoid obscurity and ambiguity, be brief and be orderly (Grice, 1989). When violation occurs, as is the case in many figurative expressions, listeners are expected to derive an alternative meaning that is appropriate for the context. This theory was supported by the results of various studies showing that figurative interpretations of expressions are harder than literal interpretations, when placed in a neutral context or lacking in rich context (Inhoff et al., 1984, Ortony et al., 1978).

However, such a theory has been significantly challenged by experimental evidence suggesting that in certain cases, a figurative interpretation is processed as quickly as a literal interpretation. For example, in Glucksberg et al.'s (1982) study, participants were asked to judge whether a set of statements were true or false and their response times were measured. Participants were shown to take significantly longer to judge simple metaphorical statements such as *some jobs are jails* as false than they did to interpret so-called 'scrambled' metaphors such as *some jobs are snakes.* These findings were interpreted as showing that the participants were automatically aware of the metaphorical interpretations of such sentences, which produced a conflict: with the metaphorical interpretation automatically activated, the statements could be considered true even if their literal interpretations were false (Glucksberg et al., 1982).

Further evidence against the literal-first model was advanced by an experiment in which participants were required to judge whether a string of words was meaningful (McElree and Nordlie, 1999). No differences were found in the judgement times of literal and figurative phrases. If literal interpretations were being activated first, figurative phrases would be expected to produce longer reading times. Similarly, participants in Blasko and

Connine's (1993) study were given familiar metaphors before being asked to decide whether a letter string was a word. These letter strings were either literally related to the metaphor they had read, metaphorically related, or unrelated as a control. Reading a conventional metaphorical phrase rendered participants immediately able to discern both literally and metaphorically related target letter strings as words. This suggests that both the literal and figurative interpretations were activated, with the literal sense not being accessed prior to the figurative sense.

1.1.3.2 The Direct Access Model

After psycholinguistic research had indicated that 'the traditional view of figurative language as *always* requiring additional cognitive effort to be understood [had] little psychological validity', (Gibbs and Colston, 2012: 63), an alternative model was proposed. The direct access model claims that figurative senses can be activated first given a suitably supportive context favouring a figurative interpretation. Such a model would explain the results of studies that showed 'e.g., equal reading times of utterances embedded in literally and nonliterally biasing contexts... and shorter reading times for utterances embedded in idiomatically versus literally biased contexts' (Giora, 1999: 920), such as Gibbs (1980), which shows that idioms are read faster given an idiomatically biasing context. Similarly, Vu, Kellas and Paul's (1998) study showed that with sufficient context, the appropriate meaning of an ambiguous word was activated exclusively, even if it was a less frequent meaning than a contextually inappropriate interpretation.

1.1.3.3 The Graded Salience Hypothesis

Through the graded salience hypothesis, Giora (2003) proposes that whether a meaning is literal or figurative is not the deciding factor in when or if it is activated. Instead, it is

the meaning's *salience* which determines its activation. Thus, comprehension of a lexical item proceeds according to two mechanisms. The bottom-up mechanism is sensitive to linguistic information, while the top-down mechanism is sensitive to both linguistic and extralinguistic contextual knowledge. The graded salience hypothesis assumes that 'more salient meanings – coded meanings foremost on our mind due to conventionality, frequency, familiarity or prototypicality – are accessed faster than and reach sufficient levels of activation before less salient ones' (Giora, 2003: 10). This has significant implications for metaphor processing, as it depends heavily on the listener's own experience of the word.

As a top-down mechanism, context also has an important role to play in aiding listeners or readers to derive the appropriate meaning, although to do so also requires the appropriate meaning to be sufficiently accessible, or salient, in the listener or reader's mind. For example, a computer expert will probably immediately access the technological meaning of the word *window* in a text about computers, whereas a novice may activate the literal meaning first, as this meaning would be more accessible. Context may also prime the reader, making it easier for them to activate a particular meaning of a word. For example, the word *money* in the phrase 'I needed money, so I went to the bank' may facilitate activation of the 'financial institution' meaning of *bank* (Giora, 2003: 22). However, the graded salience hypothesis claims that the two mechanisms run in parallel, with salient meanings being processed regardless of contextual information.

As it relates specifically to metaphor processing, the Graded Salience Hypothesis

> predicts that, given a similarly supportive context, literal and figurative interpretations will
>
> involve similar processes in case they are similarly salient (i.e., coded in the mental lexicon and
>
> enjoying similar familiarity, frequency, conventionality, or prototypicality) (Giora, 2003: 105)

Experimental evidence in support of the graded salience hypothesis has been proposed through various methods. In Giora and Fein's (1999) study, participants' reading times were recorded as they read familiar and unfamiliar metaphors, each in both metaphorically biasing and literally biasing contexts. They hypothesised that in the case of familiar metaphors, both the literal and the figurative interpretations would be activated in both types of context, due to the fact that both interpretations had a high degree of salience. The results bore out this hypothesis, as there was no significant difference in reading time between the contexts. Response time experiments can also provide insights into language processing. For example, the graded salience hypothesis would predict that participants asked to decide whether a letter string was a word would react faster to words related to salient meanings, given a supportive context (Giora, 2003). This would be irrespective of whether these words were metaphorical or literal due to the equal salience of both meanings. Blasko and Connine's (1993) study, introduced above, showed how both literal and figurative senses were activated, due to the participants' ability to immediately discern both literally and metaphorically related target letter strings as words. As both senses were salient due to the conventional nature of the metaphors used, this study reinforced the theory that salient meanings are always activated regardless of their literal or metaphorical status.

However, one potential problem with the study was due to the fact that the literal target words in the metaphorical expressions could have primed the metaphorically-related test words rather than the metaphor itself (Giora, 2003). For example, one familiar metaphor given to participants was *freedom is truth,* after which they were given the words *liberty* as a metaphorically related target, *honesty* as a literally related target, and *inaugural* as a control (Blasko and Connine, 1993: 307). The participants' ability to discern the metaphorically related target string as a word may not have been an indicator of metaphorical meaning activation following their encounter with the initial phrase, but of priming following the use of the word *freedom.*

Nonetheless, further experiments have provided similar results without such a drawback. Williams (1992) administered lexical decision tasks to participants using polysemous adjectives. These often corresponded to conventional metaphors: the prime *firm*, for example, had as its targets its literal meaning *solid* and its metaphorical meaning *strict* (Williams, 1992: 198). Each adjective was presented in a context that favoured a literal or a metaphorical interpretation. Participants were presented with all but the last four words of the sentence, whereupon they pressed a button to be shown the last four words, one at a time, for 250 milliseconds each. The target word was then shown in capital letters, and the time participants took to decide whether it was a word was measured. For example, participants would be shown a sentence such as 'The couple wanted a bed that was firm' followed by the target word STRICT (a 'noncentral', or metaphorical, target related to the prime, *firm*) (Williams, 1992: 198). The experiment was then repeated with delays of 750 and 1100 milliseconds. 'Polysemous adjectives were found to prime targets related to their contextually irrelevant uses even at delays

of up to 850 msec after offset' (Williams, 1992: 202), meaning that the salient meanings of conventional metaphors were activated straight away, irrespective of context.

It should also be noted at this point that multiword phrases can also have greater or lesser degrees of salience. The idiomatic meanings of formulaic sequences such as *kick the bucket* have been shown to be activated faster when the context favours an idiomatic interpretation (Gibbs, 1980). This suggests that some phrases may have salient meanings that are activated alongside the meanings of their constituent parts. This has implications for metaphor use, as once a metaphorical collocation is acquired, 'the salience of the collocation is at least as high as the salience of the collocates when viewed independently', implying that metaphoricity may become less salient to a language user when it occurs in a conventional collocation (Philip, 2011: 25).

1.1.3.4 Semantic Underspecification

A further theory advanced to explain metaphor processing is that of semantic underspecification. This theory is similar to the graded salience hypothesis, in that neither model assumes that either literal or figurative senses have priority in activation. However, the semantic underspecification theory departs from the graded salience hypothesis as it does not consider the activation of all salient meanings to be likely. Instead, it proposes that only one meaning is initially activated, a meaning which 'does not correspond to any particular sense, but is rather compatible with all senses. In other words, it is underspecified' (Frisson and Pickering, 2001: 158). Contextual information is then used to arrive at the required sense. While Frisson and Pickering's research focuses on metonymy rather than metaphor, their results are equally valuable in discussions of metaphor processing.

Evidence for semantic underspecification can be gained from eye tracking studies. Frisson and Pickering (1999, 2007) used eye tracking to compare processing times for literal and well-known (i.e. conventional) senses of polysemous words: place-for-institution and place-for-event metonymies in the 1999 study, producer-for-product metonymies in 2007. They found that reading times did not differ, even though the metonymic senses were lower in frequency. Such a result was incompatible with models of semantic processing that assume that either the literal or figurative senses of a word are activated first, as a difference in reading times would be noted were that the case (Frisson and Pickering, 2001). Similarly, the fact that the metonymic senses were less frequent suggested that activation of senses does not proceed on the basis of frequency.

A further possible explanation for these results is that all senses are activated at the same time, the 'unranked parallel model' (Frisson and Pickering, 2001: 158). However, such a theory does not seem plausible due to the potentially vast number of senses that would need to be activated. If this were the case, words with more possible senses would register longer processing times, but this is not so; eye-tracking results suggest no difference in processing speed between polysemous words and controls (Pickering and Frisson, 2001).

1.1.3.5 Activation of metaphoric meanings

The models introduced above have sought to explain how figurative meanings are processed in relation to literal meanings, but it is also worth briefly exploring how metaphoric meanings specifically are activated. While proponents of conceptual metaphor theory assert that metaphor involves a relationship of comparison between

two unrelated domains, alternative viewpoints have also been proposed. Conceptual integration theory (Fauconnier and Turner, 1998), for example, posits that a third domain comes into play in metaphor processing. This third domain contains a 'blend' of associations from the source and target domains of the metaphor, with the meaning thus emerging from this blend.

An opposing viewpoint is proposed in the 'class-inclusion model,' which introduces a superordinate category which contains attributes from both the source and target domains of the metaphor (Glucksberg and Keysar, 1993). For example, when somebody refers to their job as a 'jail', both jobs and jails are considered to belong to a superordinate category of things that are unpleasant, difficult to escape from and so on. Metaphors are thus understood through a process of categorisation, not comparison.

The 'career of metaphor' theory (Bowdle and Gentner, 2005, Gentner and Bowdle, 2001), on the other hand, can be considered to bridge the gap between the opposing poles of categorisation and comparison. It posits that metaphor processing may involve both comparison *and* categorisation depending on the metaphor's conventionality, and that metaphor interpretation thus proceeds along a cline between the two processes. Novel metaphors will be interpreted as comparisons, but 'as metaphors become increasingly conventional, there is a shift in mode of processing from comparison to categorization' (Gentner and Bowdle, 2001: 231).

To summarise, while there is controversy surrounding how metaphor is processed, the metaphor's conventionality and its personal salience to the user is likely to play a significant role. These theories will become significant later on in this thesis, in

particular in Chapter Five which investigates the question of conventionality in more detail.

1.2 Metaphor use by L2 learners

This section introduces research into metaphor use by language learners more specifically.

1.2.1 What use do learners make of metaphor?

It stands to reason that if metaphor is such a significant part of language, it is important for learners of English to engage with it and learn to produce it. However, metaphor has been shown to pose problems for language learners. In terms of comprehension, for example, they can find it difficult to identify which aspects of the source domain are conventionally transferred onto the target domain, which can lead to errors in comprehension and production (Littlemore, 2001a). Littlemore (2001a) and Low, Littlemore and Koester (2008), for example, analysed the use of metaphor in three academic lectures. Both studies showed metaphor use to be highly prevalent, and Littlemore's (2001a) study also showed the difficulties non-native speakers of English encountered in understanding the main points of the lecture and the speaker's own stance on them, because of the high incidence of metaphor use.

However, there is a relative paucity of research in the area of production (Littlemore and Low, 2006b, MacArthur, 2010), possibly due to the fact that 'foreign language learners probably need to understand metaphor more often than they need to produce it' (Littlemore and Low, 2006b: 46). There are, however, some notable exceptions. Danesi (1995) compared the metaphoric densities in writing produced by thirty Canadian learners of Spanish to that of similar pieces produced by five native Spanish speakers,

finding that the average metaphoric density for the native speakers was over 80% higher

than that of the learners. However, Danesi's research was conducted prior to the

development of an empirical metaphor identification procedure. He counts

metaphorical sentences, not individual words, and while he defines a metaphoric

sentence as 'a token or instantiation of the underlying conceptual system', he provides

no explanation of how this underlying conceptual system should be identified (Danesi,

1995: 12, Nacey, 2013). Alejo's (2010) investigation of phrasal verb use by learners has a

metaphorical component, as he emphasises that many phrasal verbs are underpinned

by conceptual metaphor. The particles or adverbial prepositions that accompany the

verbs can frequently be traced back to a more basic, contemporary use as spatio-

temporal adverbs. As will be seen, the metaphor identification procedure that will be

used in this study uses the existence of a more basic, related meaning in another context,

such as this, as a criterion for a lexical item being metaphorically used. Alejo's research

compares the production of phrasal verbs containing *out* by students with verb-framed

and satellite-framed native languages. Satellite-framed languages are those which give

precedence to the manner of movement, expressing it within the verb and expressing

direction through the use of a preposition. English is an example of this. However, in

verb-framed languages, such as Spanish, the direction of movement is expressed within

the verb, while the manner is expressed in a modifying expression (Taylor 2002: 428).

He found that satellite-framed language native speakers used more *out*-PV tokens than

verb-framed language native speakers, when *out* is used both literally to convey motion

and when the meaning of *out* is extended metaphorically. This finding also emphasises

the influence of a learner's L1 on metaphorical production; in verb-framed languages

out-PVs are non-existent, which could explain speakers' reticence to use *out*-PVs in the L2.

Kathpalia and Carmel's (2011) research also investigates learners' use of metaphor, focusing on metaphor found in conventional collocational patterns and how these are used to fulfil different objectives based on Bachman's (1990) model of communicative language ability. For their section on grammatical competence, for example, they use miscollocations to analyse learner proficiency, while when discussing textual competence, they discuss metaphor more explicitly, showing how students use figurative language to organise their texts. However, they show that their students often alter relatively fixed metaphorical phrases, leading to unidiomatic production. The authors also investigate students' use of metaphor clusters, which they define as the phenomenon by which metaphors sharing the same semantic domain are used across a section of text to provide coherence. They found that students tended to produce 'patchwork' metaphors, employing disparate source domains within paragraphs. Similarly, MacArthur (2010) found that students were often reticent to develop metaphor, using a single metaphor then abandoning it. This is likely to be a problem for learners aiming to produce fluent, native-like language, as figurative language often occurs in clusters, many of which are based on a single root metaphor (Cameron and Stelma, 2004, Corts and Meyers, 2002, Corts and Pollio, 1999). In terms of textual competence, Kathpalia and Carmel's results showed that 62% of textual metaphors were used incorrectly, and 23% of the texts had no attempt to use metaphor as a textual coherence device (2011: 284). In terms of illocutionary competence, the authors suggest that while learners did attempt to use metaphor for evaluative, persuasive and

entertaining purposes, they had limited success due to unidiomatic use of metaphor. Sociolinguistically, students employ conceptual metaphors that are inappropriate for the intended audience, as the task prompt was to write a speech for an international audience. They refer to specific cultural and religious knowledge that would not be shared, and have difficulties selecting the correct register for a formal speech. However, only 19% of the texts were shown to exhibit these problems, so it is not considered a serious difficulty for learners. The authors conclude by agreeing that fluent language production necessitates correct use of figurative language that is based on conceptual metaphors that are shared across cultures.

MacArthur's (2010) study focuses primarily on the status of metaphor in EFL teaching, but she does offer some interesting insights into metaphor use taken from examples of writing from advanced Spanish learners of English. While all the learners do employ metaphor, they vary in the amount and type of metaphor used. Some students, for example, rely on conventional English metaphors or calques of Spanish metaphors, while others use more novel or extended examples. She notes that the variation observed in students' metaphor use is a reflection of the variation in the students themselves, alluding to the potential difficulties involved in teaching metaphor.

The studies cited above investigate metaphor in conjunction with other aspects of linguistic competence or language teaching, and it is only recently that research aiming to provide an overall quantitative picture of metaphor use by learners of English has been conducted. Nacey's (2013) book-length treatment of the subject compares the use of metaphor in the written English of Norwegian learners with metaphor usage by native English speakers. She uses a rigorous identification procedure to annotate each

individual lexical item of a 40,000-word corpus using data from the Norwegian subset of the International Corpus of Learner English and the Louvain Corpus of Native English Essays. In comparing the metaphoric densities of Norwegian learners actually used more metaphor than their native-speaker peers: 18% versus 16.7%. This is accounted for by the fact that the Norwegian students produced more novel metaphor, while the metaphor used by the native speakers was more conventional and entrenched. For the Norwegian learners, however, these novel metaphors were often the inadvertent results of errors in closed-class metaphor use, although a preposition's metaphoricity did not appear to contribute to its likelihood to be erroneously used.

While Nacey's (2013) study used learner texts of more or less the same (advanced) level to facilitate comparison with native-speaker produced texts, Littlemore et al. (2014) focus explicitly on figurative language development in learners of English. Essays produced by Greek and German learners of English across different levels were extracted from the Cambridge Learner Corpus, and the amount of metaphor produced at each level was calculated along with the proportion of correct usage. The metaphors were then analysed qualitatively to investigate the functions that students were using metaphor to perform. Metaphor usage was shown to increase as students progressed through the levels, and it was used to perform progressively more sophisticated functions. However, error rates involving metaphor remained significantly higher than general error rates, even at the higher levels, and L1 transfer was seen to have an effect on metaphor-related errors (Littlemore et al., 2014).

1.2.2 Why might learners experience problems using metaphor?

The results from the studies above seem to call into question Danesi's (1992) assertion that learners tend to avoid using the metaphorical senses of words. Taken as a whole, the studies seem to indicate that learners do use metaphors, but they use them in different ways, fail to develop metaphors to their full potential, or use them erroneously. Littlemore (2009) proposes two possible explanations for this, the first being that the metaphorical language in their input is somehow less salient to them, so they do not notice it, the second being that while they comprehend the metaphorical senses, they lack the confidence to use them correctly. The way that metaphorical mappings vary across languages is also likely to pose problems for learners, as 'each language has its own metaphorical and figurative system which is not compatible with the metaphorical system of another language' (Kecskes, 2000: 147). For example, while English speakers 'make money', Russians 'work for money' and Hungarians 'look for money' (Kecskes, 2000: 147). The very conceptual domains underlying the metaphorical representations can also differ. Many metaphorical idiomatic phrases in English are taken from the domain of sailing, for example, while French discourse often makes use of figurative idioms from the source domain of food (Boers et al., 2004). Conceptual representations of emotion can also differ across languages. Research into different languages' construal of anger, for example, has suggested that although English, Chinese, Japanese and Hungarian all conceptualise anger as a 'substance' inside a 'container' (the human body), the ways in which this basic representation are elaborated differ. In Japanese, for example, the stomach or bowels are the conventional 'container' for anger, which is represented as a 'hot fluid' similarly to English (and Hungarian) (Kövecses, 2000, Lakoff and Johnson, 1980). However, Japanese metaphorical expressions of anger do not have

to involve the 'hot fluid' dimension, leading to such expressions as *hara ga tatsu*, literally 'stomach to stand up', meaning 'to get angry' (Kövecses, 2000: 163). In Chinese, anger is based on the cultural idea of *qi,* energy, which is represented as a fluid or gas flowing around the body. Anger is conceptualised as having excess *qi*, leading to phrases such as *qi yong ru shan*, 'one's *qi* wells up like a mountain', or *yuji zai xiong de nuqi zhongyu baofa le*, 'the pent up anger *qi* in one's breast finally explodes' (Kövecses, 2000: 163). *Qi* is not regarded as having a particular temperature, unlike the liquid in English, Japanese or Hungarian. However, its build-up produces pressure in the body, which can lead to an 'explosion'; when the individual has calmed down, they are referred to as *ping xin jing qi, '*having a level heart and quiet *qi,'* (Kövecses, 2000: 164), meaning that the pressure has been released and the *qi* is flowing normally again. While these differences may seem minor, they represent different cultural representations of anger which could very well lead to difficulty on the part of learners of English to use 'native-like' English expressions, as these expressions would be manifestations of a representational schema different to that of the learner. In terms of comprehension, certainly, learners of English have been shown to be more likely to be able to correctly identify the meaning of English idioms that use a source domain that is also more salient in their native language (Boers and Demecheleer, 2001).

Even in cases where a conceptual metaphor is shared between languages, however, the linguistic instantiations of that metaphor may differ. English and Polish both share the conceptual metaphor IDEAS ARE FOOD, for example, but it gives rise to different expressions in the two languages. While an English speaker may use the phrase 'half-baked' to describe an idea that has not been well thought-out, for instance, a Polish

speaker may use *niedojrzałe,* 'unripe' (Deignan et al., 1997: 354). Different languages may also metaphorically extend word meanings in different ways; while English speakers may 'grill' people for information, Polish speakers use *maglować,* or 'mangle'. While this may be intelligible to an English speaker, the conventional metaphoric meaning of 'to mangle' expresses the idea of 'not speaking or writing clearly', so its use in the context of interrogation is likely to be marked (Deignan et al., 1997:354).

In terms of production, then, learners seem to retain the conceptual systems of their native language, which leads them to be able to produce 'native-like' texts when the ways of structuring concepts in the target and source language coincide, but not when there is a difference (Danesi, 1992). The ability to accurately use the conceptual structures of the target language is referred to as *conceptual fluency,* and has been advanced as a reason why student writing can demonstrate a high level of *verbal fluency,* or grammatical and lexical knowledge, but still seem to inadequately convey the concepts they are seeking to address (Danesi, 1992: 490). Research on language learners' writing has further indicated that 'Errors that are the most disruptive of comprehension are conceptual (meaning-based), rather than strictly "form-based" (phonological, syntactic, etc.) or communicative (interactive and strategic)' (Danesi, 2008: 232), which further indicates the importance of learners' ability to use metaphor.

Learners may also avoid using metaphor due to their own individual differences. Knowledge of the ways in which the target culture conceptualises the world figuratively is clearly a vital aspect of language learning, but pragmatic knowledge is developed by choice (Kecskes, 2000). Research into students' use of situation-bound utterances suggests that learners have 'favourite' expressions which they will use more than others,

despite knowing a variety (Kecskes, 2000). Use of metaphor from the target language is therefore also tied to issues of identity. Taking insights from research into English as a Lingua Franca (ELF), for example, speakers frequently 'assert and communicate their own identities,' using language 'creatively and "subversively" rather than mimicking native speakers of English' (Seidlhofer, 2009: 239). Furthermore, language learners are not always concerned with 'calling up elements of a foreign language as they were learnt at school and pressing them into service as "correctly" as possible in a quasi-display of successful, i.e. "error-free", "learner language"' (Seidlhofer, 2009: 242). Instead, their focus is on expressing meaning in a fashion that is appropriate to the communicative context and the interpersonal dynamics. While Seidlhofer is mainly focusing on spoken language, her work does encourage researchers in all areas of second language development to think about exactly what constitutes 'competence' and 'development' in second language production. She argues that it is incorrect to assume that learners of English are always learning to conform to established norms, and that therefore errors are deviations from those norms (Seidlhofer, 2008). She maintains that these so-called 'norms' are ever-changing, and as people use language in different ways to meet their own needs, so the language itself is altered. We are thus presented with somewhat of a dilemma; the use of metaphorical language proceeding from a conceptual representation particular to the target language may be a matter of learner choice (Kecskes, 2000) as well as one of knowledge or confidence in doing so (Littlemore, 2009). This choice may reflect a learner's desire to distance themselves from the target culture as represented by its language, and to retain their own identity (Seidlhofer, 2009), even when this could lead to misunderstanding (Danesi, 2008). Research into competence in the use of metaphor, therefore, should proceed with this in mind.

Cognitive style may also play a role in a learner's ability in or predilection towards using metaphor. Field dependence-independence (FDI) is a cognitive style that impacts upon an individual's mode of processing, 'especially in situations characterized by ambiguity or cognitive conflict', both features of figurative language (Johnson and Rosano, 1993: 160). Field-dependent individuals tend to rely on external information, while field-independent individuals tend to function 'in relative autonomy' from external sources (Johnson and Rosano, 1993: 160). A correlation was found between fluency in producing interpretations of metaphor and field-dependent cognitive style in adult ESL learners (Johnson and Rosano, 1993). Similar evidence for the relationship between cognitive style and approaches to metaphor was found when using Riding and Cheema's (1991) analytic/holistic and verbalizer/imager continua (Boers and Littlemore, 2000). In short, when asked to solve a problem, a more 'analytic' individual will focus on the problem's constituent parts while a more 'holistic' individual will focus more on the whole picture. In terms of the verbalizer/imager continuum, verbalizers think more in words, whereas imagers prefer to think in pictures. When participants were asked to explain three common conceptual metaphors, 'holistic' participants were significantly more likely to refer to elements that were not strictly part of the source domain, but instead were related to their conceptualisation of the target domain. For example, for the ECONOMIC COMPETITION IS RACING metaphor, one participant explained that economic competition was described in terms of racing because 'it is a merciless jungle where only the fittest survive' (Boers and Littlemore, 2000: 182). In terms of the verbalizer/imager continuum, 'imager' participants were significantly more likely to explain the conceptual metaphors by referring to metonymy grounded stereotypical images, i.e. 'Economic competition is like racing because business people are always in a

hurry to get to new customers first' (Boers and Littlemore, 2000: 181). While these studies focus exclusively on comprehension, it seems reasonable to assume that individual learners' cognitive styles would also have an impact on their aptitude and eagerness to use metaphor.

1.2.3 Why is metaphor awareness important for language learners?

It has already been shown that figurative language has been shown to be very frequent in discourse, and it is therefore very important for learners to engage with it. However, raising learners' awareness of metaphorical aspects of language has also been shown to benefit their use of other aspects of language. As early as 1993, fluency in metaphor comprehension was shown to correlate with overall language proficiency (Johnson and Rosano, 1993). Later, Kövecses and Szabó (1996) show how many common idioms are based on underlying conceptual metaphors or metonymies. They use this knowledge to inform the teaching of English idiomatic phrasal verbs, showing that when students were made aware of the conceptual metaphors informing them, they performed better in a subsequent gap-fill exercise. Similarly, students who were presented with vocabulary notes highlighting the metaphoric motivations behind various expressions were significantly more likely to be able to replicate those expressions than those who did not (Boers, 2000). These findings are in keeping with those of Condon (2008), who investigated the retention of phrasal verbs in two classes of learners, each split into an experimental group who had been introduced to the metaphoric motivations behind phrasal verbs, and a control group who had not. The experimental group in one class performed significantly better than the control, but this was not the case for the other class. This was explained by the fact that this class participated in the experiment in their last class of the day, and were likely too tired to devote the cognitive resources

necessary to the task of internalising the motivations. Awareness-raising activities have been shown to have a positive effect on lexical development, too. In Boers et al.'s (2004) experiment, students who were encouraged to think of the source domains from which various figurative idioms were taken before completing gap-fill exercises outperformed those who did not engage with the source domains. Exploring metaphorical and metonymical meaning extensions of words also helps learners to use polysemous items, by enabling them to link the different meanings (Lowie and Verspoor, 2003). MacArthur and Littlemore (2008), for example, report the results of a study wherein Spanish learners of English were asked to predict what a set of nouns would mean if they were used as verbs. The students then compared their predictions with the verbs found in the BNC, before completing a gap-fill task one week later to test their retention of the items. Having used corpus data to work out the figurative meanings of concrete verbs for themselves, the students were more likely to correctly use them in the subsequent gap-fill exercise.

While these studies seem promising in terms of the positive impacts of metaphor awareness on learner progress, this area could benefit from further research to respond to some of their limitations. Studies such as these are often by necessity small-scale, due to their cost in both money and time, so the extent to which the findings can be generalised across larger groups of learners in different learning situations is questionable. As Boers (2013) notes, the range of studies undertaken on the topic often present the target vocabulary out of context, which represents a somewhat radical departure from the usual teaching situation. Furthermore, any improved retention observed in learners taught using such awareness-raising exercises could be attributed

to the fact that the vocabulary tends to be presented in smaller 'chunks' to the experimental groups, while the control groups often receive long, ungrouped lists of vocabulary (Boers, 2013). Such studies rarely measure long-term retention of the items, neither do they ascertain the extent to which the learners are actually comfortable with producing the target phrases thereafter. Further research could usefully respond to these limitations to afford a clearer view of the ways in which exercises designed to improve metaphor awareness benefit the learners. However, despite these limitations, such exercises do seem to be beneficial to learning and retention, and metaphor awareness can therefore be considered to be an important skill for learners (Boers, 2011, Boers, 2013).

Metaphor, therefore, should not be seen as isolated from other areas of language and linguistic competence. Not only is it found in the most conventional of lexis, it also motivates grammatical structure and can be used to fulfil a wide range of functions. For learners, increased metaphorical awareness also impacts upon the development of other aspects of competence. For MacArthur (2010), explicit teaching of metaphor in the EFL classroom would not only improve learners' expressive ability, it would also present a more 'interesting and flexible' way for learners to view language; a way that focusses on improved expression by using words they already know in novel ways (2010: 246, 248). She suggests that developing students' knowledge of the words they are already familiar with, including their figurative meanings, collocations and semantic prosody, will extend the range of topics a learner can engage with, and the accuracy with which they do so (2010: 249). Such conceptualisations of metaphor are in keeping with views of language as a 'dynamic system'.

1.2.3.1 *What is Dynamic Systems Theory and how might it be useful in investigations into metaphor use?*

Theories of language and L2 development as dynamic systems grew up as a response to views of language processing associated with the Information Processing model. These views suggested that an individual will follow a fairly linear path of development in the acquisition of their first language, and that an L2 learner will follow a similar path regardless of their native language (De Bot et al., 2007a: 7). However, further studies suggested that the development of a second language involves the complex interplay of a variety of variables in the language system, social/environmental and cognitive systems of the learner (De Bot et al., 2007a). However, while many paradigms, cognitive linguistics, functional linguistics and emergentism among them, agree on the importance played by the interaction of multiple variables, there was no one approach that accounted for 'these ever interacting variables, non-linear behaviour, and sometimes unpredictable outcomes' (De Bot et al., 2007a: 7). De Bot et al. (2007a) propose that while the use of DST as this approach is not without its problems to resolve, it merits exploration.

In more detail, a dynamic system is one that changes over time in a non-linear and often unpredictable fashion (Larsen-Freeman and Cameron, 2008a). All variables in a dynamic system are interrelated; a change in one will have unpredictable repercussions throughout the rest of the system (De Bot et al., 2007a). The implications of such a theory for second language acquisition research are significant. Reminiscent of Seidlhofer's work described above, it rejects the idea that in learning a language, a learner acquires knowledge that allows them to conform to an existing framework, and instead views learner development as their growing ability to adapt the resources at

their disposal to the communicative situation in which they find themselves (Larsen-Freeman and Cameron, 2008a).

A dynamic systems theory approach to second language acquisition also seeks to account for the large amount of variation found in L2 learner data (De Bot et al., 2007a). For example, some studies into the order of morpheme acquisition (such as Dulay and Burt, 1974, cited in De Bot et al., 2007a) claimed that L2 learners, irrespective of their native language, acquired English morphemes in the same way. However, subsequent studies (Larsen-Freeman, 1975, cited in De Bot et al., 2007a) did not show the same pattern of development. Such variation in learner language acquisition is unsurprising given the multiple variables that are involved in learning: teaching materials, methodology, learner's age, intelligence, aptitude, motivation, cognitive style and attitude have all been identified as variables impacting on L2 development (Skehan, 1989: 4). Larsen-Freeman was one of the first researchers to explore the potential of DST in L2 development (De Bot, 2008), and in an early article on the subject, similar to Seidlhofer, she suggested that 'Researchers' grammars containing static rules do not do justice to the ever-changing character of learners' internal L2 grammars… Indeed, the very phrase "target language" is misleading because there is no endpoint to which the acquisition can be directed' (1997: 151). Not only, then, does dynamic systems theory seek to engage with and account for variation in L2 learner data; it is also compatible with the growing socio-political concerns surrounding the teaching of English as a foreign language, as learners' production is analysed as a system in its own right, rather than as an imperfect attempt to conform to native speaker norms. Furthermore, the learner's L1 can be included as a variable in their L2 development without the analysis

being subject to the comparative fallacy, the 'mistake of studying the systematic character of one language by comparing it to another' (Bley-Vroman, 1983). Bley-Vroman extended this idea to include the comparison of a learner's interlanguage with the native language, asserting that 'the learner's system is worthy of study in its own right, not just as a degenerate form of the target system' (Bley-Vroman, 1983: 4).

In their 2008 article, Larsen-Freeman and Cameron (2008b) focus on methodological concerns in the use of a dynamic systems perspective to analyse language development from a dynamic systems perspective. Three can be identified as significant to this thesis. First, they emphasise the importance of examining a system's behaviour as a whole, not by merely examining each component of it in isolation. This motivated Research Question Two of this thesis, which hypothesises that metaphor has a close relationship to other areas of language use and seeks to explore those connections. Second, they advocate a shift away from static rules theories, to look at tendencies and patterns in the system being analysed, and how the different variables at work within it interact. Third, variability in data is not to be discounted or 'explained away'; rather, it is to be considered an important aspect in the development of the system, not "noise," but the "sound" of real life, as De Bot et al. maintain (2007a). Indeed, the times at which the system appears the most 'chaotic' are frequently those at which the system is about to change (Larsen-Freeman and Cameron, 2008b). This will be particularly relevant to this study when examining the different functions that learners begin to use figurative language to perform, and when they begin to experiment with using new metaphors to do this.

1.2.3.2 Criticism of DST

Of course, the application of dynamic systems theory to the study of language is not without its critics. Gregg (2010), for example, maintains that dynamic systems theory, originating in physics, involves complicated mathematical techniques which will have to be simplified to be of any use to applied linguists, and that in so doing, the result will give only a partial, simplified view. He criticises Larsen-Freeman and Cameron's (2008a) view that all variables should be taken into consideration indiscriminately, as he sees doing so as needless over-complicating the issue. Furthermore, he criticises the very idea of language as a complex system, accusing the authors of 'reifying an abstraction, with serious consequences' (Gregg, 2010). In his view, language is an abstract concept that cannot be limited as a 'system'. Nevertheless, Gregg does concede that it would be interesting to examine certain *aspects* of language in the light of dynamic systems theory (Gregg, 2010), and it is this that this present project aims to do.

Further criticism has been levelled at De Bot, Lowie and Verspoor's article by Ionin (2007), who takes issue with their lack of concrete methodology to examine SLA from a DST perspective. However, it could be argued that DST is not in itself a methodology, more a way of conceptualising a topic of research. As De Bot asserts,

> Whether or not DST presents a full alternative to existing cognitive theories, researchers in linguistics and language development have taken on the theory as an interesting but basically complementary approach in the study of language processing and language development (De Bot, 2008:168).

Despite these criticisms, DST is a useful framework in which to view the frequently chaotic path of L2 development. More specifically, however, as MacArthur (2010) points out, it can also be applied to metaphor's role in learner language development.

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Metaphor can be seen as one of a number of 'connected growers' (De Bot, 2008: 170), developing alongside other areas of competence, influencing them and being influenced by them in turn. Similarly, such a view of language and cognition takes into account the fact that the learners themselves are also influenced by interacting subsystems, such as their language and sociocultural backgrounds (Cameron, 2010).

1.3 'Metaphoric Competence'

It is hardly surprising that given the ubiquity of metaphor in discourse and its importance for language learners, questions should be raised as to how learners' capabilities to use and engage with metaphor can be measured. Given that one of the main aims of this study is to investigate this developing 'metaphoric competence' in two groups of learners of English, it is worth defining what 'metaphoric competence' might mean.

The notion of metaphorical competence was first explored by Danesi (1995), who proposed the concept of 'conceptual fluency' in response to a significant discussion at the time of his writing in the second language teaching environment: the debate between focusing on linguistic or communicative competence. He noted that while many second language teachers at the time were moving away from black-and-white conceptualisations of the debate into a more inclusive teaching methodology encompassing aspects of both camps, learner language production was still 'invariably characterized by an unnatural degree of "textbook literalness"' (Danesi, 1995: 4). Taking into account the assertions of the cognitive linguistics paradigm that language was a representation of underlying conceptual systems, and that metaphor played a fundamental role in these systems, he proposed that metaphorical knowledge (or lack

thereof) could go some way towards explaining 'why student discourse is often so unnatural' (Danesi, 1995: 4). Despite learner language often exhibiting high levels of verbal fluency, both grammatical and communicative, it frequently does not sound authentic due to a lack of what Danesi (Danesi, 1995: 5) terms 'conceptual appropriateness.' 'To put it another way,' he summarises, 'students "speak" with the formal structures of the target language, but they "think" in terms of their native conceptual system… What student discourse typically lacks, in other words, is *conceptual fluency*' (Danesi, 1995: 5), or 'the ability to give appropriate structural form to the all kinds of meanings, literal and non-literal that constitute the semantic system of the second [language]' (Danesi, 2008: 233). He coins the term 'metaphorical competence' to refer to a student's knowledge of conceptual domains in the target language, and his or her ability to express them in their linguistic production: 'the ability to access appropriate image schemata and source domains in the concretization of abstract concepts' (Danesi, 2008: 236). It should be noted that metaphorical competence is only a (highly significant) part of conceptual fluency; the two should not be conflated, as there are many 'concepts' which are literal and can be understood without recourse to a more concrete source domain (Kecskes, 2000).

Metaphorical competence thus goes beyond merely being able to use metaphoric expressions correctly in language. Kathpalia and Carmel (2011: 288) suggest that '[t]he pervasiveness of metaphor… suggests that L2 learners cannot attain proficiency in the target language unless they are able to *make metaphoric connections between ideas'* (my emphasis). Note that the use of metaphor described here is cognitive; metaphorical competence thus goes beyond the linguistic. Littlemore and Low (2006a) draw a similar

distinction between the linguistic and the conceptual in their definition of metaphoric competence. For them, not only does metaphorical competence include the 'knowledge of, and ability to use, metaphor' (Littlemore and Low, 2006a: 269), it also encompasses the seven 'skills needed to work effectively with metaphor' as enumerated in Low (1988: 129-135). These are as follows (adapted from Low, 1988: 129-135):

1. Ability to construct plausible meanings

   This refers to the learner's ability to reconcile apparent contradictions and semantic anomalies in phrases, with the aid of the metaphoric terms used, to achieve comprehension.

2. Knowledge of the boundaries of conventional metaphor

   Learners should be able to recognise when a conventional metaphor is being unconventionally extended, and why the speaker may be doing this. In order to do this, they should be aware that:

   - Some features of the source domain are exploited conventionally, while others are not.

   - Some source domains can conventionally map onto more than one target domain; *heat* can map onto either *love* or *anger,* for example.

   - Some source domains are more acceptable when they employ a particular word class; a river can *snake its way through the jungle*, for example, but would not conventionally be described as a *snake*.

   - Metaphor can be mixed on some occasions, but not others. While it is acceptable to mix the conceptual metaphors AN ARGUMENT IS A BUILDING and AN ARGUMENT IS A CONTAINER to produce such phrases as *the core of your paper forms a firm foundation for the new theory,* it is not appropriate to mix the source domains of A WAVE and FIRE to conceptualise ANGER by saying *a wave of anger flared up* – although mixing ANGER IS FIRE and ANGER IS A STORM to produce phrases such as *His anger flared up then abated* is acceptable.

3. Awareness of acceptable topic and vehicle combinations

4. Ability to interpret and control 'hedges'

While words such as 'metaphorically' and 'figuratively' are straightforward, others are more complex. Take, for example, the word *indeed* in the phrase 'The news… forced Australian policy makers to ponder an area of the law that is indeed embryonic'. Since the article was referring to a law regarding human embryos, which was in its early stages, the word *indeed* seems to foreground the metaphorical meaning of *embryonic* while also signalling that both senses are intended. Still more complex is the use of terms such as *genuinely* or *literally* to express the opposite; 'He literally hit the roof, he was so angry' expresses the intensity of the anger, not any suggestion that he 'literally' hit his head on the roof.

5. Awareness of 'socially sensitive' metaphors

6. Awareness of 'multiple layering' in metaphors

   Metaphors can involve multiple layers of reference, particularly in newspaper articles or advertising. The example given in this list is from an advertisement for a car: 'Seats four in comfort. Leaves the rest standing.' Here, 'leaves the rest standing' refers to a) those who would quite literally be left standing due to there being no space in the car, b) the fact that the car accelerates so fast that other car brands are left far behind, and c) the fact that the car is superior to other brands in general.

7. Interactive awareness of metaphor

   This refers to the potential of metaphor to be used confuse or obfuscate, or to the ability to maintain a metaphoric discourse when one is started.

Given the set of criteria that Low identifies, therefore, it is certainly not enough to identify metaphors in learner-produced text and take a greater metaphoric density as indicative of growing metaphoric competence. As will be shown in later chapters, this is especially pertinent given that many such metaphors are part and parcel of a growing lexicon and are not necessarily indicative of growing competence in the areas Low describes above. However, it is also very difficult to measure these areas in learner text production, as many are related to comprehension instead of production, or are more relevant to spoken language rather than written language. Indeed, in Littlemore's

(2001b: 461) summary of Low's criteria into four main components, only one is related to metaphor production. She summarises Low's criteria thus: '(a) originality of metaphor production, (b) fluency of metaphor interpretation, (c) ability to find meaning in metaphor, and (d) speed in finding meaning in metaphor.'

Metaphor has already been shown to be closely linked to other aspects of language, so it is hardly surprising that metaphoric competence contributes to numerous other aspects of linguistic competence. Littlemore and Low (2006a) and later Kathpalia and Carmel (2011) convincingly demonstrate this using Bachman's (1990) framework, which comprises language competence, strategic competence, and psychophysiological mechanisms. The latter refers to the 'neurological and psychological processes involved in the actual execution of language', including auditory, visual and neuromuscular skills (Bachman, 1990: 84). This area is not relevant to the current study and will therefore not be discussed further.

1.3.1 Metaphor's Relationship to Language Competence

Language competence refers to the specific knowledge domains used in language, as shown below.

Organizational competence		Pragmatic competence	
Grammatical competence	Textual competence	Illocutionary competence	Sociolinguistic competence
Vocabulary or variety	Cohesion	Ideational functions	Sensitivity to dialect
Morphology	Rhetorical organization	Manipulative functions	Sensitivity to register
Syntax		Heuristic functions	Sensitivity to naturalness
Phonology/graphology		Imaginative functions	Ability to interpret cultural references and figures of speech

Table 1.3 Components of language competence (Bachman 1990: 87)

Regarding the role of metaphor in each of these areas, Bachman himself refers to metaphor only in two: imaginative functions, where he gives 'creating metaphors or other figurative uses of language' as an example (Bachman, 1990: 94), and the last item of the 'Sociolinguistic competence' column, 'Ability to interpret cultural references and figures of speech'. He notes that the conventions around the use of figurative language vary among cultures and speech communities, as do the associated images upon which they are based. Production and comprehension of metaphor by non-native speakers thus necessitates a knowledge and appreciation of these cultural references (Littlemore and Low, 2006a). The role of metaphor in sociolinguistic competence could also extend

to Grice's (1975: 46) 'maxim of manner' – that a speaker should aim to 'avoid obscurity of expression, avoid ambiguity, be brief [and] be orderly' in his/her speech. Ortony's (1975: 47) 'compactness thesis' notes that metaphor provides what Gibbs (1994: 125) refers to as 'a particularly compact means of communication,' allowing a large amount of information to be conveyed in a far more compact way than literal speech does. Successful use of metaphor's textual organisation functions as introduced above could equally aid the speaker to be 'orderly'. Research into metaphor clusters in conciliation discourse has also explored the sociolinguistic dimension of metaphor in speech. 'The overall discourse purpose of conciliation is for the participants to reach across the alterity between them in order to better understand each other's perspective,' (Cameron and Stelma, 2004: 132) and indeed, in conciliation discourse the majority of metaphors were shown to be used by a speaker to present their point of view to the listener. Unlike the discourse contexts introduced above, most clusters did not arise from a single conceptual metaphor. However, at several points during the conciliation discourse, the listener would appropriate a metaphor that had previously been used by the speaker to attempt to bridge the gap between them (Cameron and Stelma, 2004). Also, metaphors would frequently be used in explorations of alternative courses of action, or scenarios that could have happened. In these cases, metaphor was successfully used to explain why each party made the choices they did, and the effects these choices had had. However, while Bachman only mentions metaphor in relation to two of the areas he identifies, it has been shown to play a role in all components of language competence (Littlemore and Low 2006).

1.3.1.1 (Lexico)Grammatical Competence

In terms of metaphor's relationship to vocabulary knowledge, metaphor has been shown to play a fundamental role in polysemy and meaning extension. The cognitive linguistics paradigm holds that the different senses of individual words constitute radial categories in which the most basic, central or 'prototypical' senses are found towards the centre of the category, and the more figurative, abstract senses lie nearer the periphery (Taylor, 2002). Metaphor thus plays an important role in meaning extension, with learners demonstrating increased depth of vocabulary knowledge as they begin to use the metaphorical senses of words. However, while the idea of radial categories is a compelling one in terms of how polysemy can be modelled, and while it has been demonstrated that learners will often fail to use the figurative extensions of words (Danesi, 1992, Littlemore, 2009), it is also important not to conflate the basic, central or prototypical sense with the most frequent sense. For some words, their metaphorical senses are more frequent than their literal senses (Sinclair, 1991, Steen, 2009, Walker, 2008a), and learners are thus likely to encounter their metaphorical senses before, or alongside, their literal ones. Use of the metaphorical senses of words can also thus be considered an indicator of increased vocabulary breadth, with learners inevitably using more metaphor as their lexical knowledge grows. Similarly, knowledge of the different senses a word can have is an important indicator of vocabulary depth (Proctor et al., 2012). This area is investigated in more depth in Chapter Four of this thesis.

Metaphor also has a close relationship to various aspects of grammar (Littlemore and Low, 2006b). The meanings of prepositions, in particular, are frequently metaphorically motivated and related (Lindstromberg, 2010), and introducing students to these relationships has been shown to significantly aid retention. Boers and Demecheleer

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(1998) investigated this area using the prepositions *behind* and *beyond*, and how they might be effectively taught to French EFL learners. As they note, the central sense of *behind* is spatial, as in the example 'he was hiding behind the hedge' (Boers and Demecheleer, 1998: 199). The conceptual metaphor NOT SEEING IS NOT KNOWING thus motivates the figurative sense of *behind*, seen in examples such as 'What is the reality behind the façade?'. Similarly, ABSTRACT SUPPORT IS BACKING UP leads to metaphorical uses of *behind* such as 'The nation should be behind its president', and 'leaving the past *behind* you' is easily explained if TIME IS A PATH whereby we move away from the past into the future. These metaphoric extensions are shared in the French language, but the causal sense, motivated by the conceptual metaphor CAUSATION IS SETTING SOMETHING IN MOTION, ('what's *behind* this strike?') is not. As expected, students were significantly more likely to fail in a reading comprehension task involving this meaning. Boers and Demecheleer then took the example *beyond,* sensitising a group of learners to the abstract senses by giving them cognitive semantic definitions. Those who had received the cognitive semantic definitions performed significantly better on a subsequent reading comprehension task than those who did not.

Metaphorical expressions also frequently appear in fixed patternings (Deignan, 2005, Kathpalia and Carmel, 2011, Littlemore and Low, 2006b), which have been shown to cause problems for learners whose knowledge of conventional patterns frequently lags behind vocabulary knowledge (Howarth, 1996, Littlemore et al., 2014, Philip, 2010). This area also has implications for the second area of Bachman's (1990) 'sociolinguistic competence' category, 'sensitivity to naturalness'. This question is investigated in Chapter Five of this thesis.

1.3.1.2 Textual Competence

In terms of textual competence, too, metaphor is frequently employed to produce cohesive discourse. The same conceptual metaphor can be used across large spans of text to provide cohesion, either by repetition of the same linguistic instantiation of the conceptual metaphor, or by choosing different linguistic metaphors based on the same conceptual metaphor (Charteris-Black, 2004, Krennmayr, 2011, Semino, 2008). This has been demonstrated in spoken language too; in research into metaphor both in college lectures and Baptist sermons, metaphor clusters tended to contain topical metaphors based on one or more conceptual metaphors, that were subsequently elaborated upon to provide coherence across a stretch of discourse (Corts and Pollio, 1999, Corts and Meyers, 2002). Ponterotto (2000) also demonstrates how conceptual metaphors, spread across a stretch of discourse, can provide cohesion through encapsulating complicated concepts in a vivid, memorable format, thus enabling both speakers to keep track of the thread of the discourse. The fact that a single conceptual metaphor can be developed in numerous ways also enables a speaker to refer back to previous concepts in a novel way, maintaining listener interest (Ponterotto, 2000).

1.3.1.3 Illocutionary Competence

In terms of metaphor's role regarding the ideational metafunction, metaphor is frequently used to convey information and evaluation about a given topic. Indeed, 'metaphors provide a way of expressing ideas that would be extremely difficult to convey using literal language' (Gibbs, 1994: 124), a phenomenon that Ortony (1975: 49) terms the 'inexpressibility thesis'. Similarly, metaphor use allows for a more vivid, emotive, memorable description of our experience (the 'vividness thesis') (Ortony 1975: 50). In press discourse, for example, metaphor is frequently used in business headlines

to provide information in a vivid, compact fashion (White and Herrera, 2009). Similarly, writers of popular science texts employ metaphor to dramatise their subject matter and to make it more accessible for the lay reader, as Nerlich and Koteyko (2009) demonstrate in their analysis of metaphors employed in reporting on the MRSA superbug. This finding was mirrored by Skorczynska and Deignan (2006), who studied economics texts from two different sources: specialist journals, and popular publications such as *The Economist.* The metaphors used in the two groups differed in the functions they were used to perform. For example, the metaphors in the popular periodicals used more frequently to illustrate established concepts, while metaphors in the specialist journal articles were more likely to be used to model new concepts. Caballero and Suarez-Toste's (2010) investigation of the figurative language used by expert wine tasters provides ample examples of the evaluative power of metaphor.

As for the manipulative metafunction, metaphor is frequently found in imperative phrases, such as 'calm down!' or 'back off!' (Littlemore and Low 2006: 276). Similarly, its use can be highly persuasive. To give an example, an analysis of metaphor in political discourse revealed that political speeches frequently employ metaphors from a particular source domain to convey a sense of the party's ideology: the 1997 Labour manifesto and New Labour speeches frequently use metaphors based on the source domain of religion, for example, the mingling of politics and religious ethics being a highly persuasive and compelling feature (Charteris-Black, 2004). Charteris-Black (2009) further comments that in political discourse, 'metaphors contribute to the design of a leadership style through appealing to followers to share in a particular representation or construal of social reality' (2009: 97). Metaphor can also help to explain political policy

in an accessible way, and can be used for humorous effect, helping to bring an audience closer to the speaker. Moreover, a politician can explore possibilities through metaphor in their speeches while not actually committing him/herself to realising them in their policies (Evans and Green, 2006).

Metaphor is also frequently used to explain unfamiliar concepts, thus serving a heuristic function (Littlemore and Low 2006), and Cameron's (2003) study of classroom discourse aptly demonstrates its potential in this area. In both school classrooms and college lecture theatres, metaphor is often used to assist understanding of more complex or abstract concepts (Corts and Pollio, 1999, Cameron and Stelma, 2004), which was also demonstrated by Skorczynska and Deignan (2006) as noted above. For non-native speakers, too, the use of metaphorical analogies to explain a point are likely to be used as compensation strategies when the word is not known (Littlemore and Low, 2006a).

As regards the imaginative metafunction, metaphor is frequently used for rhetorical effect in literary or poetic contexts, and in more informal speech and writing for humorous and aesthetic purposes (Littlemore and Low, 2006a). Even in literature, however, metaphor tends not to be completely innovative, instead extending or elaborating upon existing metaphors (Lakoff and Turner, 1989b). Littlemore and Low (2006a) argue that encouraging learners to do the same in their own writing is advantageous, although the extent to which native speakers may regard such language play as creative rather than erroneous remains unclear (Boers, 2004). This point will be discussed further in Chapter Five.

Not only do metaphoric expressions have the potential to fulfil a wide range of functions, therefore, they have also been shown to frequently fulfil more than one function. Kövecses (2009: 12) gives the following headline as an example:

The Americanization of Japan's car industry <u>shifts into higher gear</u>.

He notes that the expression 'shifts into higher gear' is firstly ideational, describing the increased speed of the changes in the industry. However, the fact that the expression is memorable and arguably witty serves to attract the reader's attention, thus performing an interpersonal function. The potential for this metaphor to be extended throughout the subsequent discourse also renders it possible for it to serve a textual function, acting as a 'backbone' for the text.

1.3.2 Metaphor's Relationship to Strategic competence

Strategic competence refers to a learner's ability to use the components of language competence appropriately, relating them to the context of language use and to the learner's extralinguistic background knowledge structures in order to convey the intended message effectively (Bachman, 1990). This represents an expansion of previous definitions of strategic competence, such as that of Canale and Swain (1980), who view it as a compensation strategy that comes into effect when the other competences fall short. For Bachman, strategic competence has a pivotal role, viewed as 'an important part of all communicative language use, not just that in which language abilities are deficient and must be compensated for by other means' (Bachman 1990: 100).

Bachman's (1990) view of strategic competence is comprised of three components: assessment, planning and execution. Assessment refers to the ability to:

1. Identify the information – including the language variety, or dialect – that is needed for realizing a particular communicative goal in a given context;

2. Determine what language competencies (native language, second or foreign language) are at our disposal for most effectively bringing that information to bear in achieving the communicative goal;

3. Ascertain the abilities and knowledge that are shared by our interlocutor; and

4. Following the communication attempt, evaluate the extent to which the communicative goal has been achieved (Bachman 1990: 100).

Planning refers to the ability to retrieve the relevant language resources from language competence and develop a plan to achieve the communicative goal. Finally, psychophysiological mechanisms are brought in to execute the plan.

As regards the utility of the concept of strategic competence in an investigation of metaphor usage, Littlemore and Low (2006b) note that on the whole, it is rather too vague for such an inquiry. However, insofar as it encompasses compensation strategies, learners may use metaphorical strategies to compensate for a lack of knowledge of the L2, using techniques such as word coinage or paraphrase. Word coinage frequently involves metaphorically stretching a word's meaning, while paraphrase often employs metaphoric comparison.

Due to its relationship with all levels of communicative competence, metaphoric competence should not, therefore, be seen as 'comprising yet one more competence learners must develop' (Nacey, 2013: 31). However, this raises an important question for any investigation of metaphoric competence. Is it metaphor learners struggle with,

or do their problems lie elsewhere in their linguistic competence? As so much of conventional language is metaphorical, errors involving metaphor may be due more to, for example, gaps in phraseological knowledge or in the learner's lexicon. Philip (2010) is one proponent of this view. She takes issue with Danesi's (1995) argument that a lack of conceptual fluency is to blame for those errors Philip (2010: 64) calls the '"it doesn't sound right"' type of error. Instead, she argues that

> our conceptual knowledge of a word or expression's meaning range is forged from the sum of the conventional collocational and phraseological patterning of that word or expression in the L1, and that it is inadequate knowledge of the word's phraseological behaviour in the L2, rather than incomplete L2 conceptual knowledge, that results in the production of the "it doesn't sound right" type of interlanguage error (Philip, 2010: 64)

She also notes that while raising metaphorical awareness in students does have the positive effects on retention and recall of target items described above, knowledge of conceptual norms does not guarantee that the learner will be able to produce conventional figurative expressions proceeding from them, a point also raised by Boers (2000) himself. Similarly, even when conceptual mappings may be shared across languages, the linguistic and phraseological instantiations may differ (Charteris-Black, 2002, Deignan et al., 1997). For Philip, then, knowledge of how words form conventional phraseological patterning is at least as important as conceptual knowledge.

1.4 Research Questions and Structure

The preceding sections of this chapter presented a review of the relevant literature on metaphor, why it is important for L2 learners, and the nature of 'metaphoric

competence'. This section provides more detail on the research questions this thesis

seeks to answer, and outlines how the thesis is structured.

1.4.1 Research Question One: How does learners' use of metaphor change as they progress in their language learning?

This question has a quantitative and a qualitative dimension. While Nacey (2013) and

Littlemore et al. (2014) made vital contributions to the hitherto-unaddressed area of

metaphor production by L2 learners, this field is still in its infancy. This study thus

provides quantitative data on metaphoric densities of essays produced by learners from

French and Japanese L1 backgrounds, complementing the investigations already

undertaken into metaphor production by Norwegian, German and Greek learners.

These findings are presented in Chapter Three. In qualitative terms, the study also aims

to identify the functions metaphor is used to perform, continuing and expanding upon

the work begun by Littlemore et al. (2014) and representing the main focus of Research

Question Three. The use of data from different levels of language proficiency will

provide insights into how metaphor use develops and where learners experience

difficulties involving its use, which could inform teaching materials and language

pedagogy.

1.4.2 Research Question Two: How does metaphor interact with other aspects of language?

This question frames the investigation of metaphor within the context of Dynamic

Systems Theory as described above, exploring the factors that develop alongside and

feed into metaphor use. Like Research Question Three below, this question will take as

its starting point the insights from Littlemore and Low's (2006b) exploration of

metaphor's role in Bachman's (1990) areas of communicative competence to examine how they manifest in learner data. This question focuses on two particular aspects of what Bachman (1990) terms 'grammatical competence.' These are lexical development in Chapter Four, and phraseological development in Chapter Five. 'Sensitivity to naturalness', from Bachman's area of sociolinguistic competence, is also encompassed by Chapter Five.

1.4.3 Research Question Three: What functions is metaphor used to perform in written examinations?

Whereas research question two focused on Bachman's grammatical competence, research question three focuses on illocutionary competence by investigating the functions learners use metaphor to perform in their written output. This question also addresses Bachman's 'textual competence' by looking at metaphor's role in textual organisation, and a small element of 'sociolinguistic competence' by addressing sensitivity to register. Chapter Six is devoted to reporting the results of this analysis.

1.4.4 Research Question Four: What are the implications of the findings from research questions one to four for 'metaphoric competence' and what it means in the context of learner writing?

As was seen in Section 1.3 above, there is some controversy over the nature of metaphoric competence. This fourth research question seeks to respond to this controversy on the basis of the insights gained from research questions one to three. In providing an answer to this question, a 'middle way' between the two opposing viewpoints is proposed, and some implications for future metaphor research

methodology and figurative language teaching are also discussed as part of this area, in the concluding Chapter Seven.

The following chapter introduces the dataset used in this study, and the methodology used to perform the preliminary identification of the metaphors within it.

2   A DESCRIPTION OF AND JUSTIFICATION FOR THE DATA AND METAPHOR IDENTIFICATION PROCEDURE USED IN THE RESEARCH

2.1   Introduction

This chapter introduces the data used in each of the studies described in this thesis. It also introduces the methodology employed to undertake the first stage in the research: identifying the metaphor in the data. The metaphors identified using this procedure form the backbone for the subsequent studies reported.

2.2   Ascertaining the type of data to be used and assembling the dataset

As discussed in Chapter One, this thesis is concerned with examining metaphor use in writing by learners of English. In order to do this, the most appropriate methodology was considered, unsurprisingly, to be the use of authentic written material produced by the learners. Before proceeding with a more detailed description of the data used and how they were selected, it is worth justifying the use of such an approach.

2.2.1   Why use natural language data?

This section aims to respond to some of the criticisms of using natural language data. For one, research into specific language features using even large corpora can be difficult as without elicitation there may be a shortage of such features in the data. Furthermore, language learners tend to avoid constructions they find challenging and use only those with which they are most confident (Granger, 1998). However, for the purposes of this study such concerns are unwarranted. There would be little purpose in eliciting metaphor use as this study is concerned with investigating metaphoric competence in natural learner language production. Similarly, if the learners do avoid metaphor use due to a lack of confidence, that also gives an insight into their developing

metaphoric competence. Using other methods such as elicited data is also problematic, as learners may produce very different language in a controlled experimental situation to that which they would produce naturally, and because of the time and financial constraints on such experiments, researchers often have to rely on a small sample of participants (Granger, 1998). Using corpus data enables the inclusion of data from a wide range of learners and avoids the concerns about potential differences between learner language produced naturally and in experimental situations. Corpus data also facilitate the drawing of comparisons between learners of different language backgrounds (Stefanowitsch, 2006). For example, analysing such a corpus of learner language can provide information on overuse and underuse of linguistic features in the target language, native language (L1) transfer, the use of 'avoidance strategies' when learners fail to use structures they consider difficult, and typical areas where students make mistakes (Leech, 1998). A multilingual focus to such research also enables generalisations to be proposed based on the learners' native language: the particular areas of the target language in which learners of a specific background struggle, and whether these difficulties are peculiar to speakers of a particular language. Such insights have clear benefits for language teaching (Leech, 1998), and for the present study. In the same vein, using corpus data forces the researcher to engage with what Gibbs (2010: 6) calls 'the messy reality of metaphor use' instead of picking those s/he deems to be interesting and disregarding the rest; indeed, cognitive linguistics have been criticised for their traditional reliance on intuition or elicitation data (Deignan, 2005).

2.2.2 Where can the data be found?

The data used in this study are written examination scripts taken from the Cambridge Learner Corpus. This is the world's largest learner corpus, containing over 200,000

examination scripts written by students with a wide range of L1 backgrounds taking Cambridge English examinations. For the purposes of this study, essays written by native Japanese and French speakers were extracted from the corpus. These languages were chosen because of their very different structures and etymological origins, and the different sociocultural and educational systems in each country. I am also familiar with both languages, which facilitated the occasional comments on potential L1 transfer included in later chapters.

One of the main attractions of using the Cambridge Learner Corpus as a data source was its representation of a variety of levels of English. This was obviously a significant consideration when investigating metaphor use as learners progressed. The only other large learner corpus, the International Corpus of Learner English, is made up of data from university undergraduate students of English, the majority of whom have an advanced level of English, which meant it was not an ideal resource for answering the research questions (Granger, 2003).

The data were made up of essays written as part of the examinations for five of the six levels of the Common European Framework of Reference for Languages, or CEFR. The main goal of the CEFR is to provide 'a common basis for the elaboration of language syllabuses, curriculum guidelines, examinations, textbooks, etc. across Europe' (Council of Europe: 1), and provides a number of frameworks to measure and assess communicative language competence at different levels. Each framework includes three levels, of which each is further divided into two: 'Basic User' (A1 and A2), 'Independent User' (B1 and B2) and 'Proficient Use' (C1 and C2) (Council of Europe: 23). The different Cambridge English examinations used to provide the data for this study correspond to

these levels: Key English Test (KET, A2), Preliminary English Test (PET, B1), First Certificate in English (FCE, B2), Certificate in Advanced English (CAE, C1) and Certificate of Proficiency in English (CPE, C2). Data from level A1 were not included in the study. This was firstly due to the fact that the Cambridge Learner Corpus does not include data from this level, and secondly because there would be very little metaphor occurring given the limited tasks learners at this level are expected to perform. Indeed, it was difficult to see a role for metaphor outside conventional, 'dead' examples even at level A2 (Littlemore et al., 2014), so it was deemed safe to assume that metaphor at level A1 would be even more sparse and thus acceptable to discount from this analysis. It is worth noting that in this thesis, the examination names are used to denote the levels. 'KET', for example, signifies 'A2'. It was hoped that this would make it easier to keep track of the different levels.

At each level, students are expected to demonstrate their ability to fulfil certain criteria, expressed as 'can-do' statements. Those that relate to writing skills are expressed in Table 2.1 below.

	Level	Examination	'Can-do' statements
Basic	A1		I can write a short, simple postcard, for example sending holiday greetings. I can fill in forms with personal details, for example entering my name, nationality and address on a hotel registration form.
	A2	KET	I can write short, simple notes and messages relating to matters in areas of immediate needs. I can write a very simple personal letter, for example thanking someone for something
Independent	B1	PET	I can write simple connected text on topics which are familiar or of personal interest. I can write personal letters describing experiences and impressions.
	B2	FCE	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
Proficient	C1	CAE	I can express myself in clear, well-structured text, expressing points of view at some length. I can write about complex subjects in a letter, an essay or a report, underlining what I consider to be the salient issues. I can select style appropriate to the reader in mind
	C2	CPE	I can write clear, smoothly-flowing text in an appropriate style. I can write complex letters, reports or articles which present a case with an effective logical structure which helps the recipient to notice and remember significant points. I can write summaries and reviews of professional or literary works

Table 2.1 'Can-do' statements for each level of the CEFR. Taken from 'Teacher's Guide to the Common European Framework,' available at http://www.pearsonlongman.com/ae/cef/cefguide.pdf.

Having these 'can-do' statements as a guide will prove valuable in later analyses, especially when investigating the functions learners are using metaphor to perform.

2.2.3 Choosing the data: Selection criteria

When assembling the corpus, it was considered important to control for topic as much as possible to ensure maximum comparability between the levels. Essays were thus chosen which were written in response to questions on the general themes of culture and daily life. Originally, this was intended to be 'culture' only, extracting essays written in response to questions which included search terms such as 'food', 'travel', 'culture', 'society' and 'country'. However, in order to ensure comparability between the French and Japanese subcorpora it was considered important to take an equal number of essays from both language backgrounds that responded to the same questions. Because the Japanese subcorpus of the Cambridge Learner Corpus is considerably smaller than the French subcorpus, this was not possible when just including essays relating to culture. Through this preliminary investigation of the Cambridge Leaner Corpus, it also became apparent that it was quite varied in terms of topic and text genre. At the KET and PET levels, particularly, students are expected to write short notes, postcards or letters, and it is at the FCE levels and beyond that they are expected to write articles, compositions and discussion pieces. Given that it was shown in Chapter 1 how figurative language varies across genre and register, often in response to the different readerships and the different communicative functions that the texts perform, it was considered unwise to fail to control for text type, genre and register in the corpus for this study, even though it is on a smaller scale. With this extra requirement that the French and Japanese subcorpora each had to include an equal number of essays from the different genres

and text types, it was even more difficult to keep the topic restricted to the search terms listed above.

In response to this problem, all the question prompts for which answers were found in both the French and Japanese subcorpora were first extracted. Of these, questions were selected which were loosely related to themes of culture and daily life, and which had at least seven essays in the French and Japanese subcorpora. This theme was chosen because it was considered that it would be applicable at some level at all levels of the CEFR, which would thus ensure at least some degree of topic continuity in the dataset.

Each level was also divided by genre. For the lower levels, KET and PET, all the data were in the form of letters. KET was divided into 'Describing,' 'Requesting', 'Making arrangements' and 'Responding', while PET was divided into 'Describing,' 'Requesting', 'Making arrangements' and 'Recommending'. Although these subdivisions were not completely comparable, it was hoped that they would allow some insight to be gained into the effect of writing purpose on metaphor use. At FCE, CAE and CPE level, essays were extracted which fell into one of three main genres: 'Article', 'Letter' and 'Discussion'. The 'article' genre tended to include informative or advisory pieces, while the 'discuss' genre included essays where students were arguing for or against a point of view. The 'letter' genre was the most difficult to control for, as at the higher levels, it became increasingly common for letters to be arguing for a particular outcome, or to give detailed information or reports, and thus overlapping with the other two genres. However, the 'letter' genre was kept as its more social nature was reminiscent of the task demands for the lower levels, KET and PET. While it is not possible to control

strictly for genre, it was hoped that taking a balanced selection of texts from different genres across the levels will enable analysis of the ways in which students use metaphor in these genres at different levels, and the ways in which metaphor use differs across genres.

Where there was a choice of questions related to culture, topics were chosen which had already been addressed in lower levels, to get an idea of how students were progressing when talking about these topics. However, it must be emphasised that it was not possible to do this for all the topics or across all levels. Likewise, as it was not possible to control strictly for genre given the blurred lines between the text types at the higher levels and the small amounts of data involved, any insights into how metaphor use varies with genre will be preliminary only. More large-scale studies using greater amounts of data will be needed to verify any patterns observed.

The topics used in the final corpus were as follows.

2.2.3.1 KET

As noted above, all the pieces of writing produced at this level were in the form of letters. The 'describing' letters suggested something the recipient could do in the writer's hometown, such as going to shopping centres or beaches. The 'requests' were letters in which the writer had left something at their friends' house and were asking the friend to find it for them. The 'responding' letters were those in which the writer was responding to an invitation to have a meal with a friend, while the 'making arrangements' letters conversely invited the recipient to spend time with the writer.

2.2.3.2 PET

Similarly to KET level, all the pieces of writing at this level were letters. The 'recommending' letters were those in which the writer was recommended a) that the recipient lived in the city or the countryside, b) that the recipient chose a large school in the city or a small school in the countryside or c) that the recipient should go on holiday with their parents or their friends. In the 'describing' letters, students wrote about holidays they had recently gone on, television programs in their country, their hometowns, or current holiday destinations in the form of postcards. In the 'making arrangements' genre, students wrote to friends to change the time of a pre-organised meeting, or wrote notes inviting friends to events. Finally, in the 'request' genre, students asked to borrow a friend's bicycle and made arrangements for collecting and returning it.

2.2.3.3 FCE

At FCE level, the seven articles were comprised of three essays giving advice on how to maintain health and fitness, three essays on how technology has changed the writers' lives, and one essay making predictions about the fashions of the future. For the letters, five were making corrections and offering new information for a tourist guidebook, two were describing the writer's home town to a friend who was coming to visit. The 'discussion' genre was more fragmented, with four essays exploring whether famous people had a right to a private life, one on the ethics of zoos, one of the merits of big supermarkets over small shops, and one on whether public transport had a future.

2.2.3.4 CAE

The data at the CAE level consisted of three articles on 'the car and its alternatives', two in changes in eating habits, and two in changes in fashion. For the letter genre, four described wedding customs to a friend, three were formal letters reporting on students' experiences of work experience. The discussion pieces addressed questions of whether it was important to go abroad to study English (four essays), the pros and cons of television (two essays) and the pros and cons of recent family lifestyle changes (one essay).

2.2.3.5 CPE

For this level, the articles described a local or national event that was significant to the writer (three articles), the country the writer would most like to visit and why (two articles) and the writer's school and what made it effective (two articles). The letters at this genre were more discursive, with one being a letter written against the closure of the local hospital and six against the opening of a new supermarket. For the discussion genre 'proper', students were asked to discuss whether fashion was an indicator of personality (three essays), whether professional sportspeople were paid too much (two) and arguing whether parents should spend time on their children instead of money (two).

The final structure and word counts at each level are shown in Table 2.2 below.

Level	L1	Genre	No. of essays	Word count
KET	Japanese	Describe	5	127
		Request	4	150
		Respond	4	144
		Making arrangements	8	262
	French	Describe	5	442
		Request	4	197
		Respond	4	176
		Making arrangements	8	371
PET	Japanese	Recommend	6	661
		Describe	6	694
		Making arrangements	6	265
		Request	3	182
	French	Recommend	6	734
		Describe	6	741
		Making arrangements	6	408
		Request	3	163
FCE	Japanese	Article	7	1118
		Letter	7	1310
		Discuss	7	1261
	French	Article	7	1355
		Letter	7	1289
		Discuss	7	1491
CAE	Japanese	Article	7	2171

		Letter	7	2083
		Discuss	7	1990
	French	Article	7	2082
		Letter	7	2175
		Discuss	7	1867
CPE	Japanese	Article	7	2392
		Letter	7	2144
		Discuss	7	2654
	French	Article	7	2504
		Letter	7	2120
		Discuss	7	2438
Total Japanese				*19608*
Total French				*20553*
Total				**40161**

Table 2.2 Table showing the structure of the dataset used in the study

It is important to note at this point that in terms of the number of words, the corpus is very small, given that 'a corpus large enough to be used for general linguistic research… needs to number tens of millions of words' (Deignan, 2005: 6). However, while such large corpora are necessary for automated analysis or to draw meaningful generalisations, the data for this study will be subjected to close manual analysis, both in order to identify the metaphors in the first place, and to identify the ways in which these metaphors are being used. It was unfortunately not feasible to perform this level of analysis on a larger corpus, so any comparisons between levels and language backgrounds will by necessity be preliminary.

2.2.4 Cleaning up the data: Formatting decisions

Before beginning the analysis, there were a number of decisions to be made in terms of formatting the data, which are described here. It should be noted that these decisions are reflected in the word counts in Table 2.2 above.

2.2.4.1 Contractions

Contractions were separated and analysed as two separate words, following Littlemore et al (2014).

2.2.4.2 Phrasal verbs and multi-word items

These were separated for the purposes of this analysis. Again, this followed Littlemore et al (2014), who note that learners often make mistakes within phrasal verbs and multi-word items, and that the metaphoricity of items within them may be more salient to language learners than to native speakers. These questions will also be addressed in Chapter Five, which looks at phraseology, metaphor's inclusion in conventional language patternings, and questions of figurative language processing of which salience is a part.

2.2.4.3 Hyphenated words

Again following Littlemore et al (2014: 121), the decision was made to separate hyphenated words 'if their meanings were deemed to be partially motivated by the basic senses of their constituents'. The present study also took into account cases where the student had hyphenated a word which is conventionally written as a single word, such as 'week-end' or 'be-loved'. Cases like this were usually kept as a single lexical item. Table 2.3 below reports some of the decisions made in this area.

Kept as single lexical items	Separated
Largely unmotivated by constituent parts: e-mail, t-shirt, co-operate	*Largely motivated by constituent parts:* Self-respect, self-expression, half-commitment, top-models
Conventionally hyphenated proper nouns: Aix-en-Provence, Kita-Kyushu	*Conventionally unhyphenated proper nouns:* Great-Britain, United-States
Foreign words Co-voiturage, au-pair, avant-garde	*Containing proper nouns:* Kinkakuji-temple
Words conventionally single lexical items Time-table, week-end, inter-relationship, no-one, teen-age, lip-stick, baby-sitter, sub-title, sight-seeing	*Conventionally unhyphenated, two words:* Video-games, Electronic-rock, air-pollution, UV-ray

Table 2.3 Table giving examples of decisions made regarding hyphenated words

2.2.4.4 Personal data

Addresses at the beginning of letters were removed. Names were removed from the end of letters, unless there was a post-script after it. Dates at the tops of letters were retained, as there was a case of metaphor use in a date on one occasion.

After choosing, extracting and formatting the data, a methodology had to be chosen which would allow the identification of metaphor within the texts. The main contenders were the MIP (Pragglejaz, 2007) and the MIPVU (Steen et al., 2010a), which are described below.

2.3 Identifying figurative language: MIP (Pragglejaz, 2007) and MIPVU (Steen et al., 2010a)

2.3.1 MIP (Pragglejaz, 2007)

The MIP, or Metaphor Identification Procedure, was developed in response to a lack of precise criteria as to what constitutes a metaphor; without a defined procedure, it is very difficult to make comparable empirical analyses or to evaluate theoretical claims about the frequency and organisation of metaphor in discourse (Pragglejaz, 2007).

The basic MIP procedure is as follows:

1. Read the text.
2. Determine the lexical units
3. For each lexical unit:
   a. Establish its meaning in context.
   b. Determine if it has a more basic contemporary meaning in other contexts. These tend to be more concrete, more precise, historically older, or related to bodily action. They are not necessarily the most frequent meaning.
   c. If so, does the contextual meaning contrast with the basic meaning, but can be understood in comparison with it?
4. If yes, the lexical unit should be marked as metaphorical. (Adapted from Pragglejaz, 2007: 3)

This procedure constituted the core methodology for metaphor identification in this study. It should be noted at this point that the procedure is not concerned with

identifying the conceptual mappings upon which the linguistic instantiations are based. This has the important advantage of increasing the method's reliability, as analysts are more likely to agree on the metaphoricity of a word than the nature of the metaphorical concepts underpinning it (Steen et al., 2010a). Furthermore, there is some controversy over the nature of metaphor processing and how metaphor functions in the mind (see Chapter One), and if metaphor identification were contingent on the identification of these domains and structures, the analyst would be required to commit to a particular model. Focusing on linguistic representations, however, enables the analyst to 'remain agnostic about conceptual structures' (Steen et al., 2010a: 9). Given this, it is important to realise that the procedure makes no claims that the words it identifies as metaphorical are actually processed metaphorically in the mind of the user, merely that they have the *potential* to be (Steen et al., 2010a). Metaphor processing is a separate domain of enquiry which is ultimately beyond the scope of this study.

A word should be said here about stage two of the MIP, determining the lexical units. In the original MIP, 'cases where the original meaning of a whole expression cannot be arrived at via the composition of the meaning of the parts' were considered to be single lexical items (Pragglejaz, 2007: 4). This means that the expression *let alone* in the example they use, 'For years, Sonia Gandhi has struggled to convince Indians that she is fit to wear the mantle of the political dynasty into which she married, let alone to become premier,' is considered a single lexical item which does not have a different, more basic sense than its contextual sense (Pragglejaz, 2007: 4). It is therefore not marked as metaphorically used. For the expanded version of the MIP, the MIPVU described below, the British National Corpus is used to aid decisions as to what

constitutes a lexical unit, with all words with an independent Part-Of-Speech tag considered separate lexical units. Furthermore, the multi-word expressions or 'polywords' identified from the BNC should likewise not be decomposed (Steen et al., 2010a). However, in analysing language produced by non-native speakers, it was deemed prudent to separate such items due to the fact that learners often erroneously decompose phrasal verbs and multiword units (Littlemore et al., 2014; see also Chapter Five).

2.3.2 MIPVU (Steen et al., 2010a)

The MIPVU procedure is an expanded version of MIP, which adds an extra facet to the analysis by annotating metaphorically-used words based on their type. This procedure, with some small adaptations as detailed below, was used to annotate the data in this study. The first type of metaphor, indirect metaphor, is the most common; around 98% of the metaphorically-used words in discourse fall into this category (Steen, 2013, Steen et al., 2010a). These constitute any word with the potential to activate cross-domain mappings as described above. Table 2.4 below presents some examples of lexical items coded as indirect metaphor from the current dataset.

Language and level	Examples of indirect metaphor
Japanese KET	I can go to your house <u>on</u> Friday <u>at</u> 6pm… I'm <u>looking</u> <u>forward</u> <u>to</u> <u>coming.</u>
French PET	You should <u>take</u> some <u>distance</u> to <u>clearly</u> <u>see</u> your <u>situation</u>.
French FCE	Your food habits will <u>play</u> a <u>big</u> <u>role</u>.
Japanese CPE	The children's skills would not <u>flower</u> without the love of a parent.
French CPE	We might force the local authorities to <u>overturn</u> their decision.

Table 2.4 Examples of indirect metaphor

MIPVU also includes the category of direct metaphor, defined by Steen et al (2010: 38) as lexical items which are 'incongruous' with the surrounding discourse but integrated into it through a non-literal comparison. Such metaphors were very rare in the current dataset, and some examples are given in Table 2.5 below.

Language and level	Examples of direct metaphor
French PET	Like being in <u>jail</u> Like <u>couch</u> <u>potatoes</u>
French CAE	It mades (sic) them becoming like '<u>vegetables</u>'
French CPE	It was like a <u>new</u> <u>fresh</u> <u>start</u> The concert hall looked like a <u>palace</u>
Japanese CAE	As busy as a <u>bee</u>

Table 2.5 Examples of direct metaphor

Lexical items are marked as implicit metaphors when they are used to refer back to, or to substitute, a metaphorically-used word. Steen et al (2010: 39) give the example

'Naturally, to embark on such a step is not necessarily to succeed immediately in realising *it*', where *it* is an indirect metaphor because it is a substitution for the metaphorically-used 'step'. The current study expands upon this definition slightly to include references to abstract concepts being referred to as a single entity, i.e. 'You'll see fireworks too! It's fantastic, isn't it? On top of *that…*' (Japanese FCE). Here, *that* was considered to construe the concept of 'seeing fireworks' as a literal 'thing' that could be referred to and built upon. While such cases would not strictly be considered examples of implicit metaphor by the MIPVU procedure, they were included here as they were considered to demonstrate the writer's ability to use metaphorical language to serve a discourse organising function, which will be shown to be very important in Chapter Six. Table 2.6 below shows examples of implicit metaphor from the dataset.

Language and level	Examples of implicit metaphor
Japanese KET	That's a good idea!
Japanese PET	For me that was the best decision.
Japanese FCE	Considering these elements, we should wear clothes which can protect us… You'll see fireworks too! It's fantastic, isn't it? On top of that…
French FCE	Do not worry about this, it will not happen! There is an easier way to get there than the *one* you mentioned.

Table 2.6 Examples of implicit metaphor

Finally, lexical items can be marked as 'possible personifications,' where a word becomes metaphorically used because it implies a personification of a previous entity

(Krennmayr, 2011, Littlemore et al., 2014)   Words were tagged as 'possible personification' when they attributed human characteristics to non-human entities, as in the case of 'I think modern technology has *changed* my daily life' (Japanese FCE).   In some cases, words were tagged as both possible personification and indirect metaphor. In the example 'wider roads… *make* traffic go more smoothly', *make* was considered to be attributing human qualities to roads, but was also in itself metaphorically used in the 'make traffic go more smoothly' clause.   Table 2.7 below shows examples of possible personification in the dataset.

Language and level	Examples of possible personification
Japanese PET	In the countryside, you'll feel that time is passing slowly, and <u>it</u>'ll make you relax.
Japanese FCE	These are advantages which modern <u>technology</u> has brought to us. Our modern <u>life</u> gives big damage to the earth.
French CAE	…<u>jobs</u> such as computer work or public relations… can really make them improve their English.
French CPE	…travel would be really beneficial for my studies since <u>it</u> would give me a chance to put my theories to the test.

Table 2.7 Examples of possible personification

These distinctions were also drawn in the present study in order to give more insight into the types of metaphors learners were using at different levels.   The MIPVU procedure uses the acronym 'MRW', or 'metaphor-related word', to encompass all these categories, and this acronym will also be used in this thesis.

MIPVU also adds the WIDLII ('When in Doubt, Leave It In') and DFMA ('Discarded For Metaphor Analysis') categories; the first for borderline cases, the second for cases where analysis is not possible such as those where the meaning is impossible to identify. While both these categories were included in the present analysis, they were not needed.

The MIPVU procedure also highlights the need to consult a dictionary in order to determine the basic meaning for each word being analysed (Steen et al., 2010a). This is due to the fallibility of native speaker intuition, and the fact that basic meanings may not necessarily be immediately accessible to the analyst. While this process renders the analysis very time-consuming, a certain familiarity is acquired as analysis proceeds, to the point where frequently encountered words no longer need to be looked up, or the dictionary can just be used to confirm the initial ideas (Nacey, 2013). For this study, the corpus-based Macmillan Dictionary for Advanced Learners was used as the primary dictionary, with the Longman Dictionary of Contemporary English used to resolve difficulties. This follows Steen et al (2010a), Nacey (2013) and Littlemore et al. (2014); no reason was seen to depart from this norm.

A final deviation was made from the established methodology for these analyses. This relates to the grammatical category to which the potential metaphor belongs. The MIPVU holds that for a word to be classed as metaphorical, 'a more basic sense has to be present for the *relevant grammatical category of the word-form* as it is used in context' (Steen et al., 2010a: 35). Thus the verb 'to snake', for example, in the BNC example 'a path *snaking* into the undergrowth' (CJD 908) would not be considered metaphorical. The rationale for this comes from the observation that a word's

grammatical category governs the class of concept or referent for that word. Altering the grammatical category therefore involves altering the class of concept, and thus the basis of comparison (Steen et al., 2010a). However, 'there are frequent and possibly regular formal differences between metaphorical and literal uses of the same words', and not annotating such examples as metaphor would lead to excluding many uses conventionally regarded as metaphorical from the analysis (Deignan, 2005: 145). Similarly, as Hunston (2002) points out, a difference in meaning entails a difference in form, with Sinclair (1991) noting that the verb *build* tends to be used as a transitive verb with no particle in its literal form, but when used metaphorically its grammatical pattern differs depending on the attitude towards the entity being built. When it is seen as negative, the verb tends to be used intransitively with the particle *up* (i.e., 'The catalogue of hurts which had *built up* over the years', BNC data, CGE 2069) while if positive, the verb retains the particle *up* but is used transitively (i.e. 'We can *build up* a strong working relationship', BNC data, K9D 236). While these changes admittedly do not involve a change in the part of speech, the fact remains that using a word metaphorically seems to entail a change in its grammatical status, so not counting words as metaphor on the basis of their part of speech seems to run counter to corpus evidence for how metaphors behave in natural language.

2.3.3   Justification for methodology

The methodology described above was employed because it constitutes the most detailed and well-defined available. While other methods for identifying metaphor do exist, they are often not defined in sufficient detail to be replicated accurately, or they are concerned with identifying metaphor at the discourse level as opposed to the word level. Cameron (2010) is an advocate of this methodology in her Discourse Dynamics

Framework. She argues that discourse can be 'understood as the unfolding of the complex dynamic system of the group of people engaged in interaction' (Cameron, 2010: 82), with metaphor thus growing up out of the surrounding discourse as it progresses. Confining metaphor to the level of the word, therefore, could be said to impose an artificial stability on metaphor use, and as the discourse dynamics framework does not see language or metaphor as operating only at word level, the procedures described above would be seen as incompatible with it (Cameron and Maslen, 2010). Cameron's (2011) research on metaphor in reconciliation discourse, for example, identifies the number of vehicle terms rather than the number of metaphorically used words. While this is perhaps more appropriate to her research given the complex dynamics of spoken discourse (Cameron, 2011), it holds no significant advantages here. Again, she offers little detail on how this methodology can be replicated.

The MIPVU procedure has also been tested on various types of discourse, including conversation (Kaal, 2012), fiction (Dorst, 2011), academic discourse (Herrmann, 2013) and news discourse (Krennmayr, 2011). More importantly, it has been shown to be an appropriate methodology for investigating metaphor in learner English, so it was employed here to ensure comparability with these other studies (Littlemore et al., 2014, Nacey, 2013).

2.3.4 Identifying metaphor: Some practicalities

While the MIP and MIPVU were designed to be rigorous testing procedures with as high a level of objectivity as possible, there is still potential for disagreement over, for example, which sense of a word is the most basic, or whether there is a sufficient relationship between the word's basic and contextual sense for it to be deemed

metaphorically used. The Pragglejaz Group (2007) sought to mitigate these concerns by introducing multiple rounds of coding and discussion between raters, which had a positive impact on inter-rater reliability. In this study, too, the data was checked through after the first round of coding, and so-called 'tricky cases' were discussed with an experienced metaphor analyst. These tricky cases were often those in which the relationship between the basic and contextual senses was difficult to define. Table 2.8 below gives examples of some of these 'tricky cases', with a brief summary of why they posed problems in the first round of coding.

Language and level	Tricky case	Reason for difficulty	Decision
Japanese FCE	Patients who <u>have</u> serious desease (sic)	Could be metaphorical as a 'disease' is not a physical object to be possessed. However, diseases are caused by bacteria and viruses which are concrete things; does this mean that diseases can be literally 'had'?	Indirect metaphor
Japanese FCE	Ordinary people are <u>keen</u> on watching film stars	The basic sense of 'keen' is 'sharp', as in the example 'a keen blade'. Is there enough of a relation between the two senses to class this example as metaphorical?	Not metaphorical
French FCE	Cars <u>created</u> pollution	Does the basic sense of 'create' relate only to concrete things, rendering this example metaphorical?	Cars: possible personification Created: Indirect metaphor
French FCE	Most of the documents are <u>in</u> English.	Is there enough of a relation between the two senses to class this example as metaphorical?	Indirect metaphor
Japanese CPE	My first concern is that the values of players are decided by their salaries <u>alone</u>.	If the basic sense of 'alone' refers to people, is it an example of indirect metaphor?	Salaries: possible personification Alone: indirect metaphor

Table 2.8 Examples of 'tricky cases'

2.4 Conclusion

This chapter has introduced the Cambridge Learner Corpus and the method used to extract texts from it for the present study. It was also noted that the essays that make up the corpus for this study are from different levels of the CEFR, and these levels were also briefly introduced. Next, the data formatting decisions were described. Finally, the procedure used to identify the metaphors in the corpus was introduced, along with some of the practicalities of data annotation.

In the next chapter, the quantitative results produced from this analysis are presented and discussed.

3 A Description of (and Explanation for) the Amount, Type and Variability of Metaphor Used by Students at Each Level of the CEFR

3.1 Introduction

One significant concern expressed by Nacey (2013) is the paucity of quantitative data on metaphor use by learners of English. Her own research goes a significant way towards rectifying this lack, but as mentioned in Chapter One, it focuses on metaphor use by higher-intermediate and advanced learners, comparing it to the writing of native speaker A-level students. Her results give a fascinating insight into metaphor use by learners of English and how it differs from native-speaker metaphor use, but it does not address the question of metaphor development. Littlemore et al.'s (2014) study was the first to do this, investigating metaphor use at different student levels, with a focus on German and Greek learners of English. Their study uncovered a certain degree of variation between the two language backgrounds. In particular, the German-speaking learners produced much less metaphor at KET level than their Greek counterparts, and there was also a statistically significant increase in their metaphoric densities between levels CAE and CPE which was not found in the Greek data (Littlemore et al., 2014). These findings highlight the need for further research focusing on students from different language backgrounds, and the results reported in this chapter aim to complement those of Littlemore et al (2014) to add another piece to the growing picture of metaphor use in learner English. They also provide a quantitative foundation to contextualise the results of the studies reported in subsequent chapters.

This chapter is primarily concerned with answering Research Question One, investigating how learners' use of metaphor changes as they progress in their language learning. This question can be further divided into the following subsections:

a) How does the metaphoric density of writing produced by learners vary depending on their CEFR level and native language?

b) How much variation in metaphor density is there among learners of the same CEFR level and native language?

c) How does the use of metaphor clusters vary according to CEFR level and native language?

d) How does the type of metaphor used vary according to CEFR level and native language? This includes use of indirect metaphor, direct metaphor, implicit metaphor and possible personification.

e) How does the use of open-class and closed-class metaphor vary according to CEFR level and native language?

f) How much variation in the words used metaphorically by learners is observed as they progress through the levels?

g) Does text genre have an effect on metaphoric density?

The level of detail afforded by these questions is necessary because merely investigating metaphoric density does not give the full picture. After all, metaphor use would be expected to increase as the levels advance. As so many words in the English language are metaphorically used, it seems self-evident; as vocabulary knowledge increases, so too will metaphor use, as students will learn more words and phrases that are frequently metaphorically used. Metaphor also plays a significant role in polysemy, with

the different meaning extensions of a word frequently being linked metaphorically with the more basic, prototypical sense (Littlemore, 2009, Taylor, 2002). As learners develop their vocabulary depth and become more aware of the different senses a word can have, they will thus inevitably begin to produce more metaphor. This increase was also demonstrated in the German and Greek learners' writing investigated by Littlemore et al. (2014), and there is no reason to expect that the French and Japanese learners considered in this thesis will substantially differ in their metaphoric development in this regard. The more interesting insights are therefore to be found in explorations of the type and variety of metaphors learners use.

3.2   Research Question 1a: How does the metaphoric density of writing produced by learners vary depending on their CEFR level and native language?

3.2.1   Methodology

After coding each essay for MRWs using the metaphor identification procedure described in Chapter 2, the metaphoric density for each level was then calculated, expressing MRWs as a percentage of the total number of words coded in the level. A series of Mann-Whitney U-tests were also performed to identify the levels at which the differences in metaphor production according to native language were the most significant; this test was the most appropriate given the fact that the data were not normally distributed. At this point, all MRWs were included in the analysis: indirect, direct, implicit and possible personification from both the open- and closed-class groups.

There were some cases where a lexical item was coded in more than one of those categories. For example, a pronoun coded as implicit metaphor can then be personified, as in the example below:

I hope *this* will help other readers and tourists (French FCE letter)

In this example, *this* refers back to the sum of the information given in the letter, and was therefore coded as implicit metaphor as the information is being conceptualised as a concrete object that can be pointed out. However, the sentence continues by personifying this information, giving it the agency to 'help' those who read it. In this case, *this* was coded as both implicit metaphor and possible personification. In those situations where a lexical item was coded as belonging to more than one of these categories, it was counted only as a MRW only once. This is because this point of the analysis is concerned only with identifying lexical items potentially being used metaphorically, whatever form that takes. Table 3.1 and Figure 3.1 below show the results of this analysis.

3.2.2 Findings and discussion

Table 3.1 and Figure 3.1 below present the metaphoric densities for the French and Japanese learners' writing examined in this study.

Level	Japanese MRW count	Japanese word count	Japanese MRW % density	French MRW count	French word count	French MRW % density
KET	30	683	4.39	45	1186	3.79
PET	113	1802	6.27	187	2046	9.14
FCE	389	3689	10.54	361	4135	8.73
CAE	666	6244	10.67	576	6124	9.41
CPE	892	7190	12.41	889	7062	12.59

Table 3.1 Table showing metaphoric densities of the writing produced by French and Japanese learners
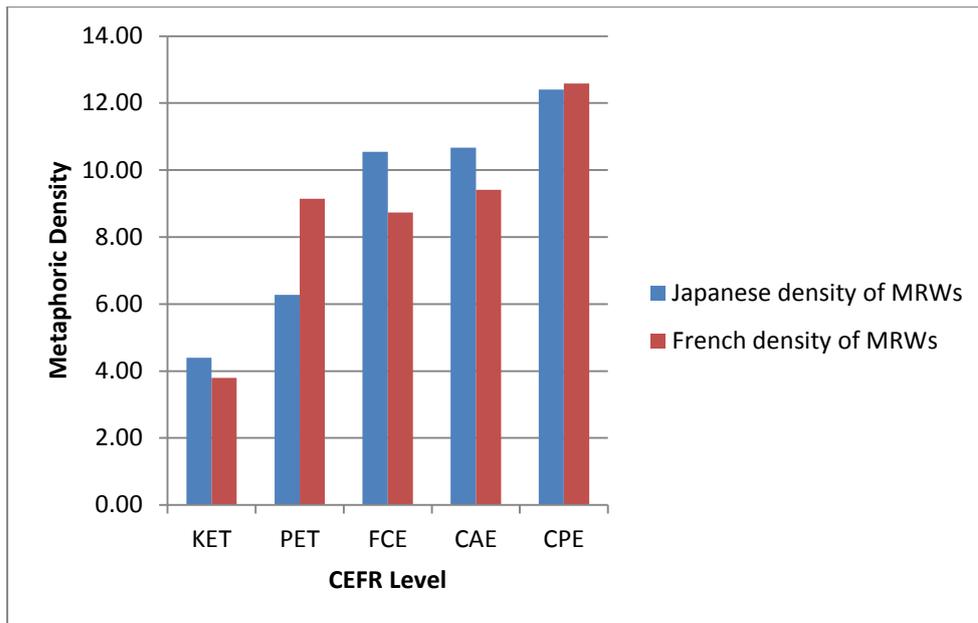
Figure 3.1 Graph showing metaphoric densities of the writing produced by French and Japanese learners

These findings suggest that learners from the two different language backgrounds take somewhat different developmental paths in terms of the amount of MRWs they produce. The metaphoric densities of the essays produced by the Japanese learners increases steadily across the levels. Statistically significant increases were observed between KET and PET U = 124.000 (Z = -2.431) *p* = 0.015 with a medium effect size (r = 0.375), and PET and FCE U = 97.000 (Z = -3.107) *p* = 0.002 with a larger effect size (r = 0.479). The metaphoric densities produced by the French learners, on the other hand, actually decrease slightly between levels PET and FCE, the point at which the Japanese learners' essays underwent a significant jump in terms of metaphoric density. The metaphoric densities observed in the French learners' essays undergo a statistically significant increase between KET and PET U = 79.500 (Z = -3.551) *p* = 0.000, mirroring those of the Japanese learners at this level albeit with a large effect size (r = -0.548). However, unlike in the Japanese essays, a statistically significant increase is also noted in the metaphoric densities of the French essays between CAE and CPE U = 86.000 (Z = -

84

3.383) *p* = 0.001, again with a large effect size (r = -0.522). However, the differences in metaphoric density between the essays produced by the two groups of learners at each level are not statistically significant at any point, suggesting that the majority of the variation is in the developmental paths the learners take and not their observable production of metaphor at each level.

Further insights into the variation can be observed when the findings gained from the French and Japanese learners' essays are compared to the results of Littlemore et al.'s (2014) analysis of metaphoric density in essays written by German and Greek native speakers. Table 3.2 below presents the mean metaphoric densities at each level in the essays produced by all four groups of learners, with Littlemore et al.'s (2014: 125-126) results given in bold type.

Level	Japanese	French	German	Greek
KET	4.39	3.79	**2.13**	**5.8**
PET	6.27	9.14	**11.11**	**8.7**
FCE	10.54	8.73	**11.62**	**9.9**
CAE	10.67	9.41	**16.05**	**13.2**
CPE	12.41	12.59	**19.54**	**13.7**

Table 3.2 Table comparing metaphoric densities in the writing of Japanese and French learners with those of German and Greek learners (Littlemore et al., 2014)

It must be noted at this point that the essays analysed from the German and Greek subcorpora were not strictly controlled for genre or question, although at the FCE, CAE and CPE levels, essays loosely related to themes of politics and economics were extracted. This led to a wide range of genres at each level, with variation between the German and Greek subcorpora themselves. As discussed in the Methodology section, the Japanese and French data being analysed in the current study were controlled for

genre, answers to the same essay prompts were extracted for each subcorpus to ensure comparability and at the higher levels, these prompts were chosen for their relevance to the overarching theme of 'culture'. The comparisons drawn from the data above, therefore, must be seen in this light and are to be taken as a preliminary suggestion only.

Despite these caveats, the comparison of metaphoric density in the French and Japanese learners' essays with that of the German and Greek learners yields interesting insights. Seen against the background of the three other learner groups, the French learners' decrease in metaphoric density between levels PET and FCE is particularly notable seeing as it is the only place such a decrease occurs. The Japanese, German and Greek data all undergo an increase at this point, but even between these three subcorpora, there is variation; it is only in the Japanese data that the increase is statistically significant, suggesting that Japanese learners of English could be going through a somewhat different process compared to their European counterparts. Given that a similar sharp increase was seen in the French and German data a level earlier, at PET, it may be that the Japanese learners 'catch up' to their counterparts at level FCE. However, comparing just the Japanese, French and Greek learners, it is also the case that by level CPE there is very little difference in metaphoric density between the two groups. It therefore seems that while the Japanese learners may take a different developmental 'path' in terms of their use of metaphor, by the highest level they have nonetheless reached more or less the same point.

It is worth briefly reflecting on why this variation might exist and what implications it may have. L1 transfer has been shown to have a significant impact on learners' language use (Ellis, 2006b), and regarding metaphor specifically, comprehension is likely

to be affected by a learner's language and cultural background given the way in which conceptual systems differ across languages (Kecskes, 2000). It may be, therefore, that the differences in L1 and cultural background are partly responsible for the variation found; L1 transfer was certainly seen to have an effect on errors involving metaphor in Littlemore et al's. study (2014). In questions of metaphoric competence, too, this variation implies that metaphoric competence may manifest itself differently according to the learner's L1, a hypothesis that will be further tested in the following chapters. This is not to say that when evaluating learner writing, there should be different standards for different groups of learners. However, when seeking to arrive at a definition of what metaphorical competence is and how develops through the CEFR levels, these data suggest that merely examining the metaphoric performance at a particular level may not be very helpful, as performance and development is likely to vary among L1 groups. To give a practical example, taking the Japanese learners, the data seem to support the assertion that at level FCE, learners should be using significantly more metaphor than in previous levels. However, this 'spike' in metaphor density is peculiar to the Japanese learners, and cannot therefore be taken as indicative of a pattern in how metaphoric density develops. Furthermore, the fact that the Japanese learners reach a very similar point to their French counterparts in terms of the metaphoric density of their writing by level CPE could serve as a warning against prescribing 'targets' for metaphor use at the different levels. Despite the different paths taken by the Japanese learners, they still attain the same level in the end.

3.3 Research Question 1b: How much variation in metaphor density is there among learners of the same CEFR level and native language?

While calculating metaphoric densities for complete levels provides a good insight into the developmental patterns followed by learners as they progress through the CEFR levels, it obscures any variation in metaphor use among individuals of the same level and native language. The extent to which variation can be observed between individuals is an important consideration when exploring metaphoric competence. It has already been noted that the metaphoric density of essays produced by different L1 groups progresses differently according to the learners' native language, which makes it very difficult to define a particular standard that all individuals of a certain level attain. At this point, we can go a step further and look at variation at a particular CEFR level within a particular language group. Is there a particular standard that all individuals of the same L1 background and the same CEFR level attain, or does metaphor use vary from learner to learner?

3.3.1 Methodology

To explore this question, box and whisker plots were constructed showing density variation at each level in both the French and Japanese subcorpora. It should be noted at this point that some of the statistics observed here differ slightly from those reported in Research Question 1a, notably the mean metaphoric densities for each level. For Research Question 1a, the metaphoric densities represented the percentage of MRWs per level and language, calculated by dividing the total MRWs per level and language by the total number of words. This methodology was used in order to be able to draw comparisons with the results obtained by Littlemore et al. (2014). The mean metaphoric

densities expressed here were obtained by calculating the metaphoric density of each essay per level and language, then finding the mean.

3.3.2 Findings and Discussion

The tables and plots below provide information on the variation in metaphoric density produced by learners of the same level and native language.

3.3.2.1 Variation in metaphoric density in writing produced by Japanese learners
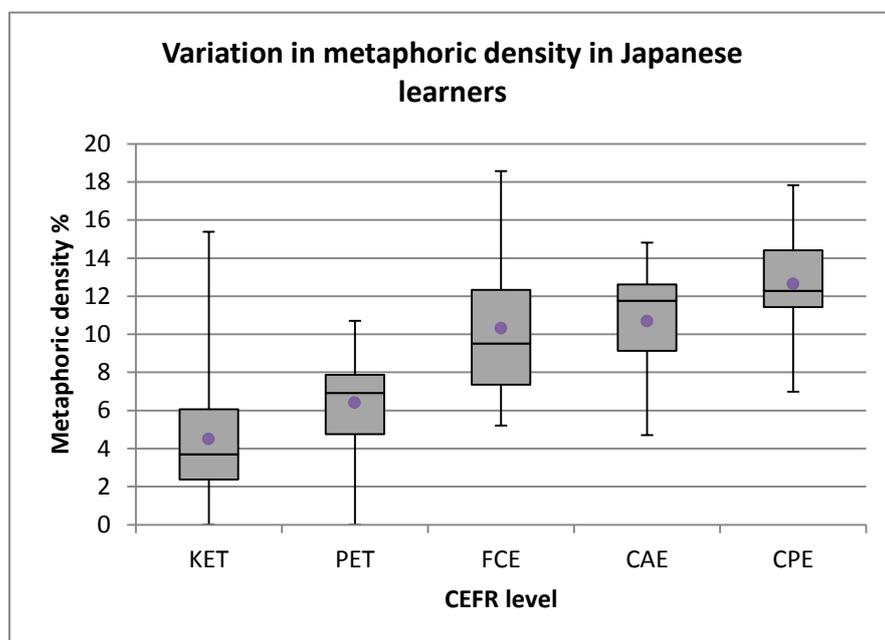
Figure 3.2 Box-and-whisker plot showing variation in metaphoric density in the writing produced by Japanese learners

Japanese	KET	PET	FCE	CAE	CPE
Mean	4.50	6.41	10.31	10.68	12.64
Standard Deviation	4.15	2.65	3.99	2.77	3.27
Minimum	0.00	0.00	5.20	4.71	6.99
Maximum	15.38	10.71	18.56	14.81	17.83

Table 3.3 Table showing mean, standard deviation, minimum and maximum values in the metaphoric densities in the writing produced by Japanese learners

3.3.2.2 *Variation in metaphoric density in writing produced by French learners*
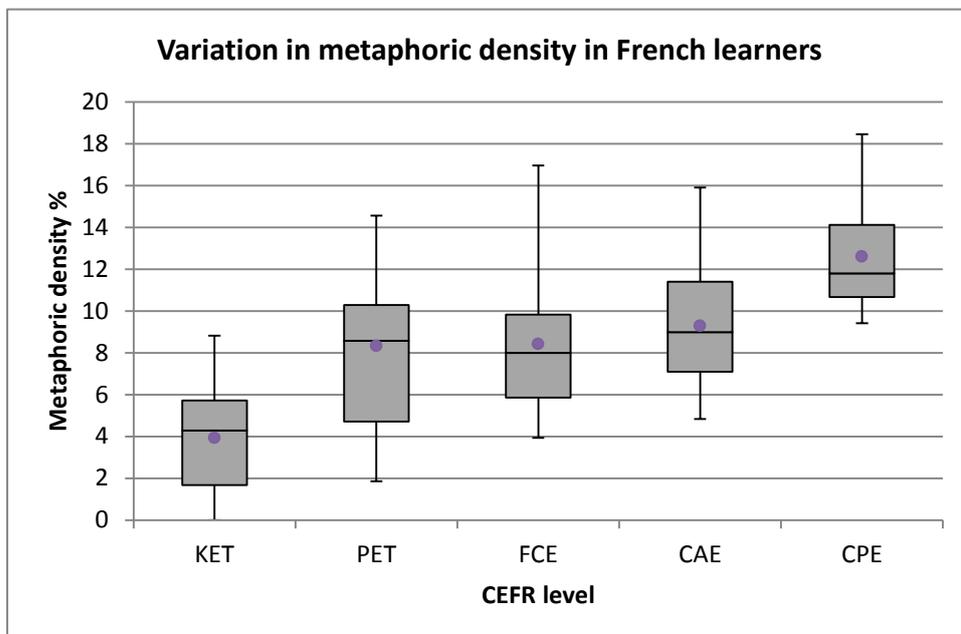
Figure 3.3 Box-and-whisker plot showing variation in metaphoric density in the writing produced by French learners

French	KET	PET	FCE	CAE	CPE
Mean	3.93	8.32	8.42	9.28	12.60
Standard Deviation	2.83	3.55	3.53	2.92	2.62
Minimum	0.00	1.85	3.93	4.83	9.41
Maximum	8.82	14.56	16.96	15.90	18.45

Table 3.4 Table showing mean, standard deviation, minimum and maximum values in the metaphoric densities in the writing produced by French learners

These graphs show a high level of variation among individual learners at all five stages. The existence of this variation is not particularly surprising. Previous research into figurative language processing has shown that an individual's cognitive style (holistic/analytic, verbaliser/imager) has an impact on the way they process conceptual metaphors (Boers and Littlemore, 2000), and L2 learners with a holistic cognitive style have been shown to be faster at finding meaning in metaphors than learners with a more analytic cognitive style (Littlemore, 2001b). Given the role cognitive style seems to play in learners' ability to work with metaphor, therefore, this variance might be expected.

These results provide an intriguing insight into what metaphoric competence is and how it might be measured in written production (addressed by research question four of this thesis). The essays that make up the data all attained a pass mark, despite these high levels of variance in the data. Further studies could perhaps usefully investigate whether or not there is a correlation between metaphoric density and perceived standard of the essay, but this is beyond the scope of the present analysis. For now, it is sufficient to conclude that there are high levels of variation among learners, so caution

should be exercised in drawing firm conclusions from means. Not only does metaphoric density vary by level and language, but also within learners of the same group. At this point, therefore, it is evident that metaphoric competence is subject to high levels of variance and does not proceed in a linear fashion for all learners. However, the type of text being produced may also explain some of this variation, a question returned to in Section 3.8 below.

3.4   Research Question 1c: How does the use of metaphor clusters vary according to CEFR level and native language?

3.4.1   Methodology

It has been noted that metaphor is not normally evenly distributed in a text, but tends to occur in 'clusters' at specific points (Cameron, 2003, Cameron and Stelma, 2004, Corts and Meyers, 2002, Corts and Pollio, 1999). Following Littlemore et al. (2014), clusters in the data were calculated using a time series analysis technique. For each essay in the dataset, a span consisting of the first 20 words was selected and the metaphoric density calculated for those words. This result was placed at the tenth word and the span was moved one word down. The metaphoric density was then calculated for the new set of words and placed at the eleventh word, and so on until the end of the text. Figure 3.4 below gives an example calculated for a Japanese essay at FCE level:

Clusters in a Japanese FCE essay
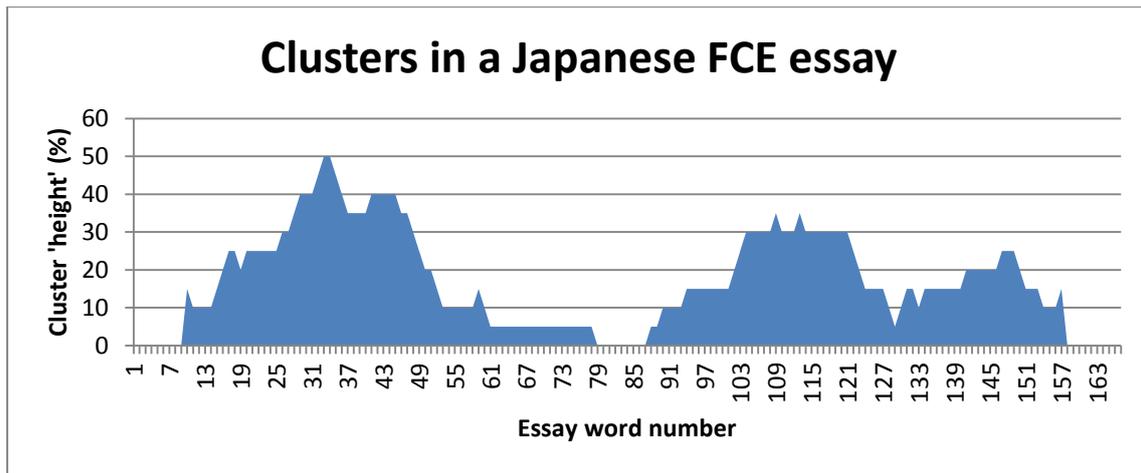
Figure 3.4 Example graph showing metaphor clusters in a Japanese learner's essay at FCE level

The cluster of appearing around word 33, for example, is as follows:

> *I think people used to <u>have</u> no time to think <u>about</u> <u>keep fit</u> or health. <u>In</u> our grand parent's generation people <u>made</u> a <u>big</u> <u>progress</u> <u>at</u> technology. <u>It</u> <u>made</u> money and time for workers.*

Perhaps unsurprisingly, the metaphors in this cluster are mostly closed-class function words (*about, in, at*), delexical verbs (*make*) or conventional collocations (*keep fit*). Because of this, it was considered more meaningful to identify clusters of open-class metaphor only. In Littlemore et al.'s (2014: 124) study, clusters were calculated on the basis of both open- and closed-class metaphor, after which manual analysis was used to ascertain the cut-off point for 'meaningful' clusters of 'visible metaphor use above and beyond the sorts of highly conventionalized metaphorical uses of prepositions'. Removing closed-class metaphor from the cluster analysis removes the latter variable. As for the former, it could be argued that even conventionalised metaphor should be included in such an analysis, as it could be expected that learners will be able to use such metaphors in increasingly sophisticated ways as they progress through the levels. For

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this analysis, therefore, open-class indirect metaphors, open-class direct metaphors, personifications and implicit metaphors were included to create the clusters. All personification metaphors were included, even those that were closed-class. This is because closed-class personification metaphors still represent the metaphorical attribution of human characteristics to an inanimate object referred to earlier in the text, and the nature of this mapping will differ from case to case. This is very different to the 'highly conventionalized metaphorical uses of prepositions' that Littlemore et al. (2014: 124) discuss. This is equally the case with implicit metaphor. Despite being exclusively pronouns, the mappings underlying implicit metaphors also differ in each case and can therefore not necessarily be considered 'conventionalized'.

While the identification of clusters will be used primarily to inform the methodology for the Functions of Metaphor analysis reported in Chapter Six, it also provides useful insights into when learners begin to use metaphor in a more sustained fashion outside of the more sporadic occurrences expected in the lower levels. In order to investigate the way in which cluster use develops throughout the levels in this way, open-class metaphor clusters of 20% and above were counted. 20% was chosen as a cut-off point because although Littlemore et al (2014) chose 30%, omitting closed-class indirect metaphor lowers the cluster heights considerably. Even at the more advanced level CAE, for example, only three clusters of 30% height were observed in the French data, with none above that level. 20% was thus considered to include the maximum number of meaningful clusters while excluding those clusters which only contained one or two metaphors (and therefore should not really be considered 'clusters' at all).

3.4.2   Findings and Discussion

The table and graphs on the next two pages show the number of occurrences of metaphor clusters above 20% for the two language groups.

	Level	Level word count	No. 20% clusters	No. 20% clusters per 1000 words	No. 25% clusters	No. 25% clusters per 1000	No. 30% clusters	No. 30% clusters per 1000 words	No. 35% clusters	No. 35% clusters per 1000 words	No. 40% clusters	No. 40% clusters per 1000 words	**Total clusters per 1000 words**
Japanese	KET	683	1	1.46	0	0.00	0	0.00	0	0.00	0.00	0	1.46
	PET	1802	2	1.11	0	0.00	0	0.00	0	0.00	0.00	0	1.11
	FCE	3689	38	10.30	19	5.15	8	2.17	2	0.54	0.00	0	18.16
	CAE	6244	50	8.01	14	2.24	4	0.64	1	0.16	0.00	0	11.05
	CPE	7190	125	17.39	62	8.62	25	3.48	4	0.56	0.00	0	30.04
French	KET	1186	0	0.00	0	0.00	0	0.00	0	0.00	0.00	0	0.00
	PET	2046	15	7.33	8	3.91	1	0.49	0	0.00	0.00	0	11.73
	FCE	4135	28	6.77	7	1.69	4	0.97	2	0.48	1.00	0.241838	10.16
	CAE	6124	61	9.96	24	3.92	3	0.49	0	0.00	0.00	0	14.37
	CPE	7062	137	19.40	53	7.50	14	1.98	2	0.28	0.00	0	29.17

Table 3.5 Table showing the number and 'height' of metaphor clusters in the writing of French and Japanese learners
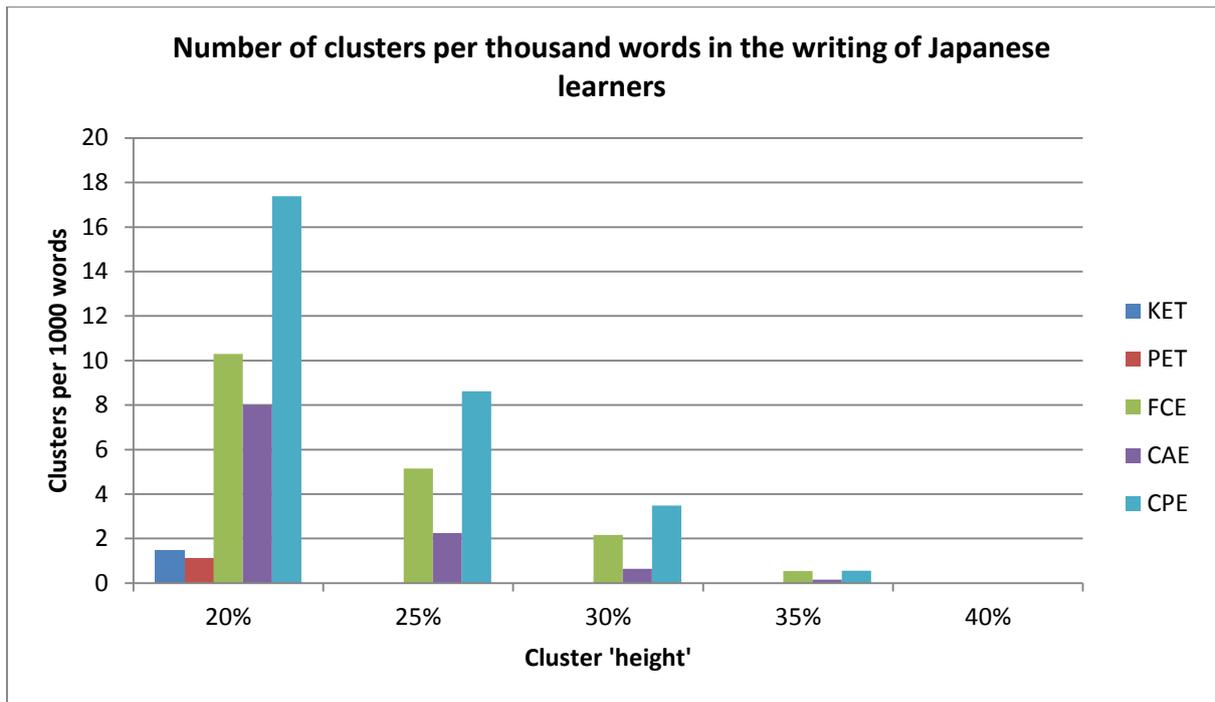
Figure 3.5 Graph showing the number and 'height' of metaphor clusters in the writing of Japanese learners
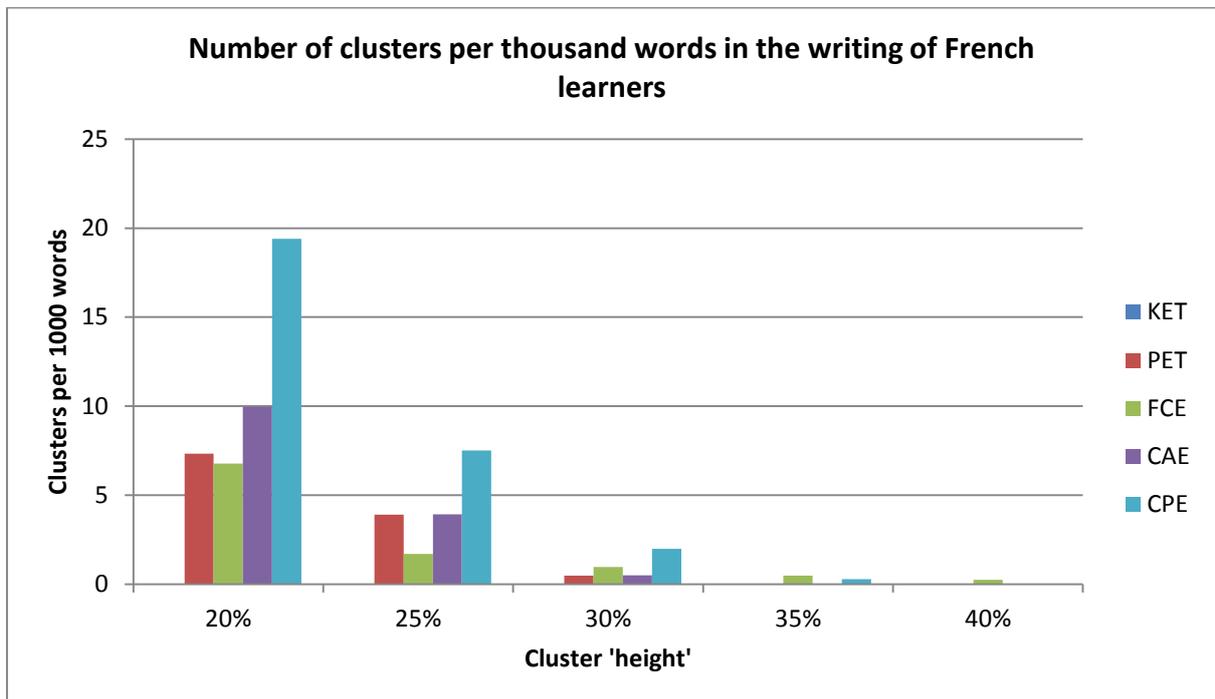
Figure 3.6 Graph showing the number and 'height' of metaphor clusters in the writing of French learners

These data show considerable differences in the use of metaphor clusters according to language background. At KET level, there is only one cluster of 20%, produced by a

Japanese learner. This is not surprising, given that the majority of metaphors at this level are closed-class and the few occurrences of open-class metaphor are too sporadic to be considered clusters. At PET level, there are two 20% clusters found in the Japanese data, compared to 15 produced by the French learners, who also produce some clusters of 25% and one of 30%. This reflects the significant increase in metaphor use by the French learners, as seen in Research Question 1a. By level FCE, the Japanese learners have 'caught up', as was shown in Figure 3.1 above, and the number of clusters they produce per thousand words exceeds that of the French learners (see Table 3.5). This suggests that not only do the Japanese learners produce more metaphor at this level, but also that they use it in more sustained ways. At CAE, however, the French learners have once more surpassed their Japanese counterparts in terms of their cluster use, with notably more clusters, particularly at the 20% and 25% levels. By CPE, although the French learners produce more clusters of 20%, the Japanese learners produce more from the higher bands, and slightly more clusters per 1000 words overall. However, this difference is minimal, with 30.04/1000 words for the Japanese and 29.17/1000 words for the French. Taken together, these findings seem to confirm previous results, that despite the variation at the lower levels in terms of learners' ability to use metaphor at a more sustained rate, by CPE both groups of learners have reached more or less the same point.

3.5 Research Question 1d: How does the type of metaphor used vary according to CEFR level and native language?

So far in this chapter, MRWs have been analysed together, with no distinction drawn between the types of metaphor the MIPVU procedure distinguishes. This question is

concerned with examining each type of metaphor separately to identify how their use varies according to CEFR level and native background.

3.5.1 Methodology

To answer this research question, the same data were used as in the previous analyses, but a distinction was made between the different types of MRW that were discussed and exemplified in Chapter 2. The first stage of this analysis was to construct pie charts to provide a general overview of the proportions of the different types of MRW at each level, and to highlight any differences and similarities in their use across levels and language background. This was then followed by a closer examination of the different types of MRW through separate graphs and tables.

3.5.2 Findings and Discussion

3.5.2.1 *Distribution of metaphor type*

The pie charts on the next page represent the percentage distribution of the different types of metaphor per level and language.
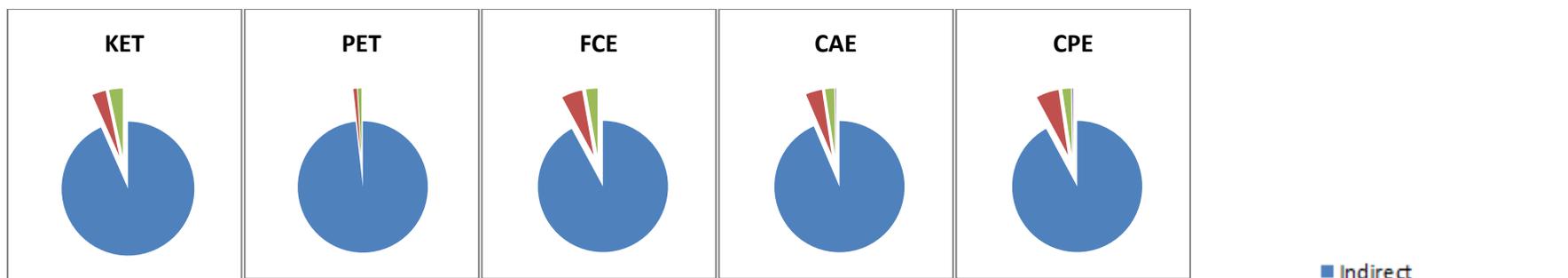
Figure 3.7 Pie charts showing the distribution of different MRW types in the writing of Japanese learners
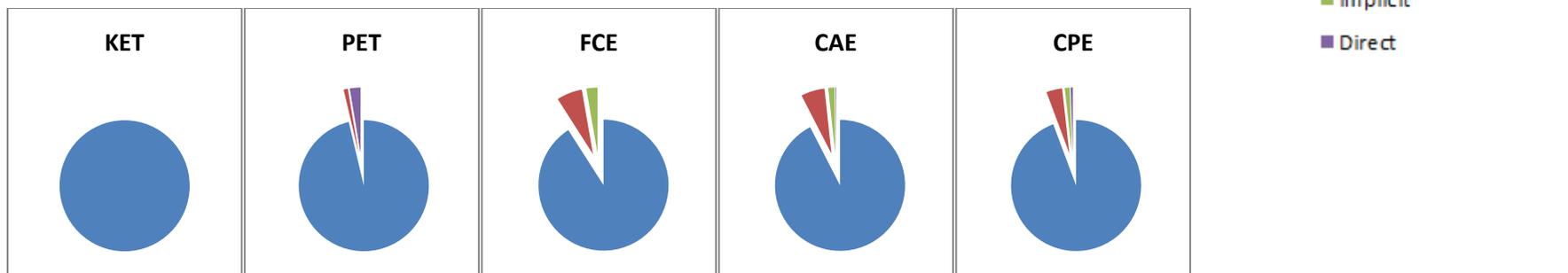
Figure 3.8 Pie charts showing the distribution of different MRW types in the writing of French learners

Japanese	Indirect	Possible personification	Implicit	Direct	French	Indirect	Possible personification	Implicit	Direct
KET	28	1	1	0	KET	45	0	0	0
PET	111	1	1	0	PET	181	2	0	5
FCE	358	20	11	0	FCE	329	23	10	0
CAE	623	27	15	1	CAE	535	34	9	1
CPE	824	50	19	2	CPE	841	35	11	5

Table 3.6 Tables showing raw frequencies of MRW types in the writing of Japanese and French learners

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The tables and pie charts presented above show that for both the French and the Japanese learners, indirect metaphor is by far the most common type, which is hardly surprising given that 98% of MRWs in Steen et al.'s corpus of 190,000 words of English and 130,000 words of Dutch were found to be indirect metaphor (Steen, 2013, Steen et al., 2010a). Possible personification is the next most frequent MRW type at all levels except French PET, where direct metaphor is more common. The use of MRW types other than indirect metaphors is the most notable from level FCE onwards. While the pie charts indicate their use at the earlier levels, particularly at KET in the Japanese data, the raw frequencies are too small to warrant much consideration, with only one possible personification and one implicit metaphor accounting for what seems to be anomalous at first sight. PET level in the French data is perhaps an exception to this, with five lexical items coded as direct metaphor. It may be that the French learners do demonstrate an ability to experiment with different types of metaphor slightly earlier than their Japanese counterparts, but again, it is difficult to draw a firm conclusion on the basis of such small figures. This highlights the need to hone in more closely on the different types of metaphor used to gain clearer insights into the pattern suggested.

3.5.2.2 Indirect metaphors

As noted in Chapter 2, lexical units are coded as indirect metaphor when they have the potential to activate cross-domain mappings, as identified by the MIP and MIPVU procedures. There is a wide variety of metaphors included in this category, from prepositions ('I can go to your house <u>on</u> Friday <u>at</u> 6pm', Japanese KET) to formulaic sequences ('I'm <u>looking</u> <u>forward</u> <u>to</u> coming', Japanese KET, or '<u>keep</u> <u>in</u> <u>touch</u>', Japanese CPE) to more isolated uses ('<u>leads</u> <u>to</u> a <u>gloomy</u> perception of the area', French CPE or 'the child's… skills would not <u>flower</u> without the love of a parent', Japanese CPE). The pie charts

above show that the majority of MRWs are indirect metaphor, regardless of level and native language. It is therefore unsurprising to note that the development of indirect metaphor density throughout the levels follows a very similar pattern to that of MRWs as a whole:
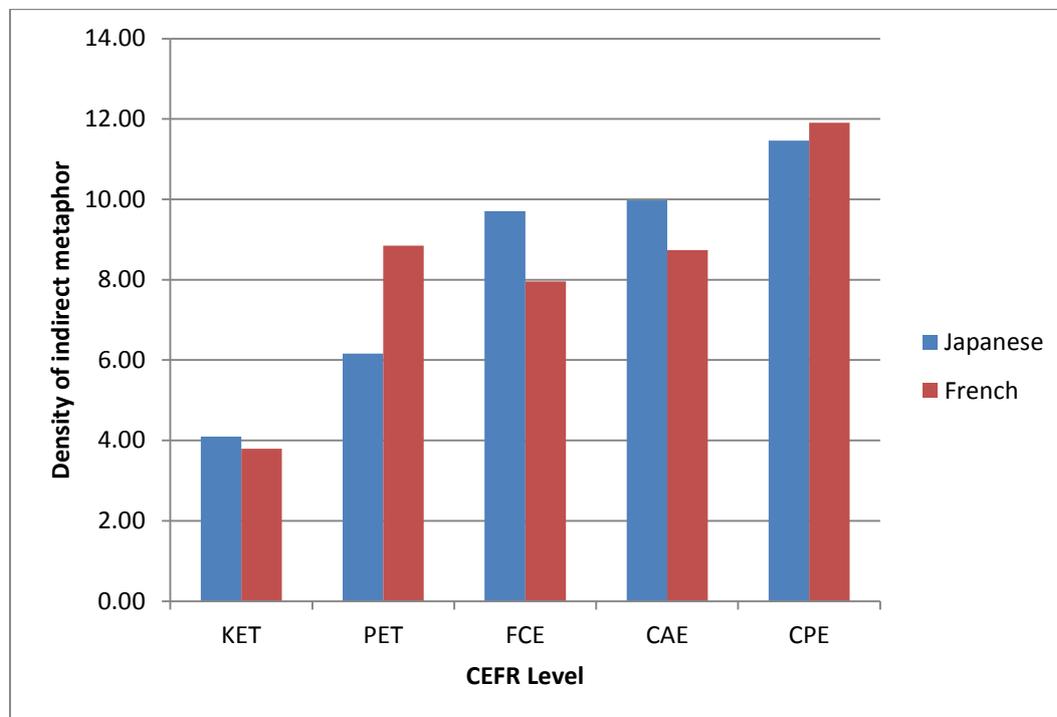
Figure 3.9 Graph showing densities of indirect metaphor in the writing of French and Japanese learners

3.5.2.3 *Possible personification*

The second most frequently used type of MRW is possible personification, where human characteristics are attributed to non-human entities. For example, in the phrase 'Money would provide the child everything' (sic), Japanese CPE, money is being considered to have the agency and ability to provide for a child. Similarly, in the example 'Their presence will contribute to make the contacts more fulfilling', French CPE, 'presence' is conceptualised as having the ability to contribute to a situation.

Expressing cases of possible personification as a percentage of the total number of words offers a clearer view of its development, as shown in Figure 3.1 and Table 3.7 below.
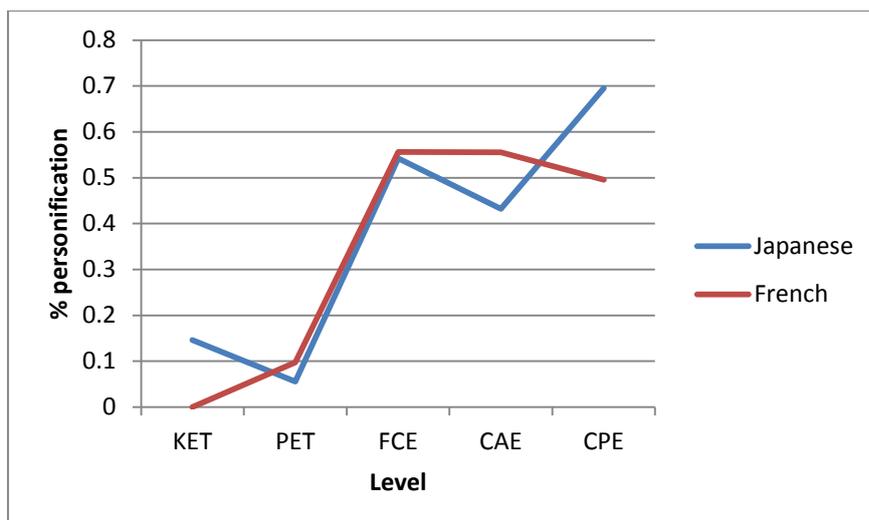
Figure 3.10 Graph showing personification expressed as percentages of total words at each level

Level	Japanese personification count	Japanese word count	% personification - Japanese	French personification count	French word count	% personification - French
KET	1	683	0.15	0	1186	0.00
PET	1	1802	0.06	2	2046	0.10
FCE	20	3689	0.54	23	4135	0.56
CAE	27	6244	0.43	34	6124	0.56
CPE	50	7190	0.70	35	7062	0.50

Table 3.7 Table showing personification expressed as percentages of total words at each level

These results highlight the observation made in Section 3.5.2.1 above that for both the French and Japanese learners, it at level FCE that the use of personification begins to be used significantly more frequently. As shown in Section 3.5.2.2, by FCE both the French and Japanese groups of learners have gone through their largest jumps in terms of the amount of indirect metaphor they use. Section 3.4.2 showed that metaphor is also found more

frequently in clusters at this level, particularly for the Japanese learners, and these clusters are of a greater 'height'. FCE level therefore seems to be the point at which both sets of learners have broken through some kind of barrier, where the language they produce is significantly different to that of the lower levels. Use of possible personification remains fairly stable for the French learners thereafter, whereas the Japanese learners produce another, smaller 'spike' in its use between levels CAE and CPE. While the small percentages involved mean that these findings can be no more than tentative, they do add to a growing picture of FCE being a particularly interesting level, marking a break between the lower levels and the higher ones.

3.5.2.4 *Implicit metaphors*

As explained in Chapter 2, implicit metaphors refer back to, or substitute, a metaphorically-used word, and in this study they also include references to abstract concepts being referred to as a single, concrete entity. For example, in the phrase 'Do not worry about <u>this</u>, it will not happen!' (French FCE), the use of the word 'this' refers back to a whole concept, representing it as a single, tangible whole that can be pointed out. Similarly, the word 'one' in the phrase 'There is an easier way to get there than the <u>one</u> you mentioned' (French FCE) substitutes the metaphorically-used *way*.

In order to gain a better understanding of how implicit metaphors develop, the same procedure was followed as for possible personification in section 3.5.2.3 above, expressing the number of implicit metaphors as a percentage of the total number of words in the level.
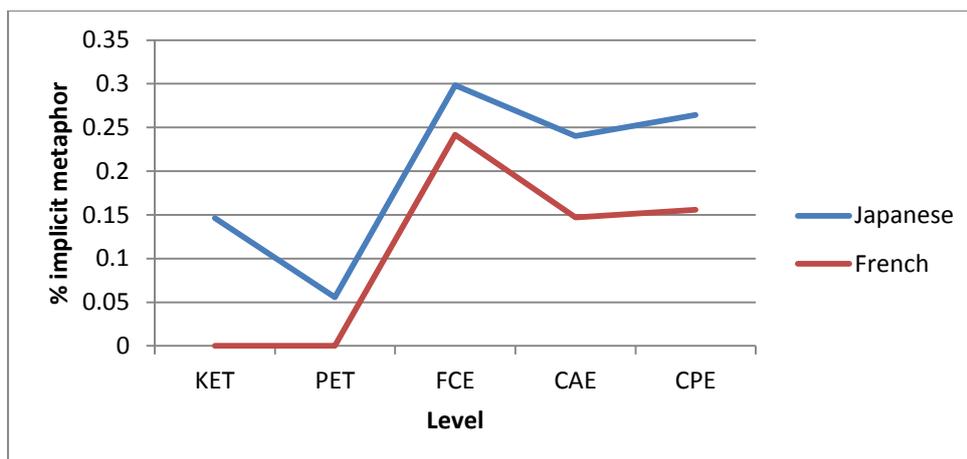
Figure 3.11 Graph showing implicit metaphor expressed as percentages of total words at each level

Level	Japanese Implicit Metaphor count	Japanese word count	Japanese Implicit Metaphor Density	French Implicit Metaphor count	French word count	French Implicit Metaphor density
KET	1	683	0.15	0	1186	0.00
PET	1	1802	0.06	0	2046	0.00
FCE	11	3689	0.30	10	4135	0.24
CAE	15	6244	0.24	9	6124	0.15
CPE	19	7190	0.26	11	7062	0.16

Table 3.8 Table showing implicit metaphor expressed as percentages of total words at each level

A very similar pattern is also observed in the learners' use of implicit metaphor to the pattern in their use of possible personification. Again, it is at level FCE that both groups of learners begin to use implicit metaphor in a more sustained fashion. While it is difficult to draw any meaningful conclusions from such small amounts of data, there is perhaps also a case for claiming that the Japanese learners are somewhat more familiar with the use of pronouns such as *that* or *these* to provide anaphoric references (Halliday and Hasan, 1976),

as they appear earlier in their development and slightly more frequently in the Japanese learners' writing. Whether there is a qualitative difference in Japanese students' use of indirect metaphor to fulfil a textual organising function will be explored in Chapter Six, but preliminary results such as these do hint at a potential difference in textual organisation methods.

3.5.2.5 Direct metaphors

Because direct metaphors were so rare in the data, it is possible to present them in their entirety here, which will enable a closer look at whether the type of direct metaphor changes as the learners progress as well as the quantity.

Level and language	Examples of direct metaphor
French PET	Like being in <u>jail</u> Like <u>couch</u> <u>potatoes</u>
French CAE	It mades (sic) them becoming like '<u>vegetables</u>'
French CPE	It was like a <u>new</u> <u>fresh</u> <u>start</u> The concert hall looked like a <u>palace</u> I had the impression of being <u>alone</u> with the man
Japanese CAE	As busy as a <u>bee</u>
Japanese CPE	We walked along the streets as if it had been a <u>dream</u> <u>world</u>

Table 3.9 Table presenting examples of direct metaphor

As the pie charts in section 3.5.2.1 showed, direct metaphors are the least common type of MRW, registering very small percentages of the total words.
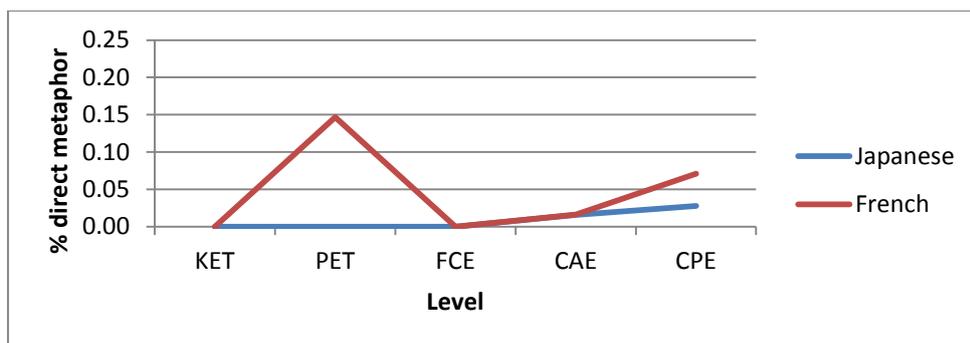
Figure 3.12 Graph showing direct metaphor expressed as percentages of total words at each level

Level	Japanese Direct Metaphor count	Japanese word count	Japanese Direct Metaphor Density	French Direct Metaphor count	French word count	French Direct Metaphor Density
KET	0	683	0.00	0	1186	0.00
PET	0	1802	0.00	3	2046	0.15
FCE	0	3689	0.00	0	4135	0.00
CAE	1	6244	0.02	1	6124	0.02
CPE	2	7190	0.03	5	7062	0.07

Table 3.10 Table showing direct metaphor expressed as percentages of total words at each level

The small number of examples of direct metaphor makes it impossible to draw any generalizable conclusions, but some interesting differences can nonetheless be observed. Most obviously, the French learners not only begin to use direct metaphor two levels earlier than the Japanese learners, at PET level, but they also produce three times as many examples overall: nine to the Japanese learners' three. The type of direct metaphor produced by the different groups of learners is also somewhat different. The first instance of direct metaphor in the Japanese learners' writing, 'as busy as a bee' at CAE, is also a highly conventional idiomatic expression, while the direct metaphors produced by the French learners are somewhat less formulaic. Such a finding may suggest that the French learners are more confident in making explicit metaphorical connections between ideas and

describing their experiences in more abstract terms, but more research would be necessary to investigate this question further.

Overall, this analysis has shown that while the significant majority of MRWs are, as expected, indirect metaphors, use of personification, implicit and direct metaphor also develops and progresses through the levels. This suggests that not only do learners use more metaphor as they progress, they also develop in terms of the variety of types of metaphor that they use, especially from level FCE onward. This implies a growing sophistication in their use of metaphor, which will be further examined in later chapters and, to a certain extent, in Research Questions 1e and 1f below.

3.6   Research Question 1e: How does the use of open-class and closed-class metaphor vary according to CEFR level and native language?

Having gained an impression of the type of metaphor used in Section 3.5 above, this next analysis provides a further level of detail by examining the differences in the use of open-class ('OC') and closed-class ('CC') metaphor. Drawing this distinction is important because the procedure employed to code the data for metaphor did not draw a distinction between closed-class grammatical metaphors (*in* love, *on* Monday) and open-class content metaphors. It may seem somewhat controversial to code the former as metaphorical at all. After all, 'by their nature they are relatively empty of semantic content', so it can be challenging to identify their different senses and the mappings between them as the MIP requires (Deignan, 2005: 50). However, prepositions can be considered to be polysemous, with their meanings metaphorically motivated and related, as Lindstromberg (2010) convincingly argues. Furthermore, the metaphoricity of these items may be more salient to a learner of English, so they should not be discounted from the analysis altogether

(Littlemore et al., 2014). However, given the fact that their use is normally restricted to formulaic sequences or highly conventional patterns of language, and does not fulfil any of the discourse functions of metaphor described in Chapter One (and discussed further in Chapter Six), neither should they be analysed on the same level as open-class metaphor. Theoretically speaking, two learners of the same level may write essays of the same overall metaphoric density, but one may contain significantly more open-class metaphor than the other. Conflating the two in the same analysis thus obscures this difference and hides the first learner's greater ability to produce a greater range of content metaphor. It could also be argued that use of open-class or closed-class metaphor relates to two different areas of metaphoric competence, with open-class metaphor use linked to a developing lexicon and closed-class metaphor use to increased grammatical knowledge. This research question is concerned with drawing this distinction.

3.6.1 Methodology

Indirect metaphors were coded as open- or closed-class automatically with the help of the CLAWS part-of-speech tagger available on the WMatrix interface (Rayson, 2009). Implicit metaphors were exclusively closed-class, so did not need to be run through the tagger. Personification and direct metaphors were suitably small in number to be annotated manually. The densities of these open-class MRWs were then calculated to produce a similar graph to the MRW density chart in Section 2.2. These were then also calculated as a percentage of the total number of metaphors per level. The results are shown in Section 3.6.2 below.

3.6.2 Findings and Discussion

3.6.2.1 Open-class MRW density

Level	Japanese OC MRW count	Japanese word count	Japanese OC MRW % density	French OC MRW count	French word count	French OC MRW % density
KET	15	683	2.20	14	1186	1.18
PET	43	1802	2.39	104	2046	5.08
FCE	251	3689	6.80	236	4135	5.71
CAE	397	6244	6.36	346	6124	5.65
CPE	604	7190	8.40	596	7062	8.44

Table 3.11 Table showing densities of open-class MRWs
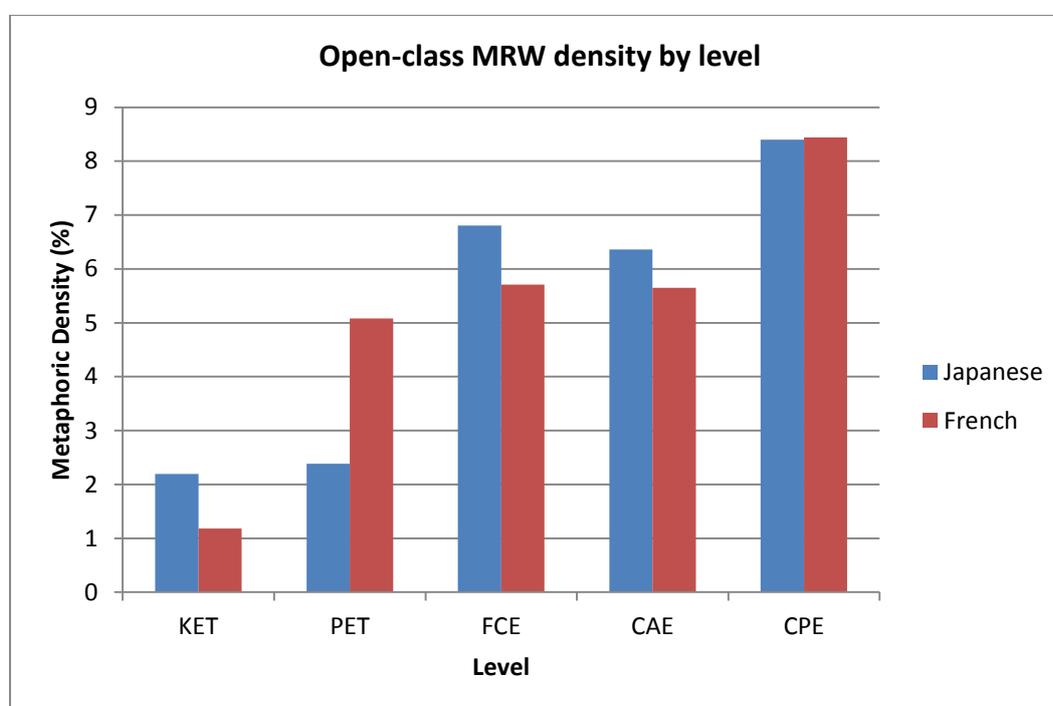
Figure 3.13 Graph showing densities of open-class MRWs

Some interesting observations can be made from these data. First, the development of open-class MRW density does not proceed in the same way as the overall MRW densities explored in research question 1. For example, overall metaphoric density in the French learners' writing slightly decreased between levels PET and FCE, but their open-class metaphoric density increased (albeit not significantly). This may suggest that by FCE level,

French learners are especially confident in their use of open-class MRWs if their increased use cannot be explained by a similar increase in metaphoric density overall. A similar observation can be made in the Japanese learners' writing between levels CAE and CPE, where there is a statistically significant increase in the use of open-class MRWs, U = 118.000 (Z = -2.578) *p* = 0.01 with a medium effect size of -0.398. This increase is not matched by a statistically significant increase in overall metaphoric density, as seen in section 2.2. By level CPE, too, the difference between the two groups of learners is minimal. Here, again, it seems that despite the two groups taking different paths through the levels, by CPE they have arrived at a very similar point.

3.6.2.2 *Percentage distribution of open- and closed-class MRWs*

It is also possible to view the variation in open- and closed-class MRW use by expressing each type as a percentage of the total number of MRWs, as shown in Table 3.12, Figure 3.14 and Figure 3.15 below.

Japanese	Total MRWs	Number of OC MRWs	Number of CC MRWs	% OC MRWs	% CC MRWs
KET	30	15	15	50.00	50.00
PET	113	43	70	38.05	61.95
FCE	389	251	138	64.52	35.48
CAE	666	397	269	59.61	40.39
CPE	892	604	288	67.71	32.29
French	Total MRWs	Number of OC MRWs	Number of CC MRWs	% OC MRWs	% CC MRWs
KET	45	14	31	31.11	68.89
PET	187	104	83	55.61	44.39
FCE	361	236	125	65.37	34.63
CAE	576	346	230	60.07	39.93
CPE	889	596	293	67.04	32.96

Table 3.12 Table showing percentage distribution of open- and closed-class MRWs

% of closed-class and open-class MRWs - Japanese learners
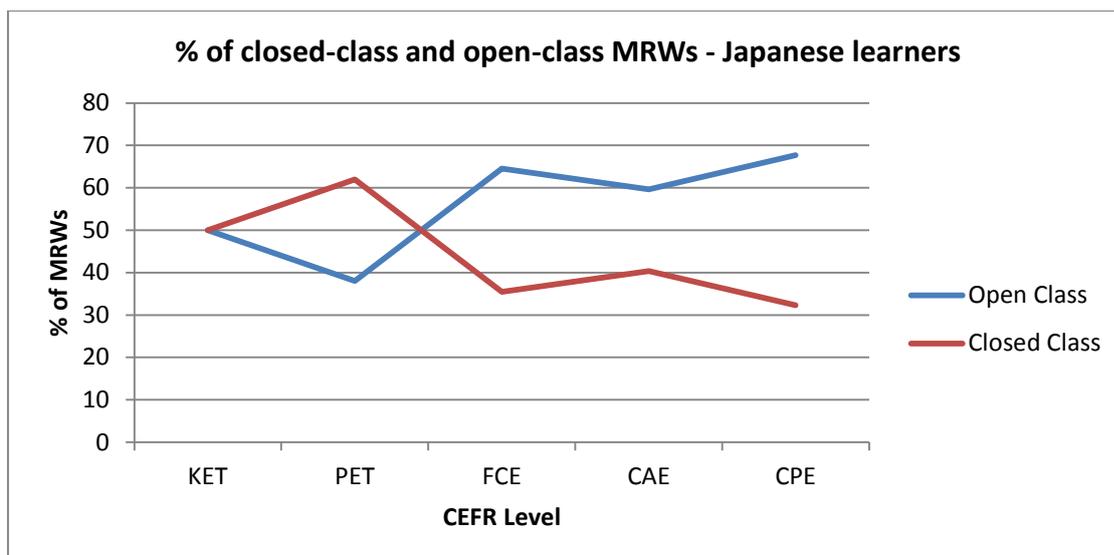
Figure 3.14 Graph showing percentage distribution of open- and closed-class MRWs in the writing produced by Japanese learners

% of closed-class and open-class MRWs - French learners
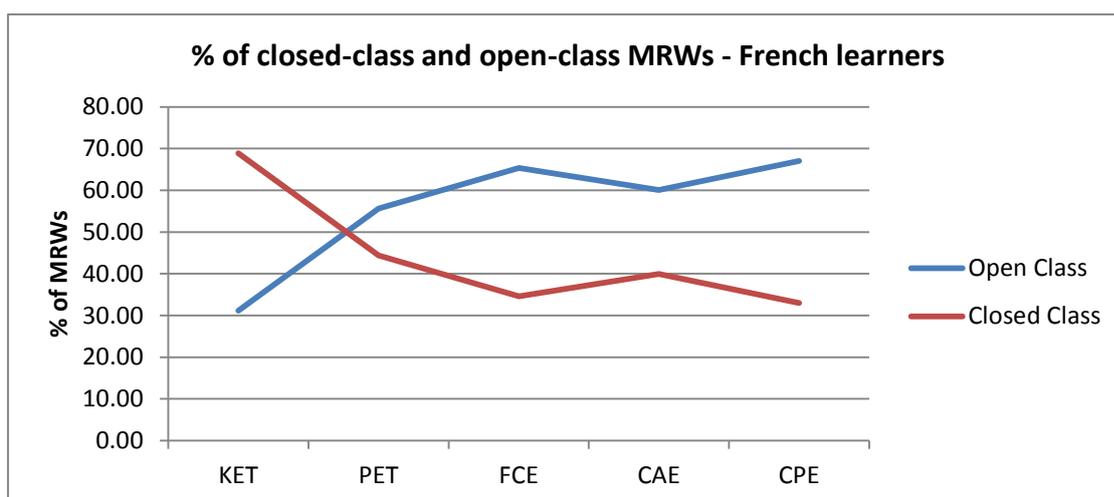
Figure 3.15 Graph showing percentage distribution of open- and closed-class MRWs in the writing produced by French learners

As these graphs show, in both L1 backgrounds there is a point when open-class metaphor usage overtakes closed-class usage. This was also seen in the German and Greek data used by Littlemore et al. (2014). However, it is important to note the point at which this phenomenon occurs. In the Japanese subcorpus, the point at which the open-class items overtook closed-class items is the same as that observed in the German and Greek data:

between PET and FCE level. However, for the French learners this occurs earlier, just before the PET level. On a very obvious level, this provides further support for the findings noted above; there is variation in metaphor use according to L1 background. Further insights can also be gained by returning to the metaphoric density charts in Section 3.2 and considering what else can be observed at this point.

In the Japanese subcorpus between the PET and FCE levels, where open-class items overtake closed-class items, this is accompanied by the largest overall increase in metaphoric density, from 6.27% to 10.54%. This is a change to the observations made in Littlemore et al., (2014) where neither the German nor Greek data demonstrated a statistically significant increase in metaphor use between these levels despite the cross-over occurring here. In this respect, too, the findings from the French data are similar to those from the Japanese data. Although the cross-over occurs a level earlier, just before the PET level is attained, it is between the KET and PET levels that the French data demonstrates the largest increase in metaphoric density, from 3.79% to 9.14%. In this respect, therefore, the findings in the current study differ somewhat from those of Littlemore et al. (2014), who found that the cross-over between open-class and closed-class items was accompanied by statistically insignificant increases in both their German and Greek data. Such a result lends further support to the hypothesis that the development of metaphoric competence proceeds differently among different L1 backgrounds, if not among individual learners too. It is also not possible to claim for certain that use of open-class metaphor is always accompanied by a significant increase in metaphor density on the whole, as this was not the case in Littlemore et al.'s (2014) study.

While there were disparities in metaphoric densities between the Japanese and French learners at FCE level, and the paths metaphoric density takes to get there are different for the two groups of learners, the data on open-class and closed-class metaphor reveal a point of similarity. For both the French and the Japanese learners, the majority of development in open-class metaphor use occurs at levels KET and PET, while after level FCE somewhat less variation occurs (although the statistically significant increases in open-class MRW density in both groups of learners means that this is not as obvious as the percentage graphs in this section might seem to show). Such a finding is to be expected given FCE's status as an 'upper-intermediate' level, where students are expected to perform more sophisticated tasks which require a wider range of vocabulary.

3.7 Research Question 1f: How much variation in the words used metaphorically by learners is observed as they progress through the levels?

In Section 3.6 above, it was noted that relying on investigations of metaphoric density obscures any differences in the type of metaphor learners are using. A theoretical example was given of two essays with the same metaphoric density, but one with significantly more open-class metaphor than the other. It was argued that this greater use of open-class metaphor could be indicative of a larger vocabulary. If this is the case, a greater variety of lexical items being metaphorically used should also be observed as learners progress through the levels. This research question is concerned with measuring this variation.

3.7.1 Methodology

Variation in metaphor use was investigated by calculating the standardised type-token ratios (TTRs) for the open-class MRWs in each essay, then calculating the average per level.

Type-token ratios are a measure of lexical variation, calculated by expressing the number of individual word types in a text as a percentage of the total number of word tokens. One problem with using regular TTR calculations is that the longer the text, the less likely new word types are to appear (Laufer and Nation, 1995). Performing standardised TTRs help to alleviate this problem, as it involves splitting the text into equal segments, calculating the TTR for each one, then producing the mean to give the overall score for the text. While TTR calculations are considered to be a somewhat crude measure of lexical variation, they will provide a starting point for the analysis of variation in metaphors used, and lay the foundations for the more detailed analysis of this question given in Chapter Four.

To calculate the TTRs, the open-class MRWs were extracted from each essay and any spelling errors were corrected. When different spellings were used such as center/centre, these were also standardised. This step was taken to avoid the TTR scores being artificially inflated due to misspellings being counted as new words. The open-class MRWs for each essay were then uploaded to the WordSmith Tools programme (Scott, 2008) and the standardised TTRs calculated for each, with each text split into segments of ten words to allow standardisation at the lower levels.

3.7.2 Findings and Discussion

The results of the TTR analyses are shown in Figure 3.16 and Table 3.13 below. Note that the graph's y-axis begins at 75 to minimise white space.
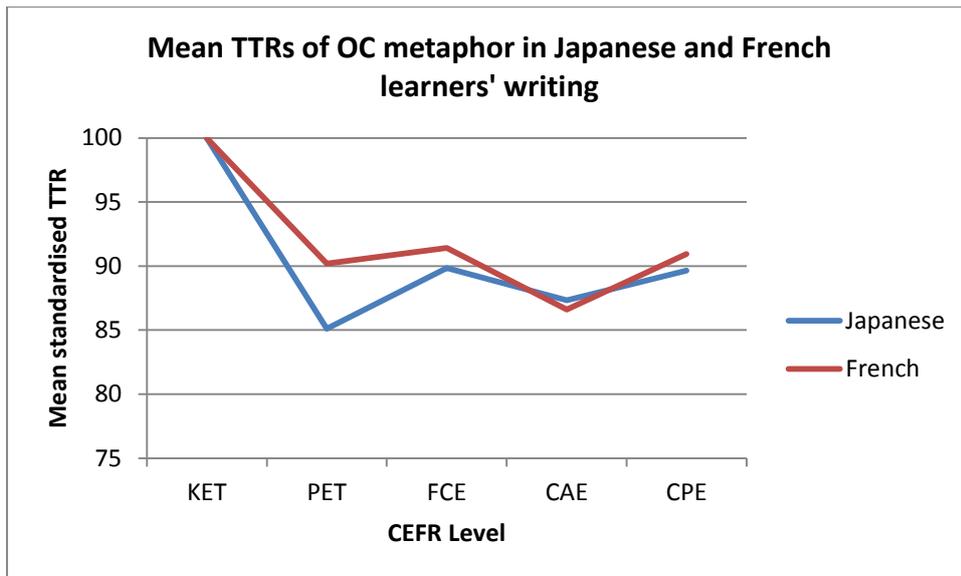
Figure 3.16 Graph showing mean TTRs of open-class metaphor

Japanese	Mean standardised TTR
KET	100.00
PET	85.12
FCE	89.84
CAE	87.33
CPE	89.64
French	
KET	100.00
PET	90.19
FCE	91.42
CAE	86.61
CPE	90.95

Table 3.13 Table showing mean TTRs of open-class metaphor

These findings are interesting because there is no discernible pattern to the data. The high TTRs observed at KET level can be discounted as many of the essays here only had one or two open-class MRWs. Thereafter, the two groups of learners follow very similar patterns, but there is no uniform increase or decrease in average TTR scores across the levels as one would perhaps expect. This may suggest that the levels of metaphor variation develop differently to overall TTRs, which will be further investigated in Chapter Four.

3.8 Research Question 1g: Does text genre have an effect on metaphoric density?

This final question is concerned with the effect of text genre on learners' use of metaphor. As noted in Chapter 2, however, the dataset is small when taken in its entirety, and so further subdivisions on the basis of text genre render the statistics too small to be of much value. It should also be noted that different genres exhibit different distributions of word classes, which could have an impact on their metaphoric densities. As Steen et al. (2010a) note, there is a three-way interaction between metaphoric density, text type and word class; their own research, focusing on academic discourse, news discourse, fiction and conversation demonstrates that merely calculating total metaphoric densities for each genre obscures the fact that metaphoric density per word class varies substantially across genres. It is thus overly simplistic to take the results from this section as indicative that different genres impact upon metaphoric density without taking into account the fact that they are likely to exhibit different distributions of word classes, too. To summarise, 'if particular word classes were taken out of the complete picture, the overall comparison between metaphors in [the different genres] would look different' (Steen et al., 2010a: 197). Neither is it accurate to claim that word class is the only factor impacting on a text's metaphoric density, however, as register also has a large impact (Steen et al., 2010a). The lack of distinctions between word classes in this study is therefore problematic, obscuring much of the complexity in this area. This could be rectified through further research, but for now it is enough to reiterate that this lack, combined with the small size of the dataset, renders it impossible to draw firm conclusions. However, it is hoped that even though the results of this analysis will be preliminary only, they will offer some tentative insights into the way learners' use of metaphor varies across text types.

3.8.1 Methodology

For the purposes of this analysis, the dataset was split into two: pre-FCE level and post-FCE level. This was because after FCE, the types of texts learners are producing do not vary based on level, and each level includes articles, letters and discussion pieces. Levels KET and PET have the 'Describe', 'Request' and 'Making Arrangements' text in common, but KET's 'Respond' category is replaced by 'Recommend' at PET level. 'Respond' and 'Recommend' were therefore excluded from the analysis to aid comparability.

The metaphoric densities for each genre were calculated by taking the mean of each essay's overall MRW. This method was chosen instead of calculating the metaphoric densities for all the essays of each genre as a whole (as in Section 3.2), because with the small amounts of data involved it was considered to be important to have an idea of the individual variation within each category.

3.8.2 Findings and Discussion

Figures 3.17-3.20 and Tables 3.14-3.15 below show the mean metaphoric densities for each genre at each language and level, followed by box-and-whisker plots showing the variation in each.

3.8.2.1 Mean MRW densities

Pre-FCE
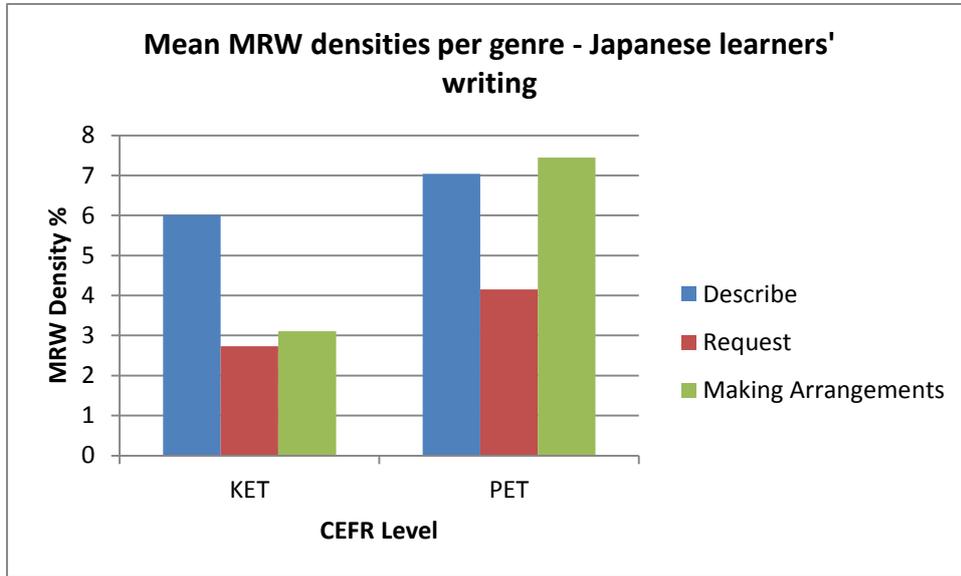
Figure 3.17 Graph showing mean MRW densities for each genre in the pre-FCE writing of Japanese learners
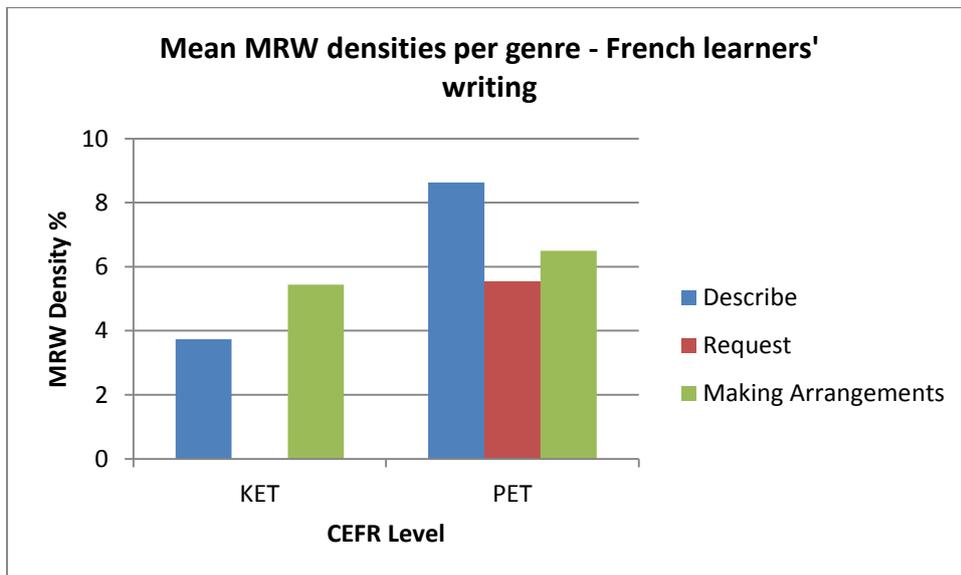
Figure 3.18 Graph showing mean MRW densities for each genre in the pre-FCE writing of French learners

Japanese	KET	PET
Describe	6.01	7.04
Request	2.73	4.15
Making arrangements	3.11	7.44
French	**KET**	**PET**
Describe	3.74	8.63
Request	0.00	5.54
Making arrangements	5.44	6.50

Table 3.14 Table showing mean MRW densities for each genre in pre-FCE writing

Post-FCE
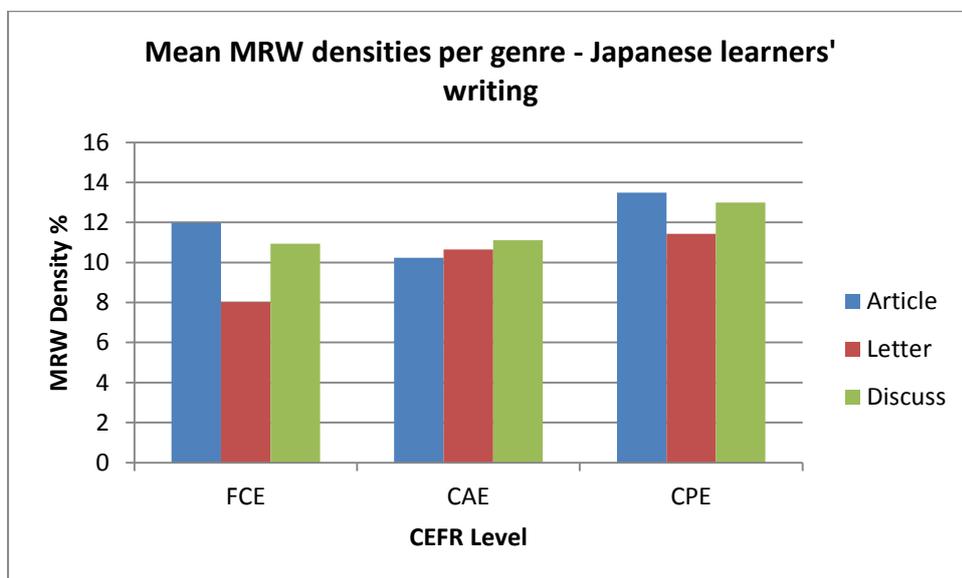
Figure 3.19 Graph showing mean MRW densities for each genre in the post-FCE writing of Japanese learners
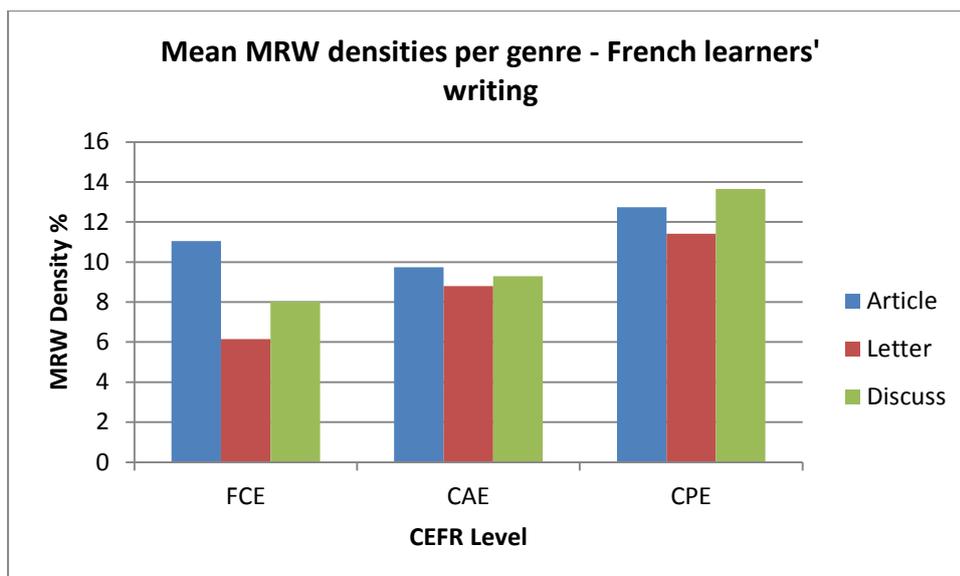
Figure 3.20 Graph showing mean MRW densities for each genre in the post-FCE writing of French learners

Japanese	FCE	CAE	CPE
Article	11.97	10.23	13.49
Letter	8.02	10.65	11.44
Discuss	10.94	11.11	12.99
French	**FCE**	**CAE**	**CPE**
Article	11.06	9.75	12.74
Letter	6.16	8.79	11.42
Discuss	8.04	9.30	13.65

Table 3.15 Table showing mean MRW densities for each genre in post-FCE writing

Figure 3.17, Figure 3.18, Figure 3.19 and Figure 3.20 above show some variation in metaphoric density according to genre, but the small dataset makes drawing firm conclusions impossible. Running a series of Independent-Samples Kruskal-Wallis tests for statistical significance showed that for the Japanese data, genre did not have a significant impact on MRW density at any level. For the French data, the impact was significant at KET level, $\chi^2(2) = 8.818$. $p = 0.012$. Looking at the graph for mean MRW densities per genre for the French learners, this was likely to be due to the fact that no MRWs were observed in the 'request' genre at this level. The impact of genre was also shown to be significant at FCE level for the French learners, $\chi^2(2) = 6.909$. $p = 0.032$, although the sample sizes were far

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too small to run follow-up Mann-Whitney U tests to determine the most significant differences within this level. Due to the small sample sizes, the same tests were also conducted on the dataset as a whole, without controlling for language background. This time, a statistically significant impact was observed at FCE level only, $\chi^2(2) = 9.184$, $p = 0.01$. Follow-up Mann-Whitney U tests suggested significant differences between the 'article' and 'letter' genres U = 37.000 (Z = -2.803), $p = 0.005$ with a medium effect size of -0.530, and between the 'letter' and 'discussion' genres U = 54.000 (Z = -2.022), $p = 0.043$ with a slightly smaller effect size of -0.382, but no significant difference between the 'discussion' and 'article' genres.

This analysis suggests that at FCE, the 'letter' genre elicits significantly less metaphor than articles or discussions. Given the previous findings suggesting that FCE was somewhat of a threshold level where learners use metaphor at a greater and more sustained rate, the greater impact of genre on MRW density at this level could also be indicative of a growing sensitivity to genre, and of metaphor's potential to fulfil a range of functions relevant to the task. This hypothesis is supported by looking at the tasks learners are being asked to undertake at this level. As noted in Chapter Two, the letters students must write involved making corrections to a tourist guidebook, and describing the students' hometown to a visiting friend. These topics certainly would seem to provide less scope for sustained metaphor use than the articles and discussion pieces, where more metaphor serving persuasive or textual organisation functions might be expected. A full analysis of metaphor functions is reported in Chapter Six, but if this were the case, the impact of genre on density should be observed at levels CAE and CPE as well. The fact that it is not may be due to the difficulties in categorising the essays into genres, as noted in Chapter Two. Notably, at CPE

level, the 'letter' genre overlapped with the 'discuss' genre, as learners were asked to write pieces arguing a particular point of view. These blurred boundaries between the genres could explain why no statistically significant impact was found at these higher levels.

In terms of language background, too, learners differ in their use of MRWs across the genres. Not only is FCE level the only level at which the impact of genre on MRW is statistically significant when not controlling for language, but the density distributions are comparable in both groups of learners (with 'Articles' containing the most metaphor, followed by 'Discussion' and 'Letter'). The fact that this is the only level where this occurs could be explained again by the difficulties in distinguishing between genres at the higher levels, or it could be symptomatic of high levels of variation within the same language background and level. This will be explored in the next section.

3.8.2.2 *Variation in MRW densities by genre*

Figure 3.21 and Figure 3.22 below show the level of variation in the MRW densities of each genre at each level.
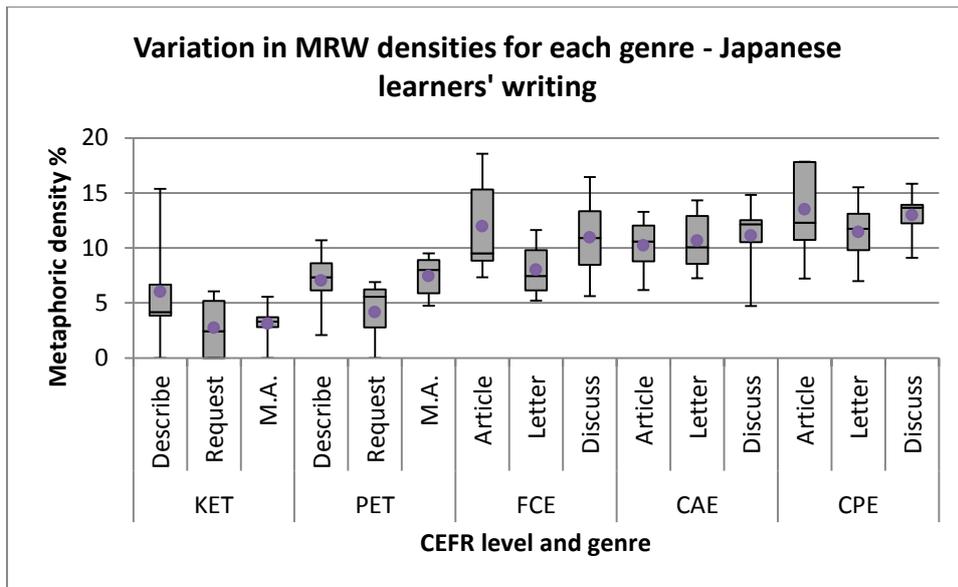
Figure 3.21 Box-and-whisker plot showing variation in metaphoric density for each genre in writing produced by Japanese learners
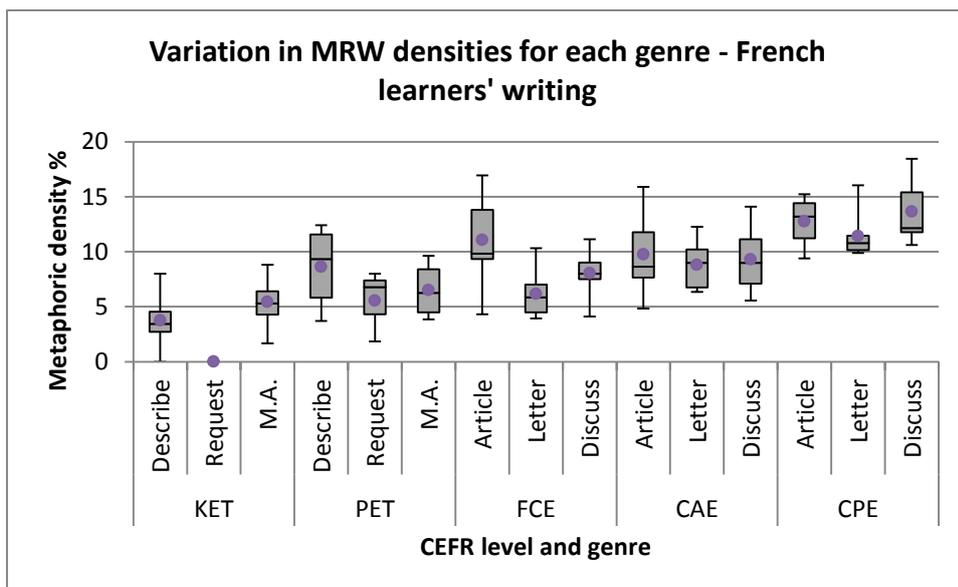
Figure 3.22 Box-and-whisker plot showing variation in metaphoric density for each genre in writing produced by French learners

The large amounts of variation in MRW densities for each genre also deserve attention. Such high levels are perhaps to be expected given the similar levels noted in Section 3.3, but they also provide a further warning against viewing genre as a defining factor in an essay's

MRW density. Again, these graphs suggest that metaphor use varies substantially between different learners, not only of the same level and language background, but also when producing the same text type.

The small size of the dataset and the blurred boundaries between genres, especially at the higher levels, are particularly problematic for this analysis. Further research could usefully focus on one level of the CEFR only and choose text types which are easier to distinguish in order to gain a better impression of the impact of genre on learners' metaphor use. However, despite these drawbacks, this analysis has confirmed the high levels of variation found in Section 3.3, suggesting that metaphor density varies significantly between individual learners and cannot be explained by text type alone.

3.9 Conclusions

This chapter has presented the results of a series of analyses designed to provide insights into the amount and type of metaphor French and Japanese learners of English use as they progress through the levels of the CEFR. These findings will now be briefly summarised and their implications on the research questions of this thesis discussed.

As was expected given the results of previous research into use of metaphor by learners of English (Littlemore et al., 2014), it was shown that on the whole, MRW density increased as learners progressed through the levels, as one would expect. The small decrease in the French MRW density between levels PET and FCE was unexpected, but statistically insignificant. However, while by level CPE the metaphoric densities produced by the two groups of learners was very similar (12.41% in the Japanese dataset to 12.59% in the French), the two groups of learners took very different paths to reach this point in terms of both the quantity and type of metaphors used. In Section 3.2, for example, the statistically significant

increases in metaphor density were found at different levels in the two groups: while both produced a significant increase between levels KET and PET, the Japanese learners also produced one between PET and FCE, the French between CAE and CPE. There is also variation in terms of the use of metaphor in clusters, with the French learners producing more clusters at PET level than their Japanese counterparts, although again, by CPE there is very little to distinguish the two groups' uses of metaphor clusters. In terms of the distribution of open- and closed-class MRWs, also, the crossover point where learners produce more open-class than closed-class metaphor differed between the two sets of learners, occurring one level earlier in the French learners' writing. A high degree of variation was observed in the MRW densities of individual essays, suggesting that metaphor use may develop differently according to the individual. Taken together, these findings should perhaps serve to discourage researchers in this field from making prescriptive judgements about the amount of metaphor a learner 'should' be using at a certain level, as while variation is observed in the process, the same end point is nonetheless reached by the more advanced levels.

In terms of the type of metaphor used, direct metaphors, implicit metaphors and possible personification were analysed separately, with relatively low levels of each being found. However, the use of these different types of metaphor, especially personification, was the most noticeable after level FCE. By level FCE, too, both groups of learners had produced their largest increases in metaphoric density and cluster use, and open-class metaphor use had surpassed closed-class use. FCE is also the point at which text genre has a significant impact on metaphor use, suggesting a growing sensitivity to genre. This finding was not repeated in subsequent levels, however, perhaps due to the fuzzy boundaries between

genres in the later levels as discussed in Chapter 2. On the whole, however, FCE therefore can be considered to be a level where the language learners produce is qualitatively different to that of the lower levels, representing a noticeable break between the beginner and the more advanced levels.

The analyses reported in this chapter have given a general overview of metaphor development and can thus form the basis of a response to research question one. They have also formed the foundations for the studies in forthcoming chapters, particularly Chapter Four which looks more closely at the lexical development of metaphor alluded to in the TTR calculations reported in Section 3.7 above. Finally, the high levels of variation observed both between and within language backgrounds in terms of how metaphor use develops could serve as a cautionary note against overly generalising definitions of 'metaphoric competence', providing a first insight into research question four of this thesis.

This chapter can also serve to highlight two drawbacks to the dataset used in this thesis. One is its size, which particularly impacted upon the investigation of the text genre's effect on metaphor density. This was further hampered by the difficulties in distinguishing between genres at the higher levels. Second, the high levels of individual variation suggest that metaphoric competence might proceed very differently from learner to learner. A longitudinal study of the same small group of learners could therefore provide very interesting insights this dataset cannot. However, it is hoped that the dataset used in this thesis will still provide a valuable portrait of the development of metaphor use in learners of English to complement future longitudinal research.

4 A STUDY OF THE RELATIONSHIP BETWEEN METAPHOR USE AND LEXICAL

DEVELOPMENT

4.1 Introduction

Chapter Three enabled an overall impression of metaphor development, thus forming the basis for a response to Research Question One. This chapter further deepens the insights provided in Chapter Three and seeks to provide part of the answer to Research Question Two, concerned with how metaphor interacts with and contributes to other aspects of language development. More specifically, this chapter aims to explore the ways in which metaphor both contributes to, and is a fundamental part of, a learner's lexical development. The hypothesis tested in this chapter is that metaphor development will proceed along very similar lines to overall lexical development. A justification for this hypothesis is provided in Section 4.2 below.

This chapter is split into two subsections. The first refers to lexical *breadth* and metaphor's relation to its development. The second does the same for lexical *depth*. However, this distinction is made with the recognition that it is perhaps problematic to investigate size/breadth and depth separately, given that the two areas have been shown to be linked (Read, 2004b), or even essentially non-distinguishable. For example, it is only through knowledge of the subtly different meanings of words in a semantic network ('depth') that a language user can express an individual word's meaning (Vermeer, 2001). Tests of vocabulary size and depth have also shown a correlation between the two, for example those performed by Qian (1999) who found high degrees of correlation between size and depth in adult learners of English. This correlation has been shown to be especially strong in more advanced learners (Nurweni and Read, 1999); weaker correlation is observed in lower-

level learners, probably because the two domains do not develop concurrently (Akbarian, 2010). Nevertheless, drawing this distinction allows the focus to be placed on these two different facets of vocabulary development and metaphor's relationship to them.

4.2 Literature Review: Metaphor and Vocabulary Breadth

This section reviews some of the research that led to the formation of the hypothesis given above. It was noted in Chapter One that metaphor plays an important role in meaning extension, with metaphorical extensions of words being a significant factor in polysemy (Taylor, 2002). It was surmised that the use of metaphorical senses of words could therefore be indicative of increased vocabulary breadth, as learners would inevitably use more metaphor as a function of their growing lexicon. However, there is very little research into metaphor's relationship to lexical development more specifically. The experimental studies outlined in Chapter 1 that revealed how raising learners' awareness of the metaphorical mappings underpinning certain lexical items had a positive effect on their retainability and use (Boers, 2000, Boers et al., 2004, Lowie and Verspoor, 2003, MacArthur and Littlemore, 2008) hint at a relationship between metaphor and lexical development, but so far this relationship's manifestation in learner data has not been examined. The relationship was further investigated by Azuma (2005). She administered tests of vocabulary size and depth on a group of 172 Japanese learners of English at university level, then tested their ability to comprehend metaphorical expressions, use a target expression metaphorically in a short passage, and create both literal and metaphorical 'X is Y' sentences. She found significant correlations between the results of each of these tests, leading her to conclude that 'the students' larger vocabulary knowledge (breadth, i.e. size, and depth, i.e. polysemy)… [was] related to better understanding and use of metaphorical

expressions' (Azuma, 2005: 295).   While her experiments provide empirical evidence for the relationship between lexical and metaphoric competence, they do not use natural language data, nor do they engage with the interplay of the two areas in learner development. This study aims to investigate the way in which this relationship is manifested in natural language data, and its development as students progress.

A far greater body of research has been undertaken into the development of the learner lexicon more generally. One insight gained from this research which is very relevant to this study is that vocabulary development does not follow a linear or predictable progression (Laufer, 1998, Schmitt and Meara, 1997), and that there are high degrees of variation among different learners (Fan, 2000). Such findings are in keeping with the observations made in Chapter Three, where high levels of variation were found in terms of MRW density, which was also shown to develop at different rates for different groups of learners. Sadly, the lack of longitudinal data renders it impossible to accurately examine developing metaphor use in individual learners, but these similarities between metaphor development and lexical development more generally lend support to the hypothesis stated above that there is a strong link between the two. The fact that vocabulary development is a non-linear process makes it particularly useful to view it from a dynamic systems perspective, convincingly demonstrated by Caspi and Lowie (2013). They investigate the size of the gap between a single learner's receptive and productive vocabulary, attempting to model the change in size over a period of 36 weeks using 'dynamic precursor interactions' (Caspi and Lowie, 2013: 444). This refers to the two types of variable within a dynamic system: *precursors* and *dependents*. The growth of the dependents can only begin once their precursors have attained a specific value. For example, in the early stages of second

language acquisition, development of the lexicon has been shown to be a precursor to syntax. When lexical development reaches its threshold value and syntactical development begins, it may have to 'compete' with continuing lexical development for resources, meaning that lexical development may consequently slow. Over time, the two variables stabilise and enter into a relationship of support instead of competition (van Geert, 1991). Using a model programmed in Excel-VBA code to simulate patterns of growth according to dynamic precursor interactions, Caspi and Lowie (2013) were able to show that the patterns of development observed in the participant in their study closely matched those predicted by the model. This finding was taken as support for this conceptualisation of lexical development. It could be hypothesised that the growth of metaphor use, too, could be dependent on certain precursors, such as a threshold overall vocabulary size. While modelling the data as Caspi and Lowie (2013) did is beyond the scope of this study, and of limited utility given the lack of longitudinal data, it may be possible to see indications of this in the current analysis.

A number of tools have been developed to facilitate investigations of vocabulary development. Many involve testing the learners themselves, but in terms of researching the vocabulary as it is used in written language, various methods have been developed to analyse it using frequency data from large corpora. Type-token ratio calculations have already been introduced in Chapter Three, where they were performed on the open-class MRWs learners produced. However, TTR calculations are problematic for a number of reasons. Even after standardisation to control for text length, TTR analyses count derivatives as different words, so the use of the words *run, runs* and *running* would elicit the same score as, for example, *metaphor, lexical* and *development* despite the first writer's

reliance on a single word family (Laufer and Nation, 1995). Neither can TTR scores distinguish between the types of words used; it is a test of lexical variation only, so an essay written using very elementary, beginner-level vocabulary could potentially have the same TTR score as one with more technical, advanced lexis.

The Lexical Frequency Profile, or LFP, (Laufer and Nation, 1995) was developed to respond to some of these problems. The LFP is a test of lexical richness which calculates the percentage of words in a piece of learner writing at different vocabulary frequency levels. As a learner progresses, s/he should begin to use more words from the higher frequency lists, that is, lists of words that occur less frequently in the English language. In terms of the lists used to determine frequency, the original LFP took its frequency data from the General Service List, but more recently, the BNC-20 profile was developed (Nation and Cobb, 2007). This differed from the original incarnation of the LFP in two key ways. First, it took its frequency data from the BNC, not the General Service List. Second, it introduced more frequency brackets. The developers of the original LFP proposed two different measures, one for less proficient learners and one for more advanced learners. The former drew a distinction between the first and the second thousand most frequent words, and any other words used that were not on those lists. The latter used the second thousand most frequent words, the University Word List, and any less frequent words. The BNC-20 profile, on the other hand, provides 20 frequency lists, each comprising 1000 words (Nation and Cobb, 2007). More recently still, word lists have been developed which include data from the Corpus of Contemporary American English (COCA). This was considered necessary because the lists' prior reliance on data from the British National Corpus meant that words specific to British English, such as 'bloke' or 'chap', were analysed as high-frequency words

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(Cobb, 2013). Given that many learners of English are more exposed to American English than to British English, such a finding would not necessarily reflect their experience of English learning. For Japanese learners in particular, American English is taught as standard and word lists used to analyse their lexical development should therefore reflect that.

Using lexical frequency profiling measures has a clear advantage over TTR analysis, as it 'will discriminate between subjects who use frequent and less frequent vocabulary, not just between those who can or cannot vary their possibly limited vocabulary' (Laufer and Nation, 1995: 313). Laufer and Nation (1995: 319) claim that the LFP itself represents 'a reliable and valid measure of lexical use in writing,' providing 'similar stable results for two piece of writing by the same person' even when those texts were on different topics, '[discriminating] between learners of different proficiency levels' and '[correlating] well with an independent measure of vocabulary knowledge'. However, various caveats should be taken into consideration regarding its use. Perhaps the most serious is that just because a word is frequently used in the corpus, this does not mean that it is learned earlier by students, and similarly, low-frequency words may be learned earlier on. A word like 'textbook', for example, is likely to be acquired very early in a learner's development due to its salience as a classroom-related word, but is classed as a level 8 word in the BNC-COCA frequency lists. Similarly, some words featuring in level 1 of the frequency lists are unlikely to appear until later in a learner's development, especially given that the BNC-COCA word lists do not distinguish between different forms of the same lemma. This means that the (reasonably simple) lemma 'back' appears on the level 1 list, but so too do 'backers,' 'backer', 'backing' and 'backwardness'. Similarly, while 'educate' may be highly salient for a learner and soon learned, it seems doubtful that 'educationalist' and 'educative' would be!

It is also important to bear in mind exactly what is being measured using frequency profiling methods. The LFP gives a portrait of lexical *use*, but cannot estimate productive vocabulary *size* (Laufer, 2005). This is due to the fact that comprehension, elicited production and free production develop differently (Laufer, 1998). While the acquisition of new words may mean learners gain better scores on elicited productive vocabulary tests, this development may not show up on an LFP analysis of their free writing because they may choose not to use them, possibly due to a lack of confidence (Laufer, 2005). Put simply, LFP analyses show only what a learner has done at the moment of writing, not necessarily what they are capable of doing. Furthermore, while a rich vocabulary has been shown to correlate positively with holistic scores of writing quality (Engber, 1993, cited in Laufer and Nation, 1995), LFP analyses make no claims as to the accuracy or appropriateness of the vocabulary used.

Different words are also going to have a higher degree of salience for different learners, and this must be taken into account here. The concept of salience was first introduced in Chapter One. Salient information can be defined as information that has been consolidated, that is, 'stored or coded in the mental lexicon' (Giora, 2003: 15). The degree to which a piece of information is salient to a language user relates to four main factors: frequency, familiarity, conventionality and prototypicality/stereotypicality. Frequency refers to the number of times an individual encounters a particular meaning in their daily lives, while familiarity relates to knowledge the individual has which can encourage accessing a particular meaning of a word; the meaning of the word *tree* relating to syntactic structure diagrams in linguistic research, for example, may be completely unfamiliar to non-linguists. Conventionality refers to how usual and accepted certain meanings are: *I'm afraid*, for

example, is more conventionally used to hedge bad news than to express feelings of fear.

Finally, prototypicality/stereotypicality can be understood in relation to the phenomenon of categorisation. As Lakoff (1987: 6) states, 'In moving about the world, we automatically categorize people, animals, and physical objects, both natural and man-made... We categorize events, actions, emotions, spatial relationships, and abstract entities of an enormous range.' Indeed, categorisation is central to human cognition, and it is performed largely automatically and unconsciously. In general, each category has a number of 'best examples' or 'prototypes' (Lakoff, 1987: 7). These are members which seem to best exemplify the category; 'the best, clearest and most salient exemplar[s] among the members of a category and [serving] as a kind of cognitive reference point with respect to which the surrounding, "poorer" instances of the category are defined' (Radden, 1992: 519-520, cited in Gilquin 2006). Listeners or readers are faster to retrieve meanings that are more prototypical of the categories in which they are found; for example, in a text about birds, readers are quicker to access prototypical members of the category (e.g. sparrows) than peripheral ones (e.g. toucans, for the category of 'birds') (Giora, 2003).

Of these four factors, it is *familiarity* that has been found to have the most significant effect on meaning retrieval. This is possibly due to the fact that more frequent, conventional or prototypical/stereotypical meanings are likely to also be more familiar to an individual, although this is not always the case. The meaning of the word *tree* that relates to syntactic structure diagrams in linguistics, for example, may be familiar to an individual but infrequent (Giora, 2003). These concepts are particularly relevant for research into vocabulary knowledge using frequency profiling methods. We can take as an example from the data used in this thesis a French learner at CPE level. She writes about her experience of

going to hear a concert by a famous flute player, and her essay contains several relatively specialist words which significantly increase her LFP scores: flute (level 6), harp (7), concerto (7), flautist (8), Conservatory (7). As she writes that she used to practise every day and was then accepted to study at the Paris Conservatoire, it seems reasonable to assume that these words would be highly familiar, and thus salient, to her and not as likely to be known by her non-flautist counterparts. Again, themes of individual differences and experiences are likely to play a significant role here and must be taken into account in interpreting the results. However, LFP analysis can still paint a useful picture of vocabulary development and, more relevantly to this study, the role of metaphor in this area.

To conclude this section, this study seeks to ascertain the extent to which the use of MRWs develops in the same way as general vocabulary development. If metaphoric competence and lexical competence are correlated as Azuma's (2005) findings suggest, similarities would be expected between the developmental paths for MRWs and non-MRWs, as measured by LFP.

4.3   Methodology: Metaphor and Vocabulary Breadth

The data for this study include open-class indirect and direct metaphors. Implicit metaphors were excluded from the analysis as they were exclusively closed-class.   Possible personifications were also excluded. This was because, while the use of non-personification metaphors could be an indicator of increased vocabulary depth and/or breadth as noted above, the use of a personification metaphor does not mean that a word's basic sense is being metaphorically extended and does not therefore indicate lexical development. It may point to an increased ability to make metaphorical connections between ideas, but this is outside the remit of this chapter. Henceforth in this chapter, 'open-class MRWs' refers to

open-class indirect and direct metaphors, while closed-class MRWs, implicit metaphors, personification metaphor and non-MRWs are referred to simply as 'other' words.

Laurence Anthony's 'AntWordProfiler' software was used to perform the frequency profiling analyses (Anthony, 2012). This software was developed to facilitate vocabulary profiling research, and produces vocabulary frequency information and statistics for texts using frequency lists chosen by the user as a comparison. For this study, the BNC-COCA lists were chosen to provide the frequency data, as their inclusion of frequency data from American English was considered necessary to reflect the variety of English taught and learned in Japanese schools and to a lesser extent the French learners' exposure to American English through popular culture. For the first analysis, whole essays were analysed using the BNC-COCA frequency lists and AntWordProfiler to obtain an overall perspective of vocabulary development. Then, the open-class MRWs and 'other' words were investigated separately. Each of these analyses was conducted twice, first with the essays as they had been produced by the learners, second with orthographic errors corrected. This follows similar logic to that of Littlemore et al. (2014: 124), who used 'strict' and 'generous' scoring for their error analysis: under the 'generous' criterion, non-native-like phraseology was not counted as wrong. Similarly here, the correction of orthographic errors could be considered 'generous', but knowing the spelling of a word is only one component of what it means to 'know' a word (Richards, 1976). AntWordProfiler would exclude misspelled words from the analysis even if their meaning and use were appropriate, and it was feared that this would thus exclude valuable data and otherwise-appropriate use of metaphor.

It is worth detailing some of the correction decisions made at this point. The majority of spelling errors could be identified using the automatic spelling checker in Microsoft Word,

although a degree of manual checking was also required as some spelling mistakes were words in themselves ('*collect* information', for example, instead of 'correct'). Simple spelling errors ('untill', 'Suturday') were corrected, including when a homonym was incorrectly used ('We will meat at my house'). Grammar mistakes, such as inaccurate verb conjugations or subject/verb agreement, were not corrected unless the error also lead to a spelling error (such as in the case of 'it *mades* them becoming like 'vegetables'). Words conventionally formed as one lexical item, but used as two by the writer, were corrected ('sports wear', 'can not', 'further more'). Examples where the writer had erroneously combined two words were also corrected ('infact' was corrected to 'in fact'). Discrepancies in British/American spelling were not corrected; as the BNC-COCA lists are formed of both British and American varieties, they include both, and in all such cases both variations of the word were found in the same frequency list ('favorite/favourite', 'center/centre'). Foreign words ('altrui', 'co-voiturage') were retained, as were word forms which were not considered correct in English, but were not possible to edit without significant alteration ('silentness', 'rushness', 'admirative'). This was also the case for situations in which the meaning of the word was unclear ('performat').

In both LFP analyses, one further change was made, as it was noted that it was causing problems in the analysis. 'AM' and 'PM' had significantly different LFP scores, with 'AM' considered a level 1 word (due to its possible use as a conjugation of the verb *to be*) and 'PM' appearing on a separate list of abbreviations. Because of this, AM and PM were considered part of the time they referred to, and the whole was marked as a figure which was subsequently ignored by the AntWordProfiler software.

Using the BNC-COCA lists posed some challenges. One is that so-called 'transparent compounds' have their own list; in this analysis, this affected MRWs such as *widespread, nutshell, overturn* and *snowball,* and non-MRWs such as *sportswear*, *postcard*, *countryside* or *suntan.* For these words, therefore, the frequency profiles were checked against the BNC-20 lists (Nation and Cobb, 2007), derived solely from the BNC, which did not give these words their own list. This was performed using Tom Cobb's 'VocabProfile' online interface, available on http://www.lextutor.ca. Proper nouns and the adjectives derived from them, such as 'Japan' or 'Japanese', also had their own list on the BNC-COCA set. This was a harder problem to solve; the BNC-20 word lists included 'English' and British' on their list of level one words, but 'Japanese' as a level two word. Given that at KET level, students were frequently writing about their home countries, this distinction would artificially inflate the LFP scores for the Japanese learners. In order to ensure comparability between the French and Japanese learners, it was therefore decided to mark all such lexical items as 'CN' – country or nationality. This code was also used when 'English' or 'Japanese' was being used to refer to the language. Cities and town names were similarly marked 'CTN'. People's names were marked 'PN'; this was also the case for attraction names such as 'Trafalgar Square', 'Covent Garden' or 'Louvre'.

4.4 Results and Discussion: Vocabulary Breadth

In order to compare the development of MRWs with that of non-MRWs, it is necessary to examine how overall vocabulary development proceeds as learners progress through the levels. To this end, this section presents the LFP scores for each level for each language background, using complete essays. As explained in the Methodology section above, this

analysis was performed twice, once with spelling errors corrected, once with the essays as they were written by the students.

This preliminary analysis also enabled the evaluation of the use of the BNC-COCA word lists and was intended to flag up any potential problems before proceeding to the more specific metaphor analysis. The BNC-COCA word lists extend to level 25, with 17 of these levels represented in the current dataset. Given the fact that examining all 17 of these levels could be somewhat unwieldy, especially given the probable very low occurrences of words from the lower frequency brackets, such an investigation will also help to inform decisions as to whether to 'chunk' the data in subsequent analyses, and if so, how this should be achieved. In order to address this question, the first analysis partly follows Laufer (1995: 267), who claims that the original incarnation of the LFP provides a 'detailed' profile, and that a 'condensed profile which [distinguishes] between the basic 2000 words and the "beyond 2000" words' only also provides a 'reliable and valid' way of investigating the learner's active lexicon. Given the relatively small sample size (especially when only open-class MRWs are being considered in later analyses), it was deemed unwise to conflate the first and second frequency bands into one, but there may be a case for conflating the subsequent levels, that is, the 'beyond 2000' words. Furthermore, it has been suggested that the use of these 'beyond 2000' words tends to plateau in a learner's development (Laufer, 1998). Conflating all the words beyond the most frequent 2,000 runs the risk of hiding the nuances in a learner's progression which could be observed through the use of the more extensive word lists used here; does usage indeed plateau, or is there in fact progression through frequency levels which were not considered in Laufer's (1998) study? In order to investigate this question, the first analysis used four categories: band 1, band 2,

'beyond 2000' and words that had been discarded from the LFP analysis.   These included place names, proper nouns, numbers, acronyms and interjections, words which were unrecognised by either the BNC-COCA word lists in AntWordProfiler or the BNC-20 lists in VocabProfile, and words which were non-standard English words but which could not be corrected without substantial changes being made that went beyond simple spelling correction (such as 'rushness', 'oversnowed' or 'wishable'.) The second analysis honed in on these 'beyond 2000' words to ascertain the extent of variation within them.

4.4.1   Piloting the LFP methodology and gaining an overall picture of vocabulary development: LFP analysis of whole essays with spelling errors corrected

This section presents the results of the first analysis, which investigated whole essays focussing on band 1, band 2 and 'beyond 2000' words. Each essay was analysed separately, and the percentages of words it contained at each frequency band were calculated. The averages for each level and language were then calculated, which are expressed Table 4.1 below. The '% words discarded' column shows the number of words discarded from the analysis on the criteria explained above, expressed as a percentage of the total number of words in the level.

		Average no. of words	Average % total corrected words coded at LFP level:			% words discarded from analysis
			1	2	'Beyond 2000'	
Japanese	KET	32.76	89.37	1.94	3.20	5.23
	PET	85.67	89.13	3.16	2.83	4.11
	FCE	175.71	85.99	7.93	4.05	2.09
	CAE	297.33	84.51	7.84	5.35	2.32
	CPE	342.33	84.29	7.98	6.52	1.24
French	KET	56.29	90.26	3.16	2.04	4.65
	PET	97.14	89.55	3.41	2.53	4.12
	FCE	196.90	85.26	8.93	4.02	1.74
	CAE	291.38	86.55	6.93	4.07	2.48
	CPE	336.14	83.02	7.61	7.78	1.52

Table 4.1 Table showing percentages of Bands 1, 2 and 'Beyond 2000' words, in complete essays.
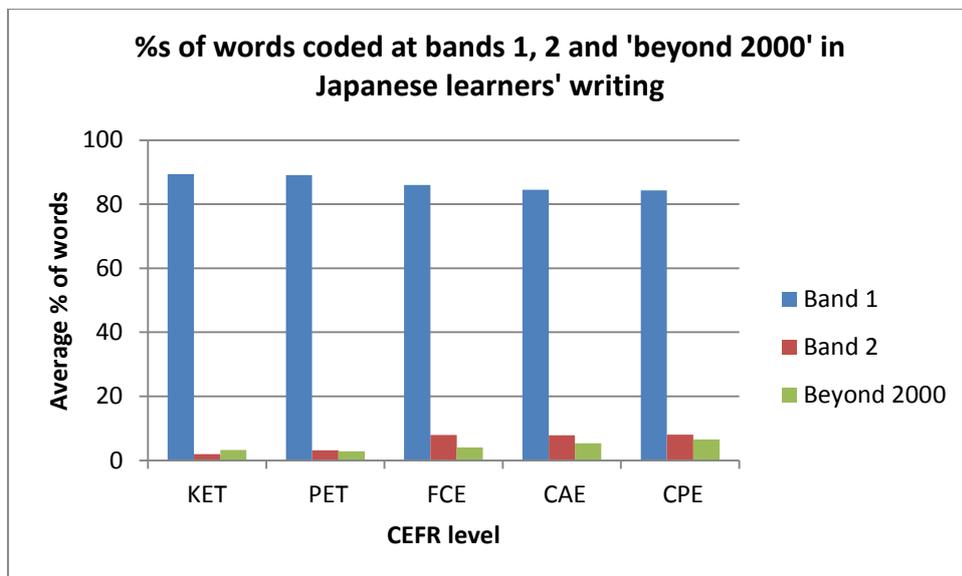
Figure 4.1 Graph showing the percentages of words coded at bands 1, 2 and 'beyond 2000' in complete essays produced by Japanese learners

%s of words coded at bands 1, 2 and 'beyond 2000' in French learners' writing
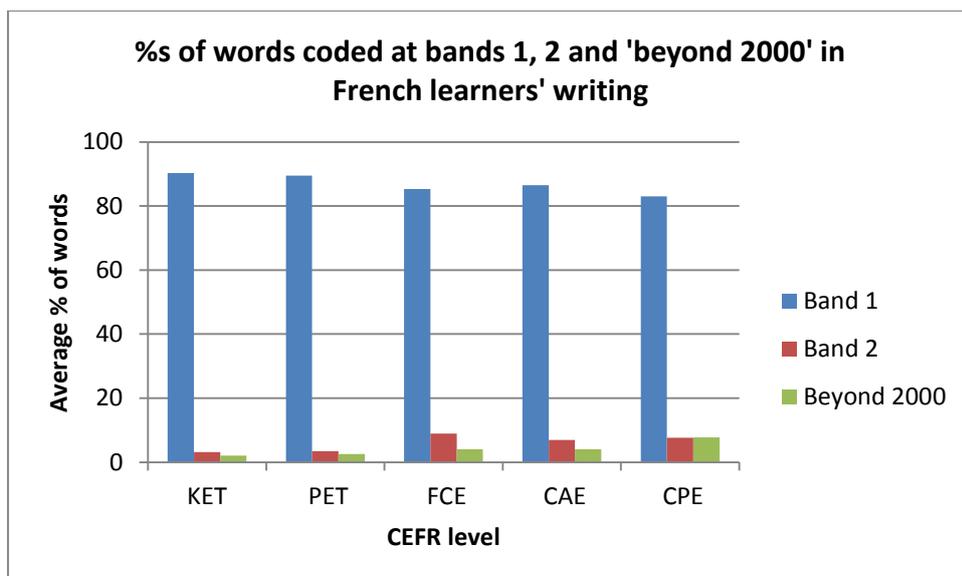
Figure 4.2: Graph showing the percentages of words coded at bands 1, 2 and 'beyond 2000' in complete essays produced by French learners

Following the trend set by the analyses reported in previous chapters, a certain degree of variation can be observed between the lexical development paths taken by the different language backgrounds. Looking at level 2 words in Table 4.1, for example, Japanese learners use them less than their French counterparts at first, but their patterns of usage in both language backgrounds are similar, with a large increase at level FCE in both the Japanese and French data. Japanese learners' usage of level two words even surpasses that of the French learners at levels CAE and CPE. These findings are interesting because they lend further support to the observations made in Chapter Three regarding FCE as being somewhat of a 'milestone' level, when learners not only produce more MRWs with a greater variety, they also use notably more words from band 2 and beyond, reflecting the more demanding tasks at this level.

Honing in on band 2 and beyond-2000 words at this point, an interesting pattern emerges. While the increase in the use of band 2 words is particularly pronounced at FCE level in both

languages, this is not the case for the 'beyond 2000' words, whose use in the Japanese data increases fairly steadily throughout the levels, and increases dramatically at level CPE in the French data:
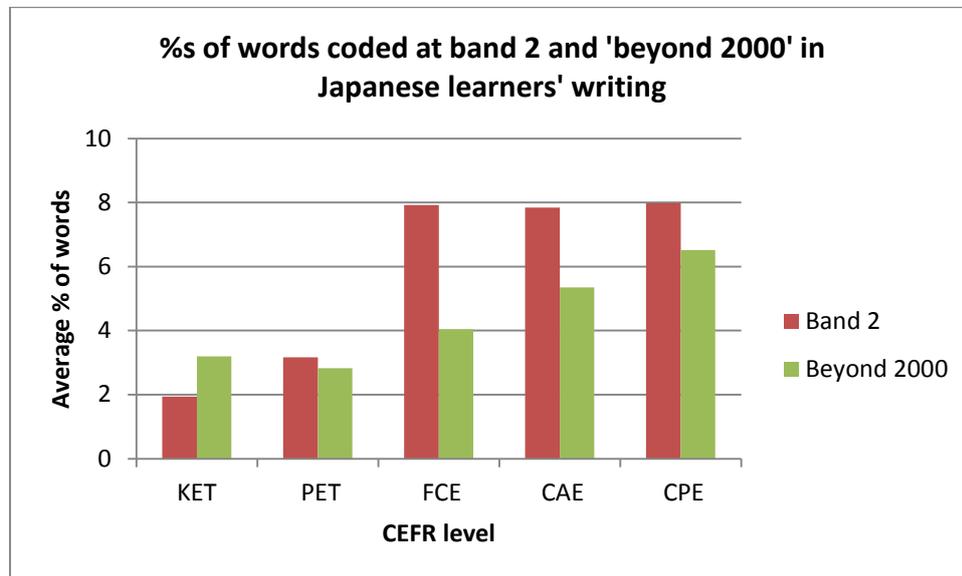
Figure 4.3: Graph showing %s of words coded at band 2 and 'beyond 2000' in Japanese learners' writing
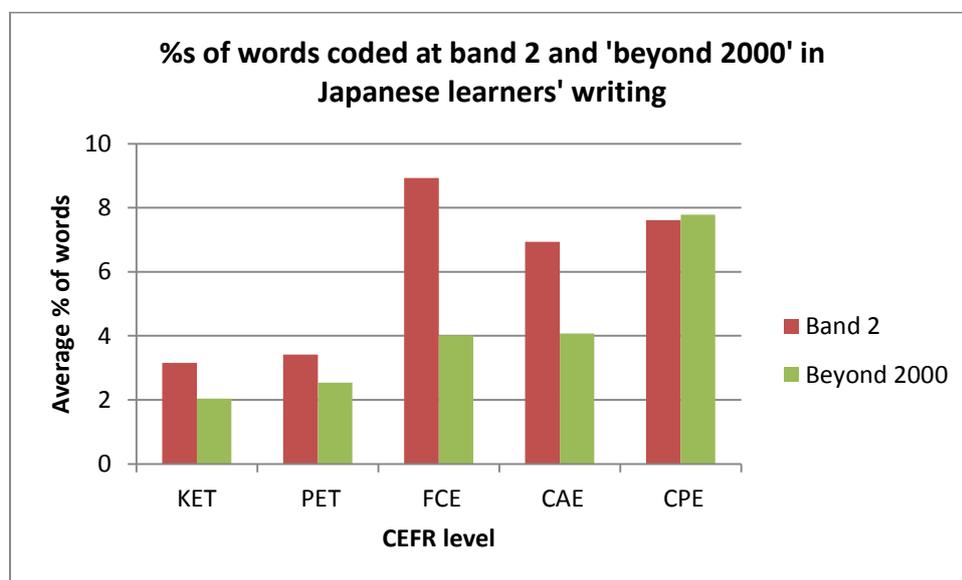
Figure 4.4: Graph showing %s of words coded at band 2 and 'beyond 2000' in French learners' writing

These findings could indicate that it is worth taking a closer look at the 'beyond 2000' words, as more variation is observed in their use after FCE despite Laufer's (1998) finding that the

use of these words tends to plateau. In order to do this, the analysis was repeated, this

time distinguishing between each band beyond band 2.

		Average no. of words per level	Average % of words coded at frequency band:														
			3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Japanese	KET	32.76	1.97	0.59	0.52	-	-	-	-	-	-	-	-	0.12	-	-	-
	PET	85.67	0.35	2.04	0.25	0.03	0.04	-	-	-	0.05	0.04	0.04	-	-	-	-
	FCE	175.71	2.38	0.92	0.37	0.10	0.02	-	-	-	0.05	0.21	-	-	-	-	-
	CAE	297.33	3.20	0.73	0.68	0.13	0.15	0.06	0.02	0.04	0.22	-	-	0.05	0.05	-	0.02
	CPE	342.33	4.75	0.75	0.44	0.14	0.25	0.01	0.10	-	0.01	0.06	0.01	-	-	-	-
French	KET	56.29	1.10	0.23	0.54	-	0.10	-	-	-	0.07	-	-	-	-	-	-
	PET	97.14	0.54	1.48	0.15	0.25	-	0.04	-	0.03	-	0.03	-	-	-	-	-
	FCE	196.90	2.09	0.75	0.66	0.07	0.11	0.05	-	-	-	0.24	0.04	-	-	-	-
	CAE	291.38	2.45	0.62	0.50	0.18	0.13	0.03	0.05	0.07	0.02	-	-	0.02	0.02	-	-
	CPE	336.14	4.77	1.10	0.67	0.25	0.52	0.11	0.14	0.07	0.11	0.01	0.01	-	0.01	-	-

Table 4.2 Table showing coding percentages of Bands 3-17 in complete essays.

These figures were then expressed graphically, as shown below:

% densities of words from frequency bands 3-17 in Japanese learners' writing
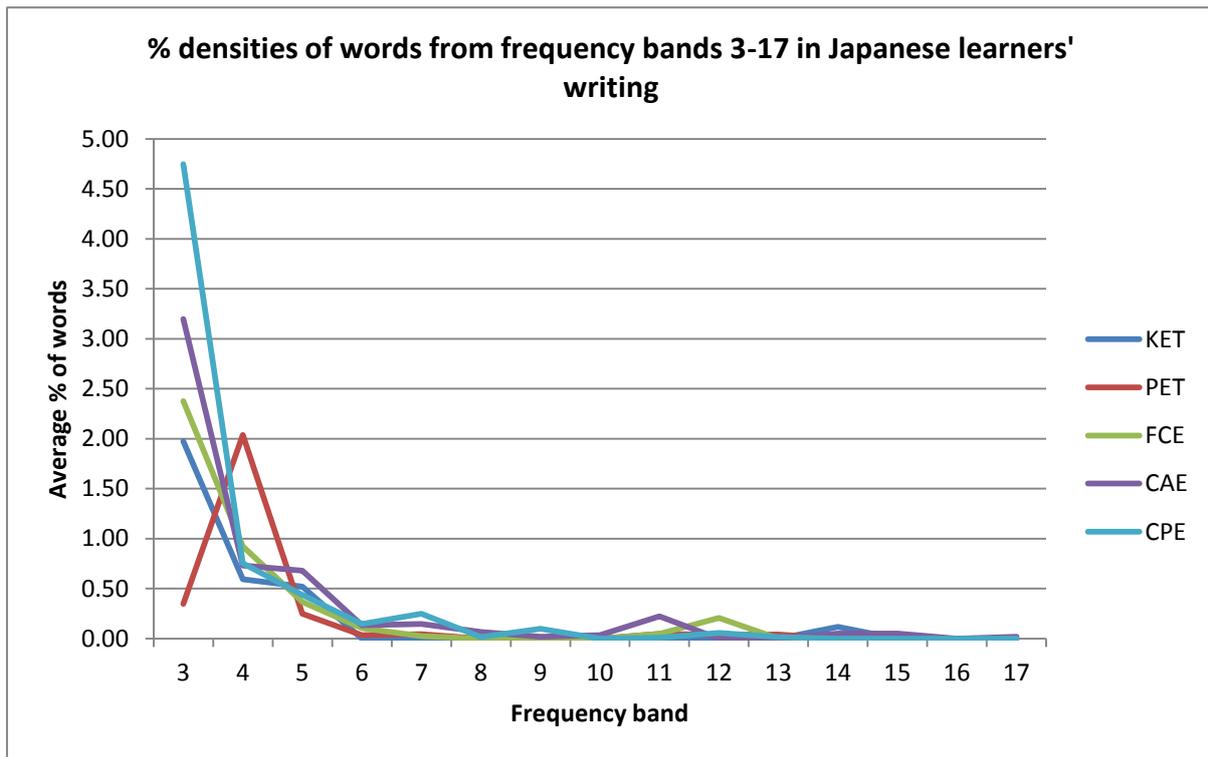
Figure 4.5 Graph showing coding percentages of Bands 3-17 in essays written by Japanese learners

% densities of words from frequency bands 3-17 in French learners' writing
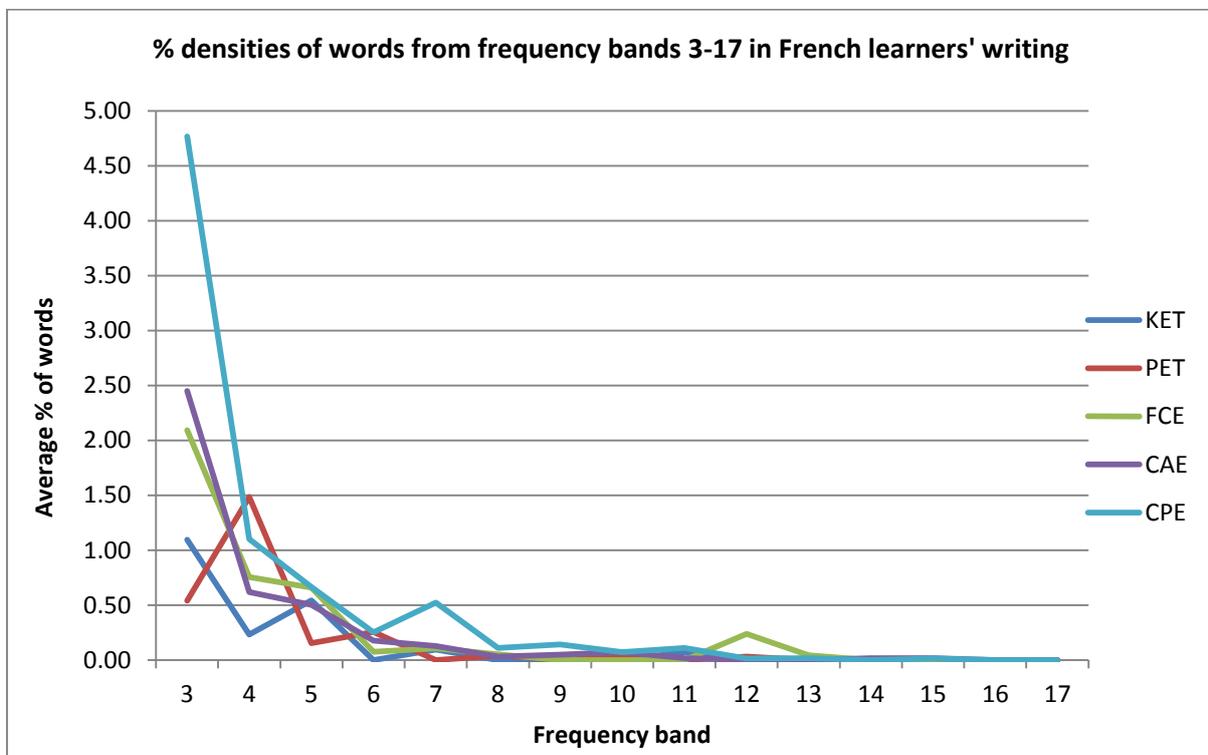
Figure 4.6: Graph showing coding percentages of Bands 3-17 in essays written by French learners

These graphs show the extent of variation in the 'beyond 2000' words in the two groups of learners. The most striking point to be highlighted in these graphs is the very small figures involved. For example, the spike on the Japanese graph in the KET data at band 14 is caused by a single word, 'sportswear', occurring only once. In the PET data, too, both groups of learners produce a notable increase in their use of level 4 words, but the majority of these are words which were found in the question prompts: 'cinema' and 'bicycle' in particular. On the whole, therefore, these graphs suggest that there is a case for adding band 3 to the separate analyses, but bands 4-17 account for such small percentages of the totals used that it is feasible to conflate them, and any notable increases such as that of level 4 words at PET can be explained by the question prompts. The final categorisation scheme for the subsequent analyses on the basis of these findings, therefore, was made up of bands 1-3 and 'beyond 3000' as opposed to Laufer's 2000. Incorporating band 3 and 'beyond 3000' into the overall analysis suggests that this decision is appropriate, as there is no discernible pattern or significant variation of more than around 1% in the 'beyond 3000' words in either language group. The only exception to this is in the French CPE data, which can be explained by the fact that this level included the essay discussed in Section 4.2 about a learner's experiences going to see a famous flautist. Because so many of the words used in this essay came from levels 6-17, it is unsurprising that it would cause French CPE to register such high degrees of 'beyond 3000' words. Table 4.3 and Figures 4.7 and 4.8 below present the final results reflecting the new categorisation system, which was considered to be adequate for use in subsequent analyses. Note that the graphs do not include the Band 1 words to facilitate analysis of the use of words from the more advanced bands.

		Average words per level	Average % of words coded at:			
			Band 1	Band 2	Band 3	Beyond 3000
Japanese	KET	32.76	89.37	1.94	1.97	1.23
	PET	85.67	89.13	3.16	0.35	2.48
	FCE	175.71	85.99	7.93	2.38	1.67
	CAE	297.33	84.51	7.84	3.20	2.15
	CPE	342.33	84.29	7.98	4.75	1.77
French	KET	56.29	90.26	3.16	1.10	0.94
	PET	97.14	89.55	3.41	0.54	1.99
	FCE	196.90	85.26	8.93	2.09	1.93
	CAE	291.38	86.55	6.93	2.45	1.62
	CPE	336.14	83.02	7.61	4.77	3.01

Table 4.3 Table showing percentages of Bands 1, 2, 3 and 'Beyond 3000' words, in complete essays.4
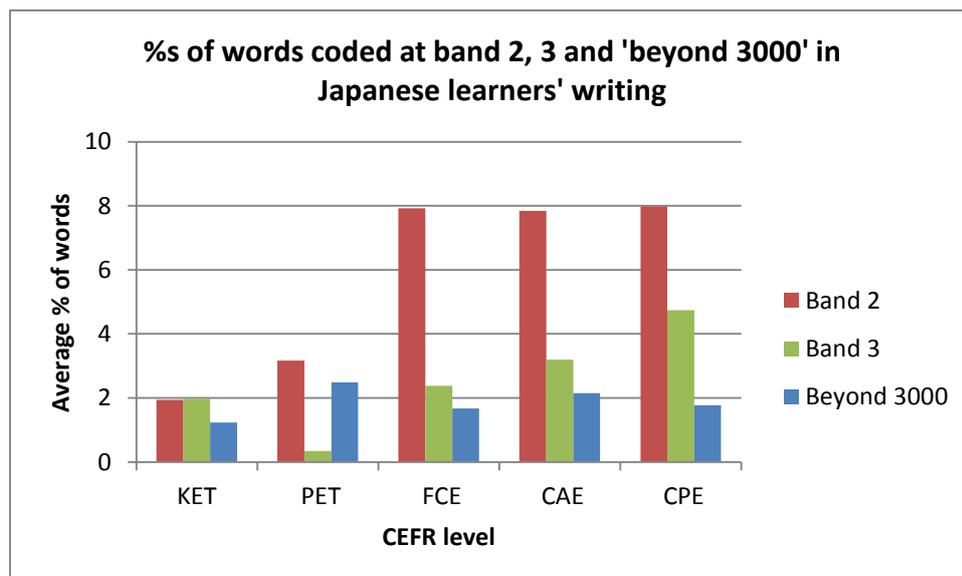
4Figure 4.7 Graph showing %s of words coded at bands 2, 3 and 'beyond 3000' in Japanese learners' writing
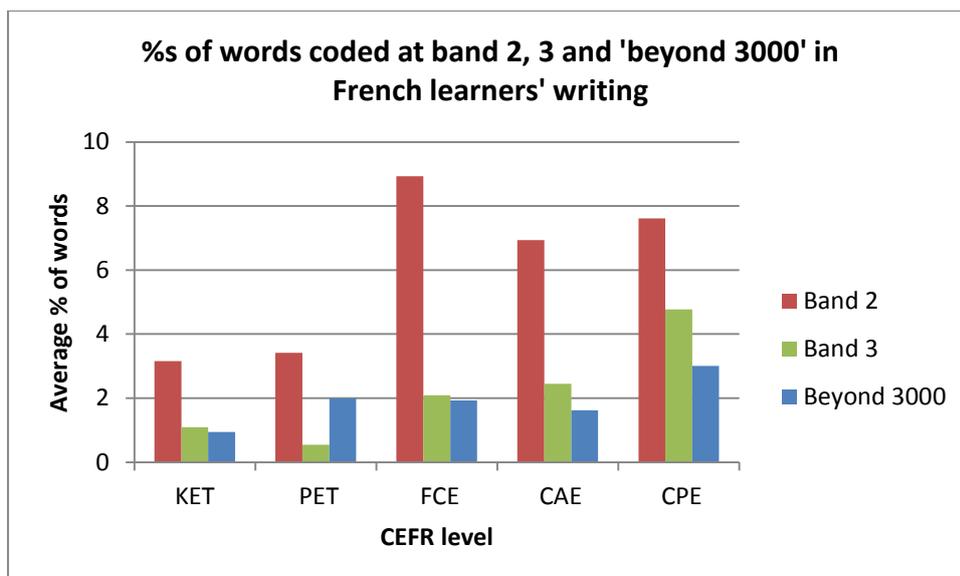
Figure 4.7 Graph showing %s of words coded at bands 2, 3 and 'beyond 3000' in French learners' writing

In keeping with the findings reported in Chapter Three, these graphs indicate that FCE is an important level for both language backgrounds in terms of vocabulary development, as it as at this level where there is a notable increase in the use of words from bands two, three and beyond.

4.4.1.1 *Variation in frequency scores among learners of the same level and language background*

So far, the analysis has focused on the average frequency scores observed at each level. However, given the variation in metaphoric density observed among learners of the same level and language background in Chapter Three, it was also considered important to explore the range of frequency scores and their standard deviations observed in the data. To do this, box and whisker plots were constructed for the first three frequency bands and the 'beyond 3000' words. The plots (Figure 4.8 - Figure 4.11) express the percentages of words coded at each frequency band, with the tables below them (Table 4.4 -Table 4.11) giving the raw frequencies from which these percentages were calculated and the

mean/standard deviations for the percentages themselves. For example, at French KET, the average percentage density of words found in frequency band one was 90.26% (50.86 words). The minimum percentage coding at band one at this level was 71.21% (26 words), and the maximum was 98.36% (122 words).
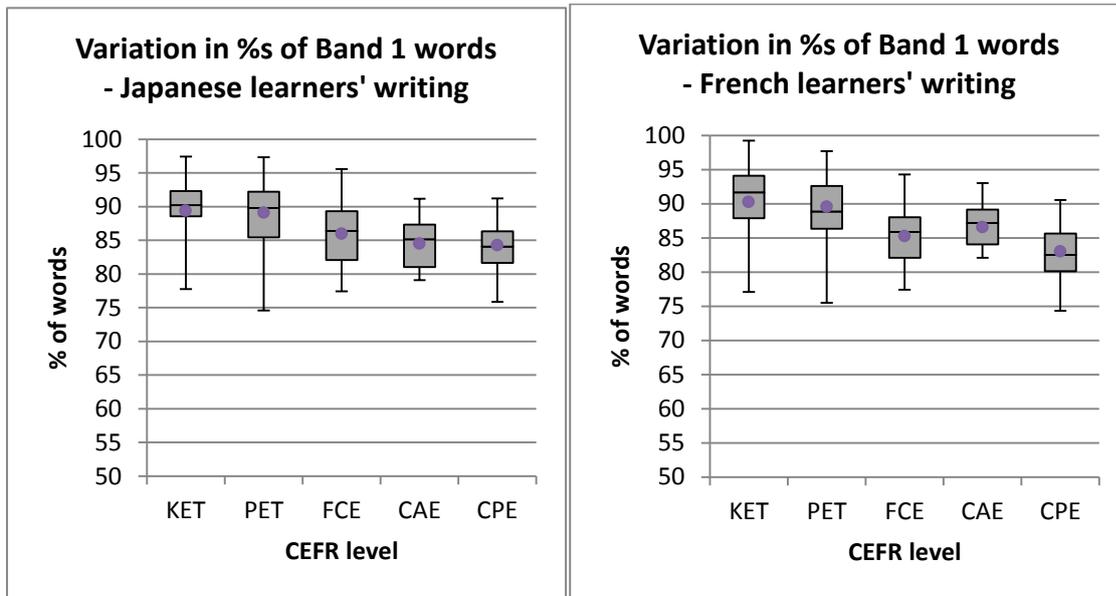
Figure 4.8: Box-and-whisker plots showing variation in percentages of Band 1 words for writing produced by French and Japanese learners

Band 1 Raw frequencies	Japanese KET	Japanese PET	Japanese FCE	Japanese CAE	Japanese CPE	French KET	French PET	French FCE	French CAE	French CPE
Mean	29.43	77.38	151.00	251.38	288.52	50.86	87.62	167.57	251.86	280.38
SD	6.77	35.23	25.41	49.66	60.91	24.29	34.34	34.44	28.42	59.63
Minimum	17	32	96	179	208	26	38	121	204	168
Maximum	43	146	212	364	480	122	155	246	292	391

Table 4.4 Table showing raw frequencies of Band 1 words in complete essays

Band 1 %s	Japanese KET	Japanese PET	Japanese FCE	Japanese CAE	Japanese CPE	French KET	French PET	French FCE	French CAE	French CPE
Mean	89.37	89.13	85.99	84.51	84.29	90.26	89.55	85.26	86.55	83.02
SD	5.21	5.92	4.76	3.84	3.75	6.23	5.06	4.90	3.95	4.06
Minimum	77.78	74.58	77.42	79.08	75.87	71.21	76.47	74.45	74.93	75.17
Maximum	97.44	97.33	95.56	91.18	91.24	98.36	98.10	92.49	91.99	93.28

Table 4.5 Table showing percentages of Band 1 words in complete essays

The statistics for Level 1 words show a moderately large degree of variation within languages, with the means decreasing slightly as the CEFR level increases and words from the lower-frequency bands occur more often.
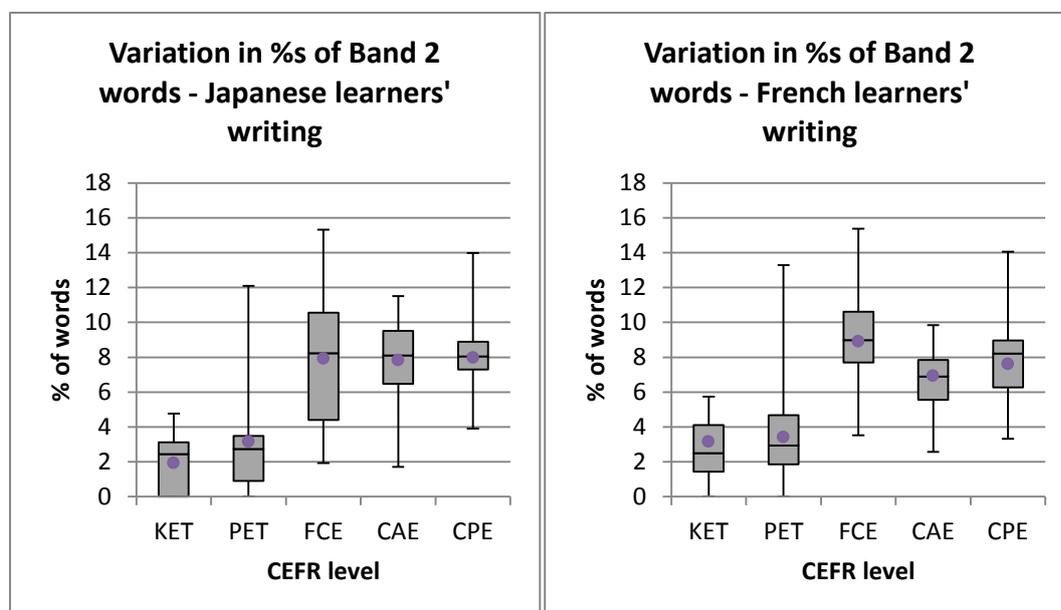
Figure 4.9 Box-and-whisker plots showing variation in percentages of Band 2 words for writing produced by French and Japanese learners

Band 2 Raw Frequencies	Japanese KET	Japanese PET	Japanese FCE	Japanese CAE	Japanese CPE	French KET	French PET	French FCE	French CAE	French CPE
Mean	0.62	2.71	13.95	23.48	27.52	1.76	3.24	17.71	20.10	24.90
SD	0.50	2.63	6.95	8.69	10.83	1.76	2.17	6.38	6.32	6.85
Minimum	0	0	3	4	11	0	0	6	8	12
Maximum	1	11	27	44	59	7	8	29	34	41

Table 4.6 Table showing raw frequencies of Band 2 words in complete essays

Band 2 %s	Japanese KET	Japanese PET	Japanese FCE	Japanese CAE	Japanese CPE	French KET	French PET	French FCE	French CAE	French CPE
Mean	1.94	3.16	7.93	7.84	7.98	3.16	3.41	8.93	6.93	7.61
SD	1.65	3.13	3.81	2.26	2.41	2.99	2.21	2.66	2.07	2.22
Minimum	0.00	0.00	1.92	1.70	3.91	0.00	0.00	3.53	2.56	3.32
Maximum	4.76	12.09	15.32	11.50	13.99	10.61	7.41	13.02	11.51	11.82

Table 4.7 Table showing percentages of Band 2 words in complete essays

The graph for the band 2 words clearly shows the increase in words from this frequency band at level FCE for both languages, as noted above. However, high levels of variation are also noted, with one learner at Japanese PET level using 11 words from band two while the mean was 2.71.
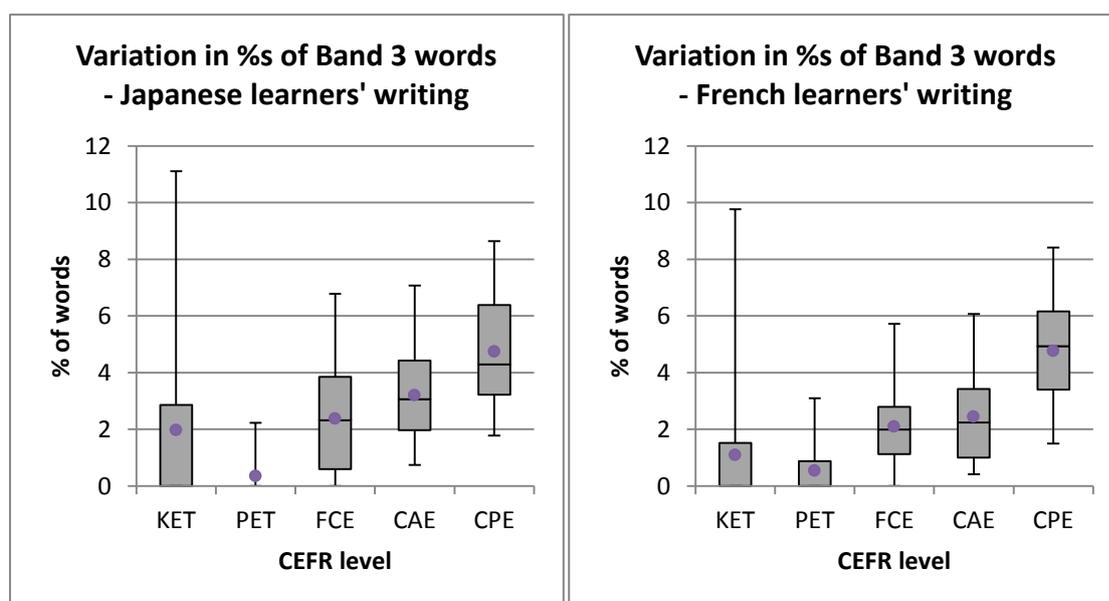
Figure 4.10 Box-and-whisker plots showing variation in percentages of Band 3 words

Band 3 Raw Frequencies	Japanese KET	Japanese PET	Japanese FCE	Japanese CAE	Japanese CPE	French KET	French PET	French FCE	French CAE	French CPE
Mean	0.62	0.33	4.14	9.29	15.95	0.62	0.62	4.43	7.43	15.76
SD	0.97	0.66	3.42	4.53	6.98	0.97	0.86	3.37	5.31	5.54
Minimum	0	0	0	2	7	0	0	0	1	4
Maximum	3	2	12	23	31	3	3	12	20	24

Table 4.8: Table showing raw frequencies of Band 3 words in complete essays

Band 3 %s	Japanese KET	Japanese PET	Japanese FCE	Japanese CAE	Japanese CPE	French KET	French PET	French FCE	French CAE	French CPE
Mean	1.97	0.35	2.38	3.20	4.75	1.10	0.54	2.09	2.45	4.77
SD	3.23	0.71	1.90	1.56	2.01	1.81	0.79	1.27	1.58	1.72
Minimum	0.00	0.00	0.00	0.74	1.77	0.00	0.00	0.00	0.41	1.49
Maximum	11.11	2.22	6.78	7.08	8.64	6.00	2.83	4.50	5.70	7.41

Table 4.9 : Table showing percentages of Band 3 words in complete essays

Again, the 'jump' at level FCE can be noted for the level three words, although it is not as pronounced.
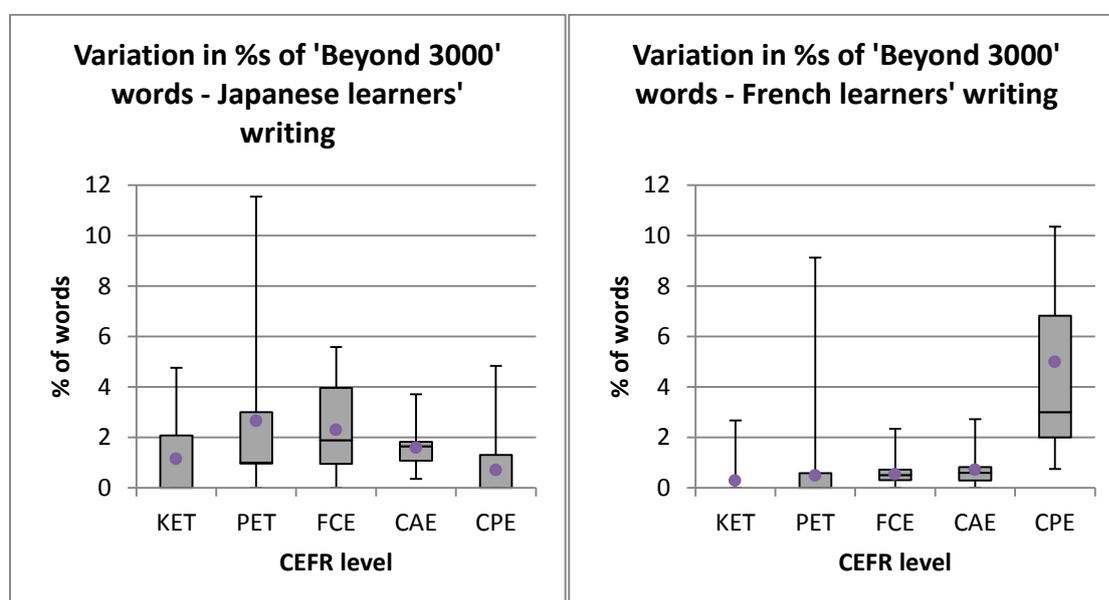
Figure 4.11 Box-and-whisker plots showing variation in percentages of 'Beyond 3000' words for writing produced by French and Japanese learners

Beyond 3000 Raw Frequencies	Japanese KET	Japanese PET	Japanese FCE	Japanese CAE	Japanese CPE	French KET	French PET	French FCE	French CAE	French CPE
Mean	0.38	1.71	2.95	6.29	6.10	0.10	0.33	1.00	1.43	4.10
SD	0.59	1.82	2.31	4.69	3.62	0.30	0.58	1.18	1.33	4.12
Minimum	0	0	0	0	1	0	0	0	0	0
Maximum	2	6	9	18	17	1	2	4	4	18

Table 4.10 Table showing raw frequencies of 'Beyond 3000' words in complete essays

Beyond 3000 %s	Japanese KET	Japanese PET	Japanese FCE	Japanese CAE	Japanese CPE	French KET	French PET	French FCE	French CAE	French CPE
Mean	1.14	2.66	2.30	1.59	0.70	0.29	0.49	0.54	0.71	5.00
SD	1.54	2.70	1.72	0.80	1.23	0.57	0.67	0.42	0.73	4.77
Minimum	0.00	0.00	0.00	0.36	0.00	0.00	0.00	0.00	0.00	0.75
Maximum	4.76	11.54	5.59	3.71	4.84	2.00	2.13	1.49	3.09	20.00

Table 4.11 Table showing percentages of 'Beyond 3000' words in complete essays

Analysis of variation has made it possible to begin attaining a better insight into the nuances in the data, obscured in the first analysis which was based solely on averages. The degree of individual variation is shown to be high, which was to be expected given the variation observed in previous chapters and in the literature. It also provides further evidence that while it is useful to examine overall patterns of development, such analyses obscure the variation which is such an important feature of the data.

This preliminary analysis is significant for three main reasons. First, it suggests that the LFP procedure using the BNC-COCA word lists is an adequate methodology: development proceeds in both languages as expected, with the majority of words coming from band 1 and words from the later bands appearing in more advanced levels. Second, the fact that some variation can be observed in developmental patterns between French and Japanese learners implies that there will also be a similarly observable level of variation in use of metaphor from different frequency bands. Third, it provides a way to chunk the data into the first three frequency bands and 'beyond 3000'. Now that an adequate methodology has been developed and an overall picture of general vocabulary development attained, the focus can be turned to distinguishing between the open-class MRWs on the one hand, and the non-open class MRWs, non-MRWs and possible personification on the other: the 'other words' category.

4.4.2 Results of LFP analysis on corrected open-class MRWs (direct and indirect)

Having attained a general picture of lexical development and how it varies in the data from the different language backgrounds, it is now possible to hone in on metaphor in particular. Again, this part of the analysis focusses on metaphor where the spelling mistakes have been corrected. Table 4.12 shows average coding density percentages for open-class metaphor for the frequency bands identified in Section 4.1. Essays containing no open-class metaphors were excluded from this part of the analysis, which led to the exclusion of twelve essays from Japanese KET, ten from French KET, seven from Japanese PET and four from French PET. Two metaphors were discarded from the analysis from Japanese CPE and one from French CPE for the same reasons as in Section 4 above.

		Average no. of OC metaphors per essay	% OC metaphors coded at:			
			Band 1	Band 2	Band 3	Beyond 3000
Japanese	KET	1.63	100.00	0.00	0.00	0.00
	PET	3	100.00	0.00	0.00	0.00
	FCE	11.14	85.33	10.36	3.31	1.00
	CAE	18.14	78.35	11.98	5.38	4.29
	CPE	26.71	69.27	17.54	9.87	2.82
French	KET	1.27	100.00	0.00	0.00	0.00
	PET	5.94	89.31	6.68	1.02	2.99
	FCE	10.33	83.94	7.82	6.28	1.96
	CAE	15.19	75.41	16.17	5.87	2.55
	CPE	27.33	70.26	15.55	7.84	6.19

Table 4.12 Table showing percentages of Bands 1, 2, 3 and 'Beyond 3000' words, in corrected OC MRWs

The composition of the 'Beyond 3000' band is as follows:

		% OC MRWs coded at band:													
		4	5	6	7	8	9	10	11	12	13	14	15	16	17
Japanese	KET	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	PET	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	FCE	-	1.00	-	-	-	-	-	-	-	-	-	-	-	-
	CAE	0.86	3.22	0.21	-	-	-	-	-	-	-	-	-	-	-
	CPE	1.38	0.74	0.25	0.45	-	-	-	-	-	-	-	-	-	-
French	KET	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	PET	1.27	0.74	0.98	-	-	-	-	-	-	-	-	-	-	-
	FCE	0.48	0.92	0.56	-	-	-	-	-	-	-	-	-	-	-
	CAE	0.72	1.60	0.23	-	-	-	-	-	-	-	-	-	-	-
	CPE	2.98	1.72	0.50	0.75	-	-	-	0.10	-	-	-	0.14	-	-

Table 4.13 Table showing coding percentages of Bands 4-17 in corrected OC MRWs

%s of OC MRWs coded at bands 1, 2, 3 and 'beyond 3000' in Japanese learners' writing
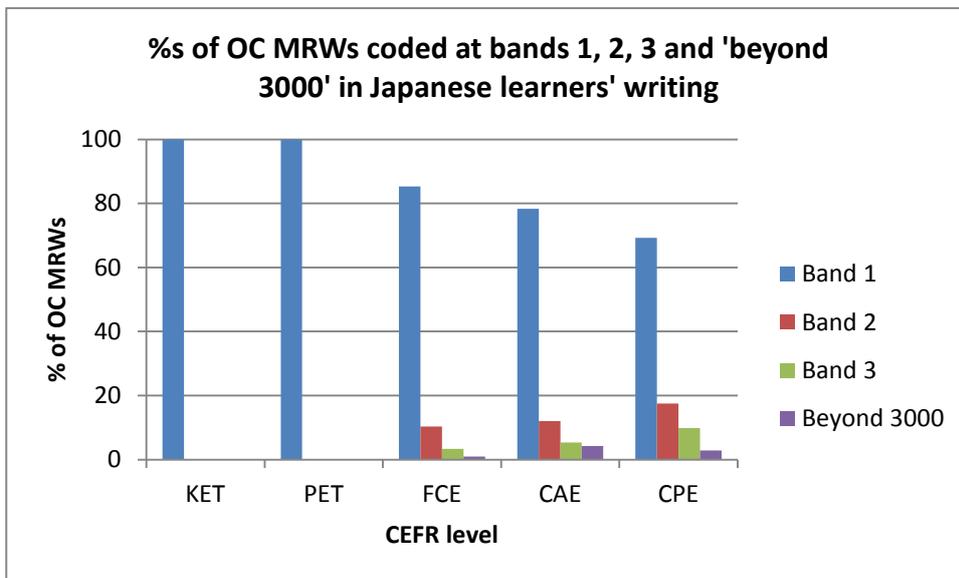
Figure 4.12 Graph showing the percentages of corrected OC MRWs coded at bands 1, 2 3 and 'beyond 3000' in Japanese learners' writing

%s of OC MRWs coded at bands 1, 2, 3 and 'beyond 3000' in French learners' writing
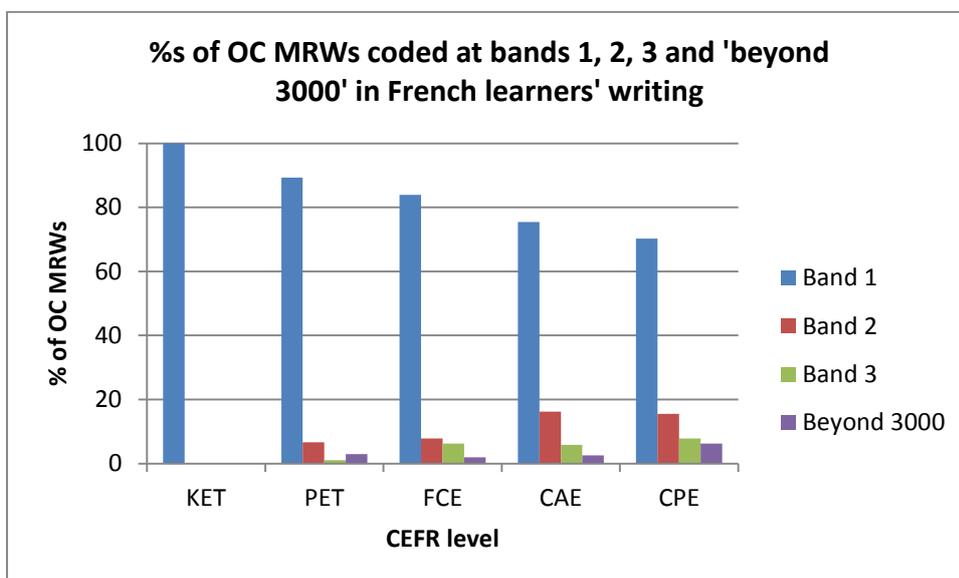
Figure 4.13: Graph showing the percentages of corrected OC MRWs coded at bands 1, 2 3 and 'beyond 3000' in French learners' writing

Again, isolating band 2, 3 and beyond 3000 words gives a better idea of the use of metaphors at these levels:

%s of OC MRWs coded at band 2, 3 and 'beyond 3000' in Japanese learners' writing
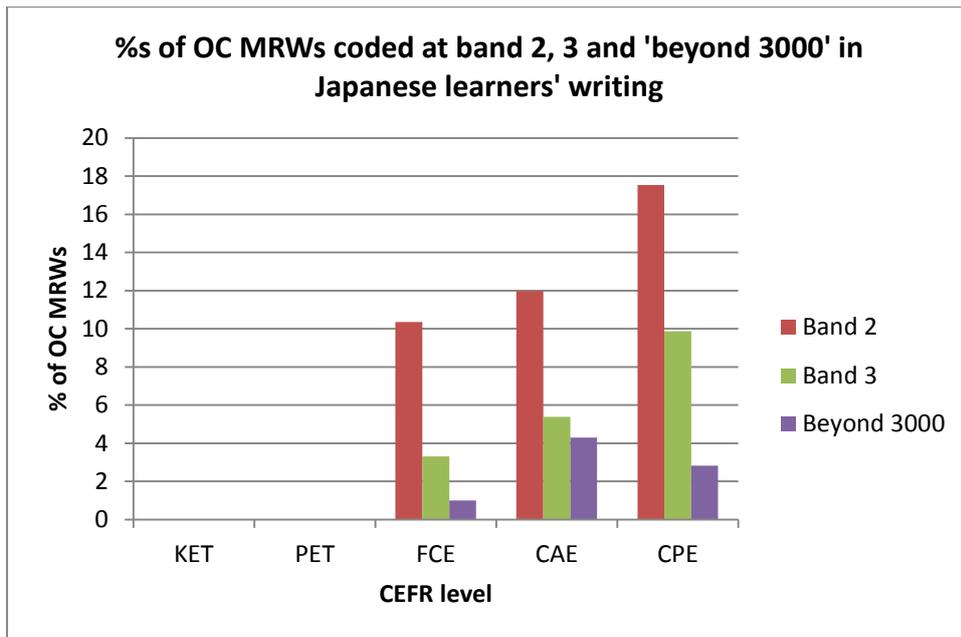
Figure 4.14: Graph showing %s of words coded at bands 2, 3 and 'beyond 3000' in Japanese learners' writing

%s of OC MRWs coded at band 2, 3 and 'beyond 3000' in French learners' writing
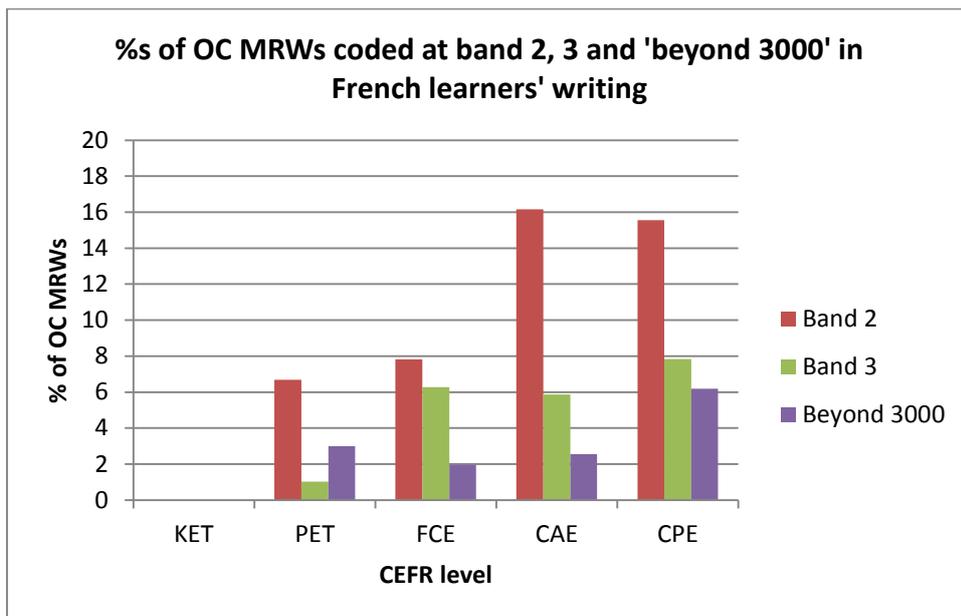
Figure 4.15: Graph showing %s of OC MRWs coded at bands 2, 3 and 'beyond 3000' in French learners' writing

These graphs provide further insights into some of the preliminary findings reported in Chapter Three. In Chapter Three, it was observed that open-class metaphor use overtakes that of closed-class metaphor at different points depending on the language background. For the French learners, this occurred between levels KET and PET, while the Japanese

learners produced this crossover one stage later, between levels PET and FCE. The frequency profile analysis results shown here further corroborate this finding. At those points where open-class metaphor use was shown to overtake closed-class use, the learners also begin to use metaphor from bands two, three and beyond, suggesting that the increases in open-class use coincide with a greater level of sophistication. The Japanese learners, for example, do not use metaphor from bands two and above until level FCE, although it was seen in Section 4.4.1 that they do use non-MRWs from these bands at the same earlier levels as their French counterparts, but usually not as frequently. This difference may suggest a certain tendency on the part of the Japanese learners not to use metaphor from the lower frequency bands until they are at level FCE, when their use corresponds with the significant increases in open-class metaphor density.

At this point, it is possible to begin comparing the developmental patterns of metaphor to the patterns observed in the learners' lexical development more generally. The most notable difference is that LFP scores for metaphor are somewhat lower than overall LFP rates. An examination of the frequency bands represented in the 'Beyond 3000' section revealed that while band 17 was the highest frequency band represented, but with only one word. Band 15 was the highest frequency band with more than one word coded. However, when looking specifically at open-class MRWs, bands 15 and 11 each have a single metaphor, and band 7 is the highest frequency band with more than one word representing it. There were no metaphors from bands 8-10 or 12-14. There is also evidence of a difference according to language background, with the French learners venturing further into the higher frequency bands and producing higher densities.

These findings could be taken to suggest that learners may, on the whole, be less confident to use open-class MRWs. However, this could equally be due to the high frequency of metaphor in discourse as discussed in Chapter One: metaphorically-used words occur frequently in discourse to give the high metaphoric densities observed in the literature, so metaphors will often be found in the higher frequency word lists. Furthermore, if a word has the potential to be metaphorically used, it is by definition polysemous. The wordlists cannot make a distinction between senses of a word in LFP analysis, so logically, a word with more senses and thus the potential to be used in multiple contexts will be more frequent than more specialised words with less senses (Crossley et al., 2010).

4.4.2.1 Variation in frequency scores of open-class metaphor

Again, a great deal of variation was found in the frequency bands of open-class metaphor. For words from LFP frequency band one, for example, the graphs are as follows:
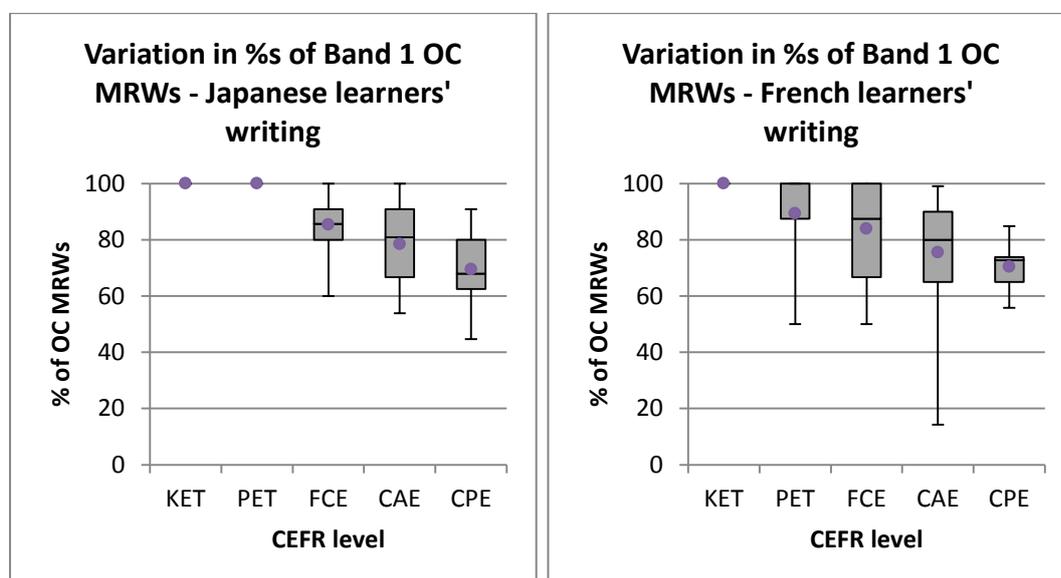
Figure 4.16 Box-and-whisker plots showing variation in percentages of Band 1 OC MRWs in the writing produced by Japanese and French learners

Band 1 OC MRW %s	Japanese KET	Japanese PET	Japanese FCE	Japanese CAE	Japanese CPE	French KET	French PET	French FCE	French CAE	French CPE
Mean	100	100	85.33	78.35	69.27	100	89.31	83.94	75.41	70.26
SD	0.00	0.00	10.97	14.31	13.06	0.00	16.20	16.61	20.76	7.09
Minimum	100	100	60.00	53.85	44.74	100	50.00	50.00	14.29	55.81
Maximum	100	100	100	100	90.91	100	100	100	100	80.95

Table 4.14 Table showing percentages of Band 1 OC MRWs

These graphs give a clear visual representation of the finding discussed above, namely that French learners begin using metaphor outside the lowest frequency band one level earlier than the Japanese learners. At level FCE, when the Japanese begin to do so, there is considerably more variation among the French learners, with the Japanese learners tending to remain exclusively in the higher percentages. This is to be expected given the very nature of band one words as high-frequency items in language. Overall, however, a high level of variation is to be observed in both sets of learners, but it is particularly marked at French CAE level. It is especially interesting to note that whereas at level CAE neither the Japanese nor the French learners produced any essays that were composed entirely of words from frequency band one, there are essays at this level in which all the open class metaphors are from this level. This could be due to the point noted above, that metaphor's prevalence in discourse means that metaphorically used items are more likely to be found in higher frequency bands. However, the fact that the essay with the lowest coding percentage of level one open-class metaphor had only 14.29% of its metaphors at Band 1 (French CAE) suggests that it is not only a matter of frequency, and that most learners are perhaps less willing to use metaphor from the lower frequency bands.

One interesting finding to be noted at this point is the different levels of variation in LFP scores for whole essays, words from the 'other' category, and LFP scores for open-class

metaphor only. To investigate this question, the graphs showing coding at bands two and three can be used:
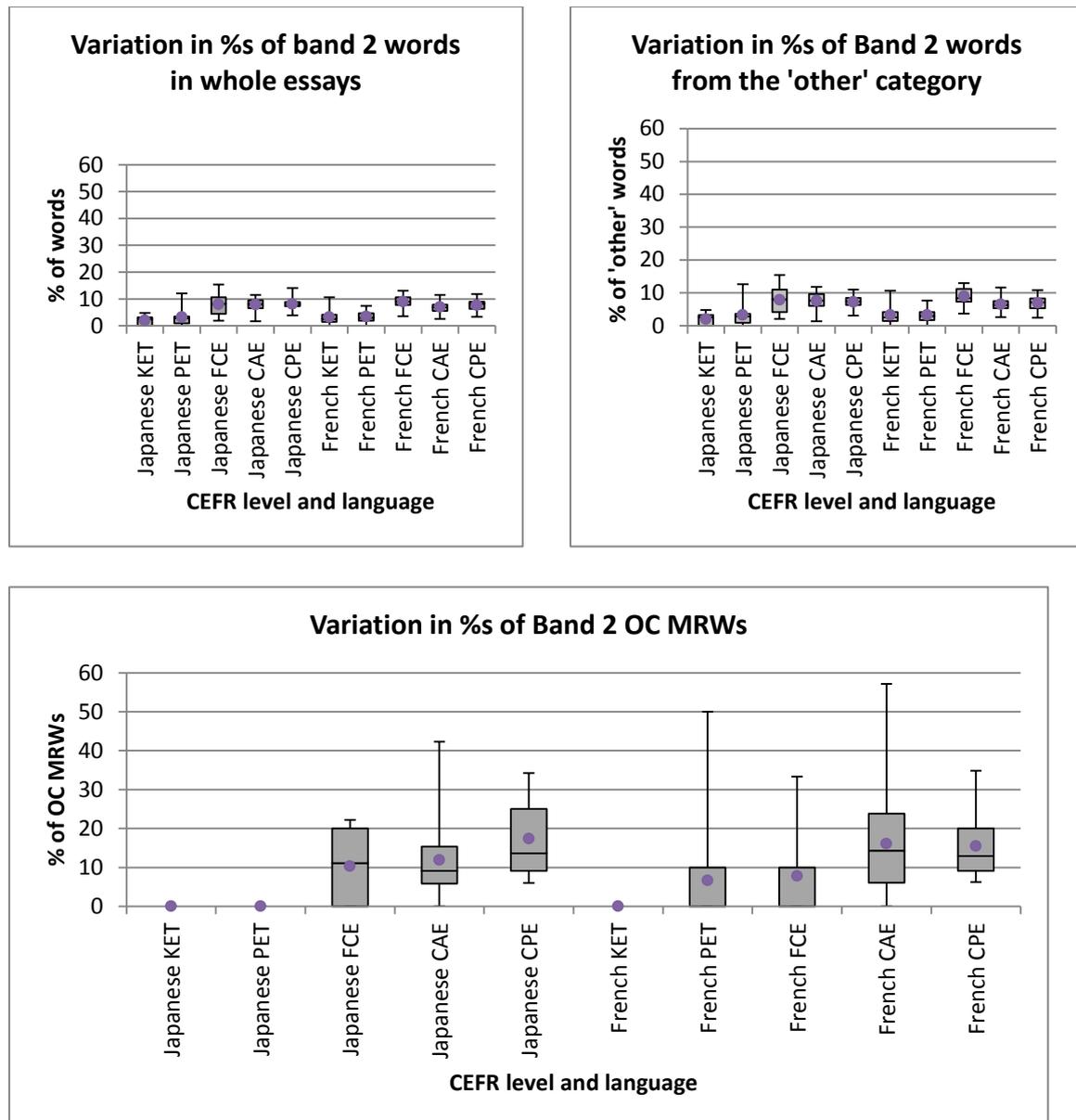
Figure 4.17 Graphs comparing variation in percentages of Band 2 words

Variation in %s of band 3 words in whole essays

Variation in %s of Band 2 words from the 'other' category

Variation in %s of Band 3 OC MRWs
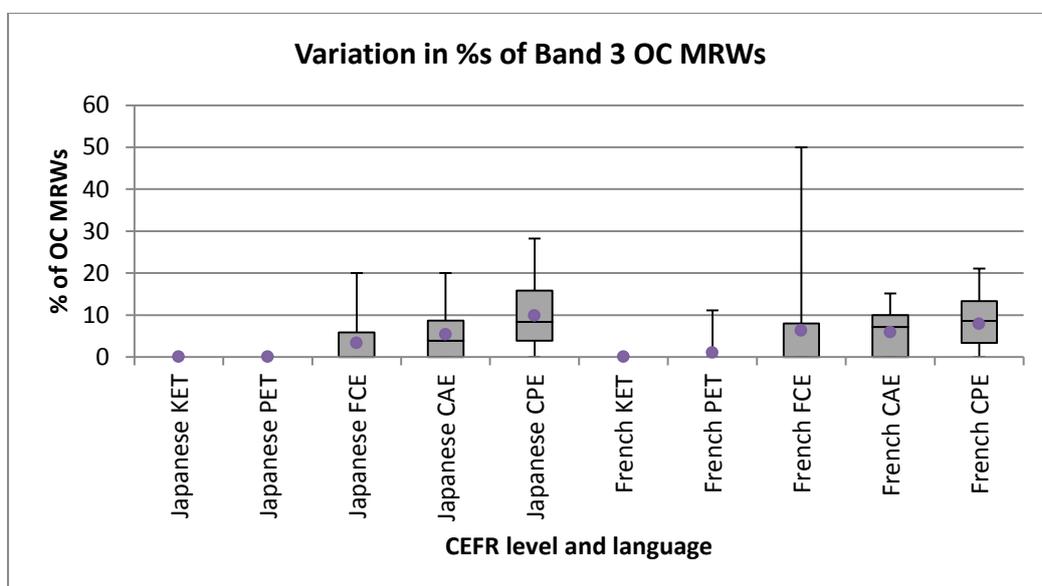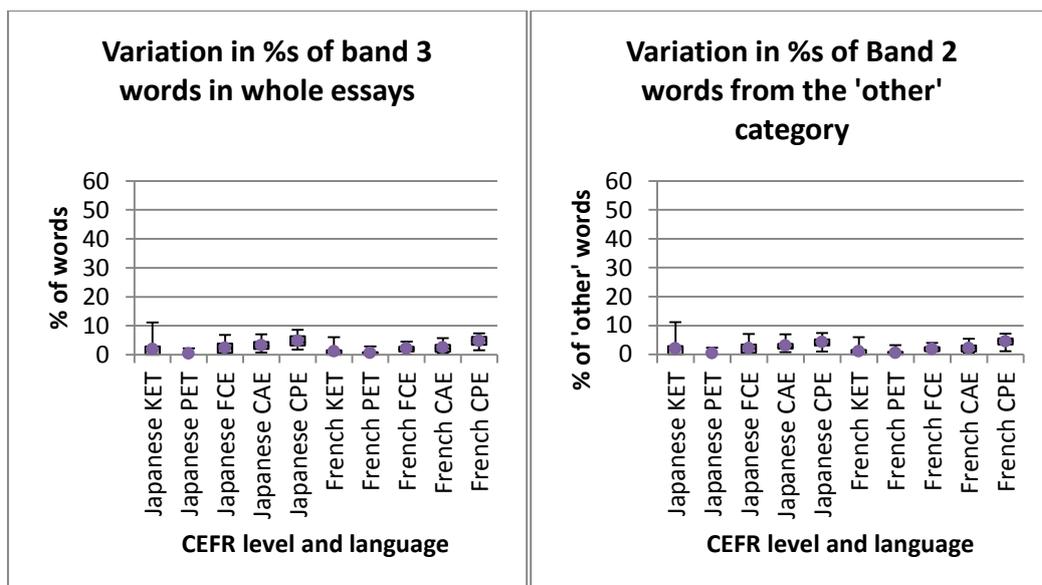
Figure 4.18: Graphs comparing variation in percentages of Band 3 words

In comparing these sets of graphs, it becomes clear that there is considerably more variation in learners' metaphor LFP scores than in their overall LFP and 'other word' scores. This is interesting because it supplements the high levels of individual variation in metaphoric density found in Chapter 3. Not only is there variation in the amount of metaphor learners of a particular language and level use, there is also variation in the frequency level – perhaps more than would be expected from the overall levels of frequency level variation. This

finding lends more support to the view of metaphor use varying substantially between individuals, further complicating the task of defining productive metaphoric competence.

4.4.3 Lexical frequency profiling: 'other' words

So far, the analysis has focused on complete essays and open-class indirect and direct metaphor. In order to gain a full picture of the way in which metaphor development interacts with overall lexical development, one further analysis is required: the lexical frequency profiling of the lexical items not included in the analysis of open-class metaphor in Section 4.3 (words in the 'other' category). Again, the same analysis was performed, and spelling errors were corrected where necessary. The results are shown below. The graphs replicate the LFP scores for open-class metaphor reported in Section 4.4.2 above, for ease of comparison:

| | | Average no. of OC metaphors per essay | % non-open class MRWs coded at: | | | | |
			Band 1	Band 2	Band 3	Beyond 3000	Discarded
Japanese	KET	32.10	89.17	1.98	2.02	0.59	5.59
	PET	83.67	88.95	3.24	0.36	2.05	4.94
	FCE	164.57	86.13	7.81	2.21	0.98	2.14
	CAE	279.19	85.04	7.53	3.00	0.71	2.45
	CPE	315.57	85.64	7.20	4.21	0.70	1.27
French	KET	55.62	90.13	3.19	1.11	0.23	4.61
	PET	92.33	89.71	3.21	0.50	1.45	4.68
	FCE	186.52	85.56	8.89	1.86	0.75	1.86
	CAE	276.10	87.21	6.44	2.21	0.61	2.57
	CPE	308.81	84.18	6.90	4.50	0.94	1.70

Table 4.15 Table showing percentages of Bands 1, 2, 3 and 'Beyond 3000' words, in words from the 'other' category

OC MRWs and 'other' words coded at bands 1, 2, 3 and 'beyond 3000' in Japanese learners' writing
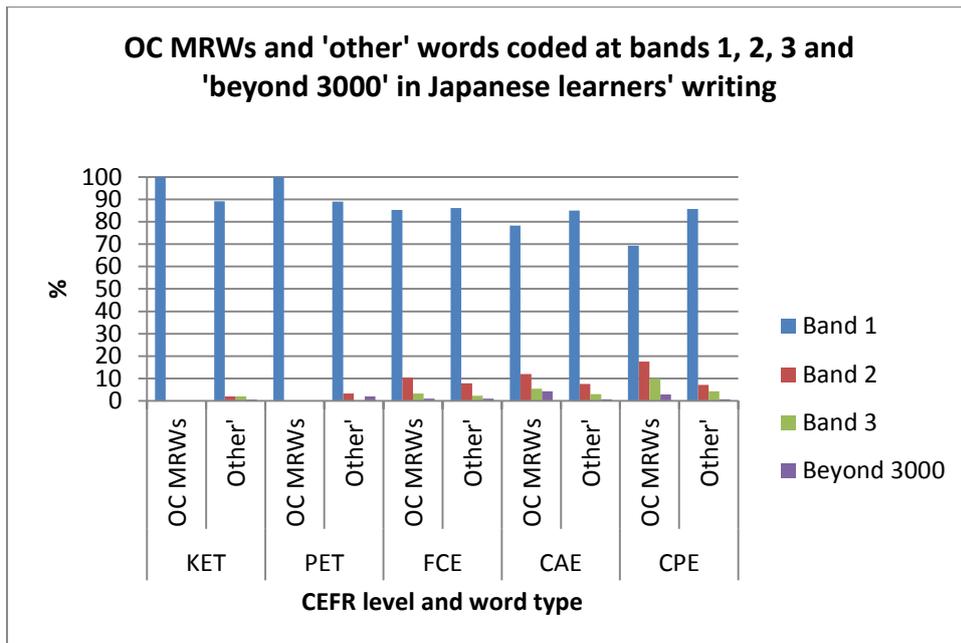
Figure 4.19 Graph showing the percentages of corrected OC MRWs and 'other' words coded at bands 1, 2 3 and 'beyond 3000' in Japanese learners' writing

% OC MRWs and 'other' words coded at bands 1, 2, 3 and 'beyond 3000' in French learners' writing
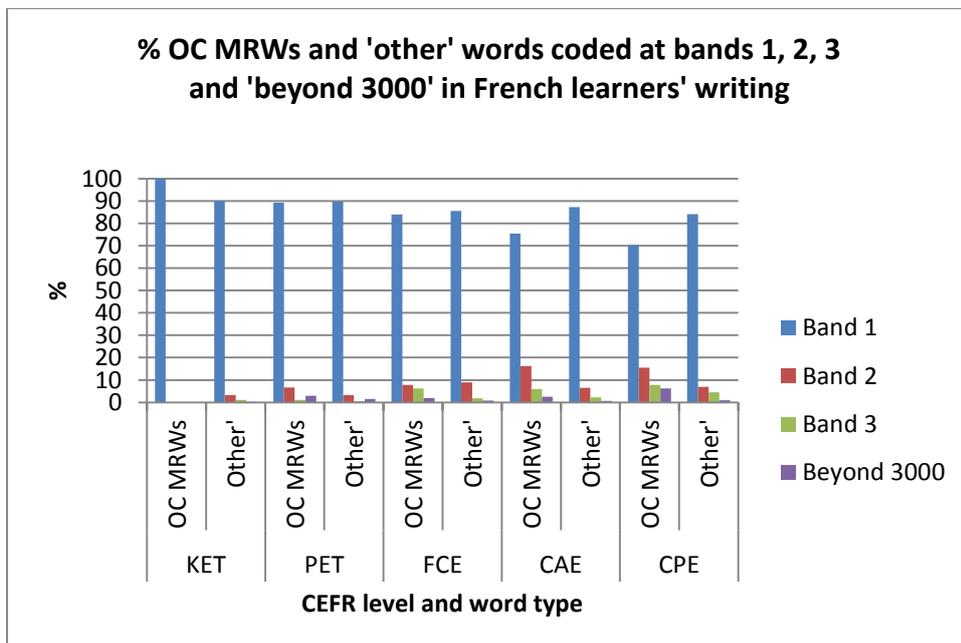
Figure 4.20: Graph showing the percentages of corrected OC MRWs and 'other' words coded at bands 1, 2 3 and 'beyond 3000' in French learners' writing

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% OC MRWs and 'other' words coded at bands 2, 3 and 'beyond 3000' only in Japanese learners' writing
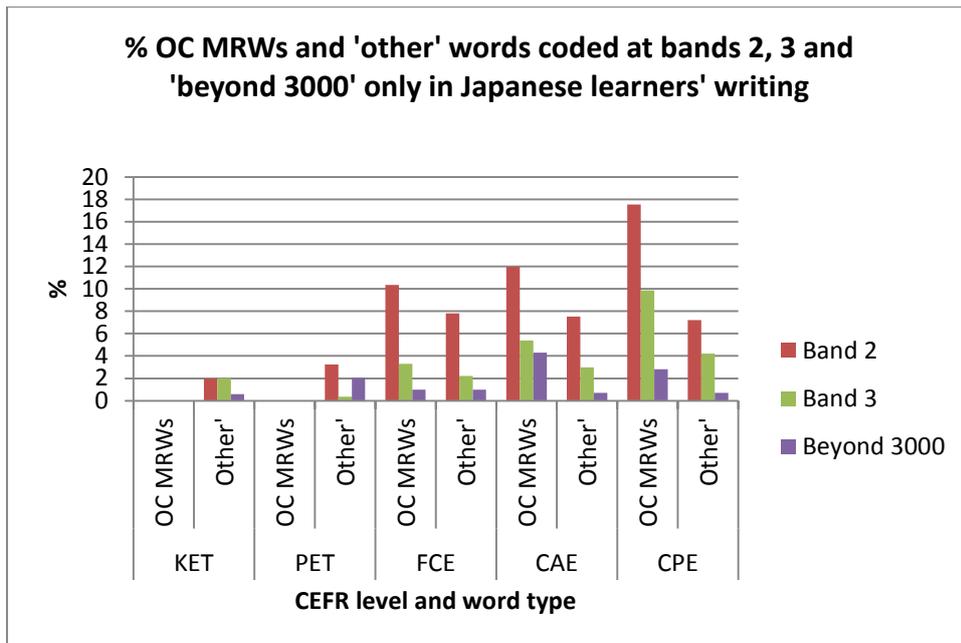
Figure 4.21: Graph showing percentages of corrected OC MRWs and 'other' words coded at bands 2, 3 and 'beyond 3000' in Japanese learners' writing

% OC MRWs and 'other' words coded at bands 2, 3 and 'beyond 3000' only in French learners' writing
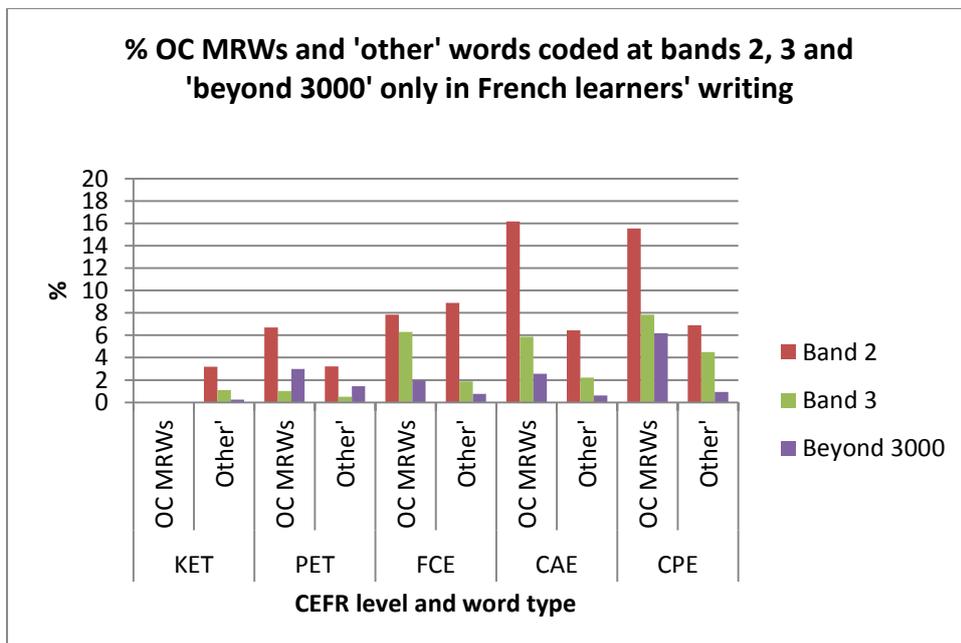
Figure 4.22: Graph showing percentages of corrected OC MRWs and 'other' words coded at bands 2, 3 and 'beyond 3000' in French learners' writing

Comparing the LFP score densities for the open-class MRWs and the rest of the words in each essay (the 'other' category: personification, implicit MRWs, closed-class MRWs and

non-MRWs), an interesting finding emerges, for both the French and Japanese learners. At the points at which the learners begin to use open-class MRWs in a more sustained fashion, the open-class MRWs are generally more likely to come from the higher bands (that is, they are likely to be less frequent in the language) than the rest of the words in the essay. This was at FCE level for the Japanese learners and PET level for the French learners, as was seen in Chapter 3. This is especially interesting when viewed in the light of the finding reported in Section 4.3, that open-class MRWs as a whole tended to come from slightly lower frequency bands. This was taken to be a potential indicator of a lack of confidence on the part of the learners to use less frequent metaphors, but it was noted that it could also be due to the status of metaphors as polysemous lexical items. Observing Figure 4.21 and Figure 4.22 above, the latter hypothesis seems more likely to be the case, as the learners seem consistently more likely to use open-class MRWs from higher frequency bands. This finding suggests that metaphor plays a key role in a learner's developing lexical sophistication, and may make a significant contribution to overall essay LFP scores. If this were to be the case, however, higher overall LFP scores would be expected at the points where students begin to use significantly more open-class metaphor. This was the case for the Japanese learners, who used more open-class metaphor at FCE level which was coupled with a large overall increase in band 2, 3 and beyond 3000 words as seen in Section 4.1. However, the French learners began to use more open-class metaphor at PET level, and the overall LFP scores for their essays at this level are not noticeably higher. However, this may be due to the small total word counts and metaphoric densities involved.

4.4.4 Investigating the relationship between metaphor use and lexical errors

So far, the analyses have focused on essays with their orthographic errors corrected. This stage of the analysis investigates the essays as they were written by the learners, with no orthographic errors or erroneous homonym use corrected. Words were also considered 'errors' if they were non-standard word forms not found in the Macmillan Dictionary, such as 'silentness', 'teenagehood' or 'wishable', or if the learner had incorrectly combined two words such as 'tinopener' or 'fastfood'. Foreign words were also considered errors when they had an English translation: 'maiko', the Japanese term for an apprentice geisha, was not considered an error, for example, but 'investissement' (French for 'investment') was. The insights gained from this analysis can then be used to provide a basis for comparing metaphorical lexical error patterns with overall lexical error patterns. It is important to note that at this point, only lexical errors are being considered. A more comprehensive review of different types of error and metaphor's relationship to them is given in Chapter Five.

4.4.4.1 Lexical errors in complete essays

Figure 4.24 and Table 4.16 below show the raw frequencies of lexical errors in the two groups of learners as they progress through the levels. The error rates for each essay were then calculated by expressing the number of errors per essay as a percentage of the total number of words. The mean for each level was then calculated to give the lexical error rate graph.
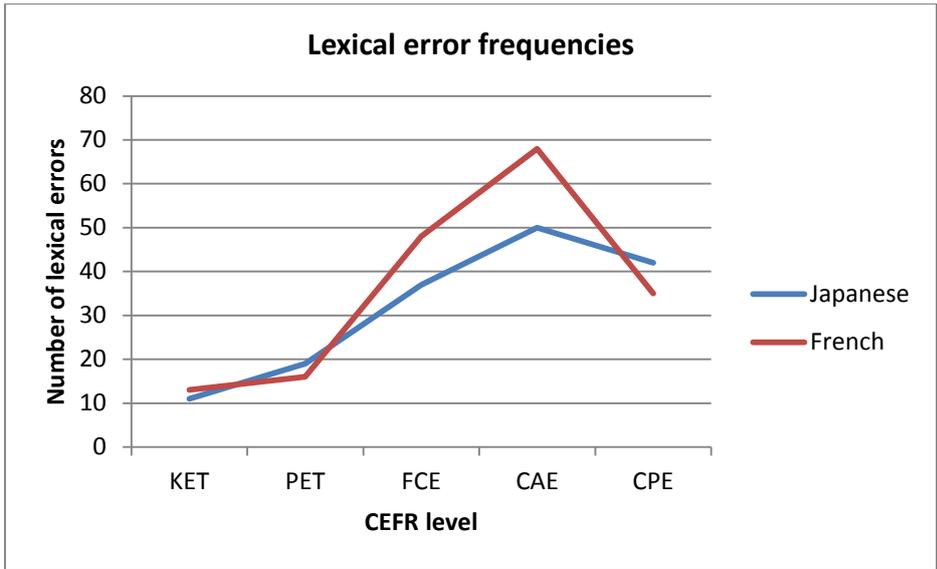
Figure 4.23: Graph showing lexical error frequencies
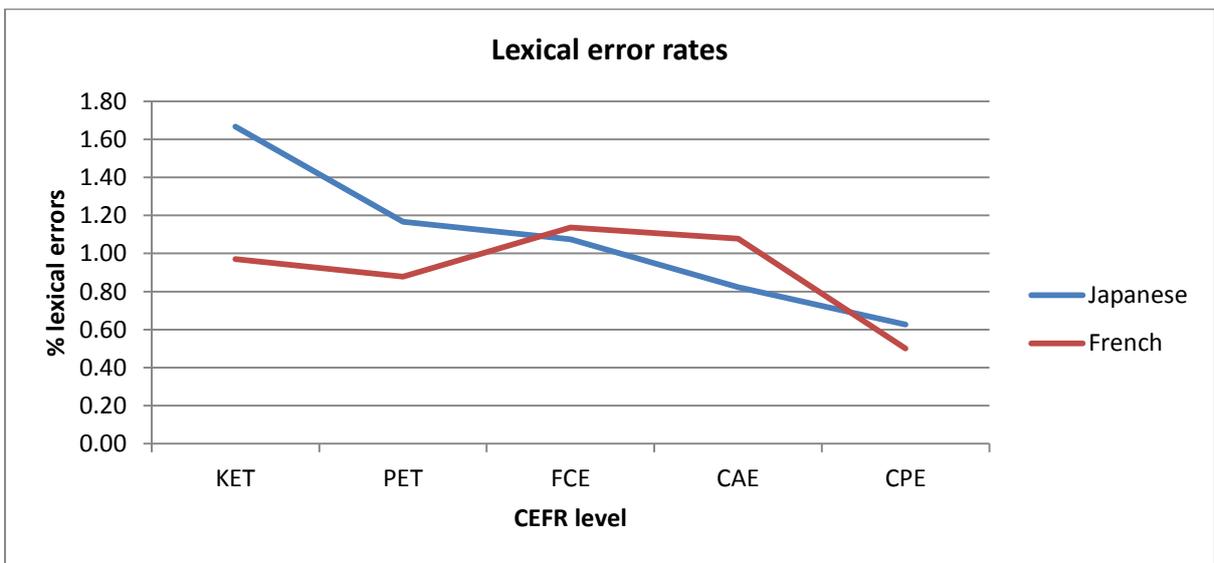
Figure 4.24: Graph showing lexical error rates

	Total errors in level	Average lexical error rate %
Japanese KET	11	1.67
Japanese PET	19	1.17
Japanese FCE	37	1.07
Japanese CAE	50	0.82
Japanese CPE	42	0.63
French KET	13	0.97
French PET	16	0.88
French FCE	48	1.14
French CAE	68	1.08
French CPE	35	0.50

Table 4.16 Table showing total lexical errors and average lexical error rates at each level

The first graph shows raw frequencies of error. The increase up to level CAE in both languages is to be expected as the total word counts are also increasing, but the decrease between levels CAE and CPE is perhaps more surprising, especially given the high word count. However, such a finding is in line with the fact that CPE is the most advanced level, and students are expected to write at near-native levels. However, an interesting difference between the language backgrounds can be observed in the error rate graph. While the Japanese error rate decreases steadily as the levels progress, the French error rates follow a slightly more erratic path, with an increase between levels PET and FCE (putting their error rate in excess of the Japanese rate, where it remains up to level CAE) and an even sharper

decrease between levels CAE and CPE, by which time it has dropped below the Japanese rate. Such findings run somewhat counter to the conclusions drawn in Littlemore et al. (2014) that at level FCE, learners are being more creative with their language use, which leads to an increased error rate. This is perhaps the case for the French learners, but no indication of this is observed for the Japanese learners. Littlemore et al. (2014) also found that error rates involving metaphor were higher than those that did not, but interestingly, the French learners' spike in error rate between levels PET and FCE is accompanied by a drop in metaphoric density (see Chapter 3) while the Japanese learners' increased metaphoric density was not accompanied by an increased error rate. The differences observed in the two studies could perhaps be explained by the fact that this analysis is taking into account orthographic errors only, but nonetheless, language background does seem to have a significant effect on error rates. It could be that the Japanese learners are more 'cautious' at the intermediate levels, although this was not borne out by the LFP analysis: Japanese learners use more band 3 words than the French at KET level, and more 'beyond 3000' words at both KET and PET. At level FCE, too, they use more band 3 words, although the French learners use more 'beyond 3000' words. It is also possible that their higher error rates in the earlier levels give them a more solid foundation as they progress to the intermediate and advanced stages. However, this is speculative and further research would have to be conducted to reach a firm conclusion.

Again, it is unsurprising to note the high levels of individual variation in lexical error rates. As above, the graphs show the mean error rate percentages along with the range and quartiles, while the tables include statistics calculated from raw frequencies:
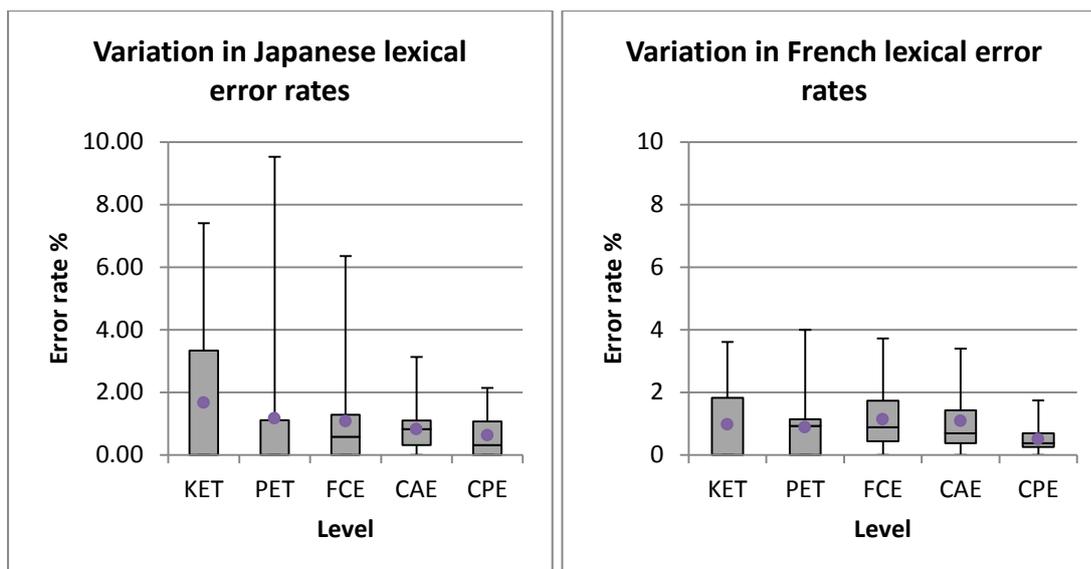
Figure 4.25 graphs showing variation in lexical error rates in the writing produced by Japanese and French learners

Raw frequencies	Japanese KET	Japanese PET	Japanese FCE	Japanese CAE	Japanese CPE	French KET	French PET	French FCE	French CAE	French CPE
Mean	0.52	0.90	1.76	2.38	2.00	0.62	0.76	2.29	3.24	1.67
SD	0.68	1.55	2.07	2.04	2.19	1.07	0.83	2.10	3.21	1.39
Minimum	0	0	0	0	0	0	0	0	0	0
Maximum	2	6	8	9	7	4	3	7	10	5

Table 4.17 Table showing statistics relating to raw frequencies of lexical errors

Mean and SDs for % rates	Japanese KET	Japanese PET	Japanese FCE	Japanese CAE	Japanese CPE	French KET	French PET	French FCE	French CAE	French CPE
Mean	1.67	1.17	1.07	0.82	0.63	0.97	0.88	1.14	1.08	0.50
SD	2.22	2.26	1.47	0.71	0.68	1.36	1.04	1.03	1.06	0.45
Minimum	0	0	0	0	0	0	0	0	0	0
Maximum	7.41	9.52	6.35	3.31	2.14	3.60	4.00	3.72	3.39	1.74

Table 4.18 Table showing statistics relating to lexical error rates

These graphs show high levels of variation within each level, with some essays showing relatively high error rates (a maximum of 9.52% in Japanese PET) and others containing no lexical errors. However, it is interesting to note that there is substantially more variation in the learners' error rates from levels KET-PET, particularly in the Japanese data. These levels

therefore seem to be somewhat more chaotic, reflecting the developmental work the learners are undertaking before stabilising somewhat at FCE level. In dynamic systems terms, such 'chaotic' data is particularly interesting as it can be an indicator of points where the system is about to change (Larsen-Freeman and Cameron, 2008b), and it has already been noted that FCE seems to be a threshold between the beginner levels and the more advanced stages.

Finally, it is worth investigating the impact of average LFP scores on error rates, to see if learners are more likely to make more lexical errors if they use words from the higher frequency bands. The correlation was run using the average LFP scores of the corrected essays and the lexical error rates given above. A Spearman's rho test showed no significant relationship between LFP score and error rate, r_s = .089, p = .100.

4.4.4.2 Lexical errors in open-class metaphor

It is now possible to analyse lexical error rates for metaphor, with the aim of investigating the relationships between lexical errors which involve metaphorically used lexical items, and those which do not. The same criteria as those used in Section 4.4.4 above were used to annotate errors, and Table 4.19 below gives examples of some of the errors identified.

Language and level	Examples of errors	Correct form
French PET	Rythme	Rhyme
Japanese FCE	Servive	Survive
Japanese FCE	Addittion	Addition
Japanese FCE	Developped	Developed
Japanese FCE	Abondone	Abandon
Japanese FCE	Devate	Devote
Japanese FCE	Ailen	Alien
Japanese CAE	Sence	Sense
Japanese CPE	Rushness	Rush
French CPE	Unveal	Unveil
French CPE	Oversnowed	Snowed under

Table 4.19 Examples of lexical errors in open-class metaphor

Table 4.20 below shows the average percentages of overall lexical errors per level involving metaphor. Those essays which did not contain any lexical errors were excluded from the analysis.

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	Average % lexical errors which involve metaphor
Japanese KET	0.00
Japanese PET	0.00
Japanese FCE	27.18
Japanese CAE	10.23
Japanese CPE	22.45
French KET	0.00
French PET	8.33
French FCE	6.25
French CAE	8.24
French CPE	18.14

Table 4.20 Table showing % lexical errors involving metaphor
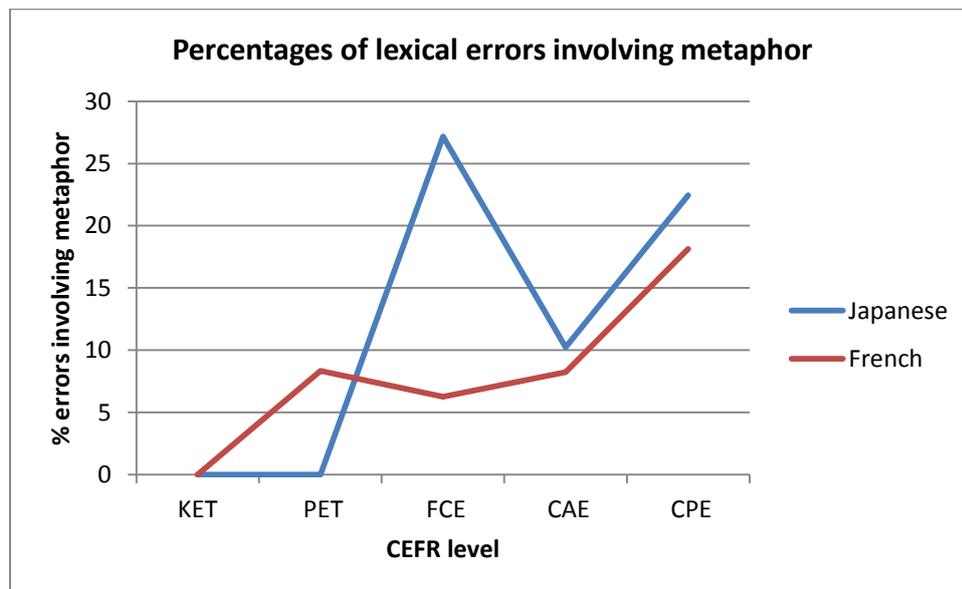
Figure 4.26 Graph showing % lexical errors involving metaphor

The overall increases observed in the graph are not surprising; as metaphor density increases with level, it is not surprising that the percentage of errors which involve metaphor would also increase. However, the significant finding from this graph comes when comparing it to the overall lexical error rates (see Figure 4.24 above). Put simply, as overall error rates decrease, the percentage of those errors which involve metaphor

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increases, corroborating Littlemore et al.'s (2014) findings that students do experience difficulty using metaphor correctly. However, it is difficult to ascertain the extent to which it is metaphor that is causing these difficulties. This question will be addressed in more detail in Chapter Five.

Important differences can also be observed when comparing the percentages from the two different language backgrounds. At PET level, the percentages of error involving metaphor are higher for the French learners. Although this could be explained by the higher metaphoric densities of the French essays at this level, the increase in metaphoric error percentage between KET and PET, from 0% to 8.33%, is greater than the difference in open-class metaphoric density (1.18% to 5.08%, including personification, 1.19% to 4.32% when personification is excluded), which implies that the variation cannot be explained by the difference in metaphoric density alone. A similar situation can be observed at level FCE, where the French learners' metaphoric error rates decrease while the Japanese metaphoric error rates increase dramatically. While open-class metaphoric density also increased between levels PET and FCE in the Japanese data, the increase was not so marked. This indicates that at level FCE, as previously suggested, Japanese learners show a greater willingness to experiment with metaphor, but these findings also suggest that they experience more difficulty doing so than the French learners. This is highlighted by the fact that overall Japanese error rates at FCE level are lower than overall French error rates, which makes the high metaphorical error rate even more emphasised. For the French learners, the decrease in metaphoric error rates level FCE is coupled with an increase in overall error rate. It could perhaps be said that the French learners were more willing to experiment with metaphor at PET level, and by level FCE metaphor poses them less trouble.

Furthermore, French learners seem to experience less difficulty with metaphor than the Japanese learners overall.

By level CAE, metaphoric error rates for the Japanese learners have dropped to a similar level as those of the French learners; it is still slightly higher, however, while their overall error rates are slightly lower. At level CPE, overall Japanese error rates were slightly higher than the French, as are their metaphoric error rates. Overall, these findings suggest that while some of the variation may be explained by the difference in metaphoric density (the higher the metaphoric density, the more likely it would be for there to be higher metaphoric error rates), the comparisons with the overall error rates show that the language background does have an effect on error rates involving metaphor. Japanese learners do seem to struggle more, even at those levels where their overall error rates are lower.

It was established in Section 4.4.4.1 above that there was no correlation between general error rates and overall LFP scores. Another Spearman's rho test was performed, this time focusing only on metaphoric error rates and average metaphor LFP scores, calculated from the corrected metaphor data. This time, instead of expressing metaphoric errors as a percentage of total errors as shown above, they were expressed as a percentage of total open-class metaphors in the essay. Essays with no open-class metaphors were discounted from the analysis. A significant correlation was observed between metaphor error rates and metaphor LFP scores, r_s = .276, n = 177, p < .001. Likewise, when expressing metaphor errors as a percentage of total words in the essay, the relationship was significant, r_s = .282, n = 177, p < .001. This is very interesting when viewed in the light of the findings reported in Section 4.4.4.2 above. While there is no significant correlation between general error rates and overall average LFP scores, the metaphoric error rates do significantly correlate with

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metaphoric LFP scores. What is more, the effect seems to vary according to language background, with the correlation slightly stronger in the Japanese data both when metaphoric errors are expressed as a percentage of the total word count in the essay, and when expressed as a percentage of the total number of open-class MRWs. Figure 4.27 below shows this effect with metaphoric errors expressed as a percentage of the total number of open-class MRWs. The blue line relates to the Japanese learners' writing, and shows a slightly stronger correlation between metaphor LFP score and lexical errors involving metaphor than the correlation observed in the French learners' writing.
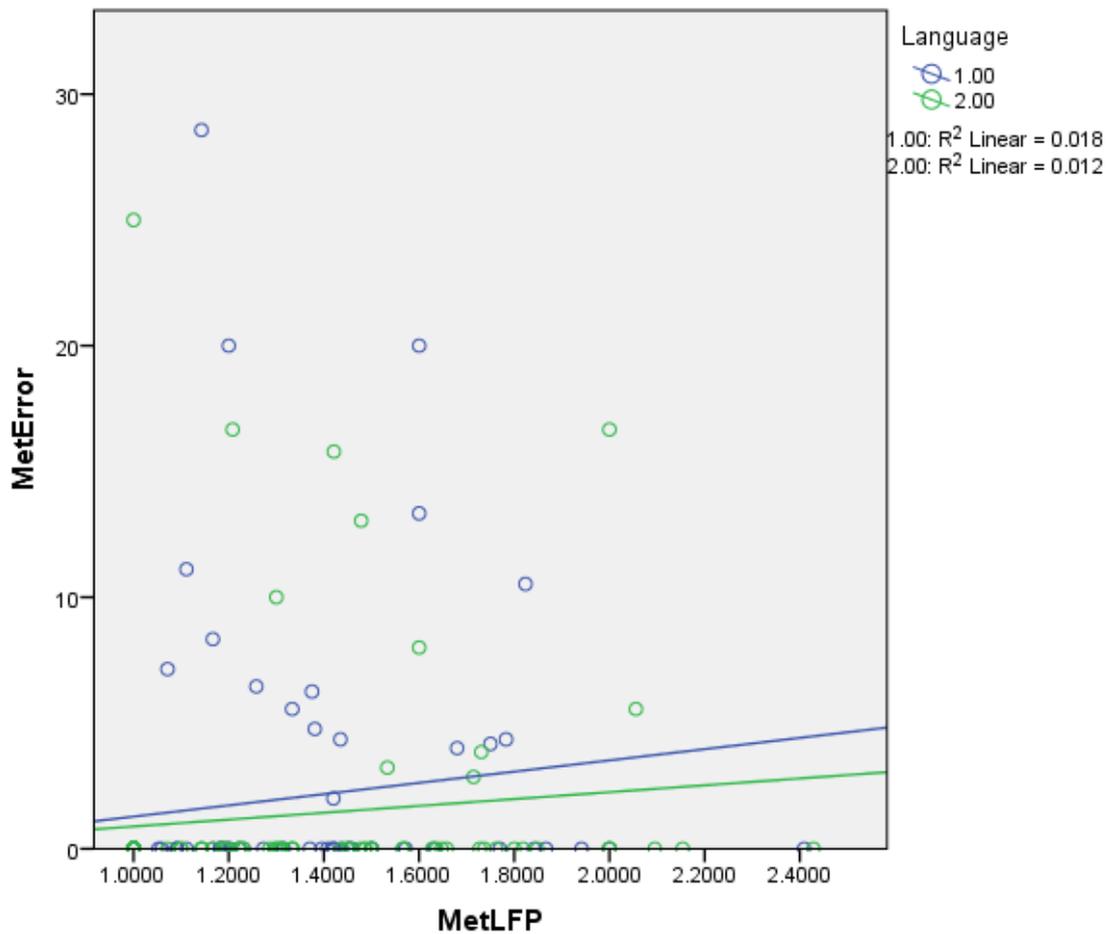
Figure 4.27: Graph showing a stronger correlation between average LFP score and metaphoric lexical error rate in Japanese learners' writing

Learners are therefore more likely to make lexical errors in their metaphor production if the metaphor comes from a higher frequency band, but this relationship does not extend to overall error production. It seems, therefore, that while metaphor LFP scores develop in much the same way as overall LFP scores, the error patterns involved are different.

4.4.5   Lexical variation

So far, the analyses have focused on lexical sophistication, measured by the use that learners make of the less common words in the English language. Before drawing together the findings from this section, it is worth returning briefly to the preliminary results on variation in metaphor using standardised type-token ratios, which were reported in Chapter Three. These type-token ratios were calculated using all open-class MRWs, including personification, which the lexical frequency analyses reported above did not include. For the purposes of comparability, this section reports the results of similar analyses, this time using the same data as above. Figure 4.28, Figure 4.29 and Figure 4.30 below show the average type-token ratios, calculated with a standardisation basis of 10, for corrected open-class MRWs, the remaining words in the essay when the open-class MRWs have been extracted (the 'other' category), and full essays. It was not always possible to standardise the calculations for open-class MRWs at the lower levels as some essays had less than ten metaphors, so the high scores at KET and PET should be interpreted in that light. Essays with no open-class MRWs were excluded from this analysis.
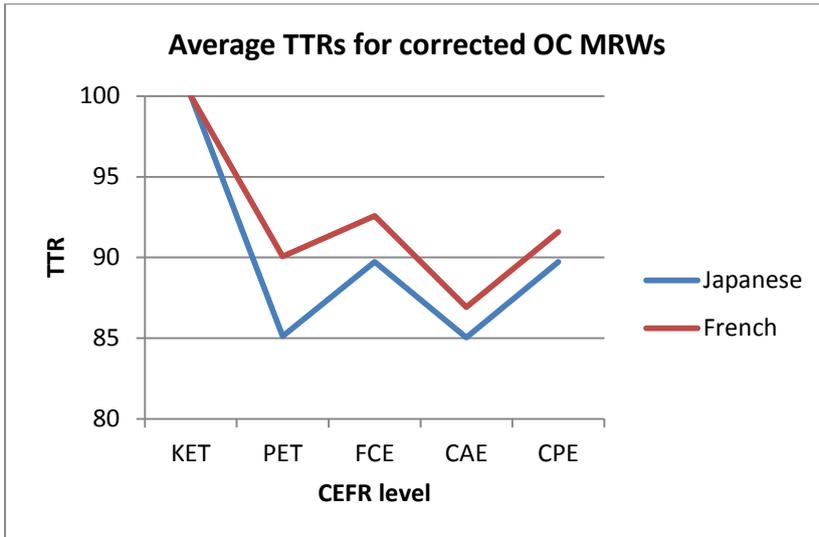
Figure 4.28: Average TTRs for corrected OCMRWs
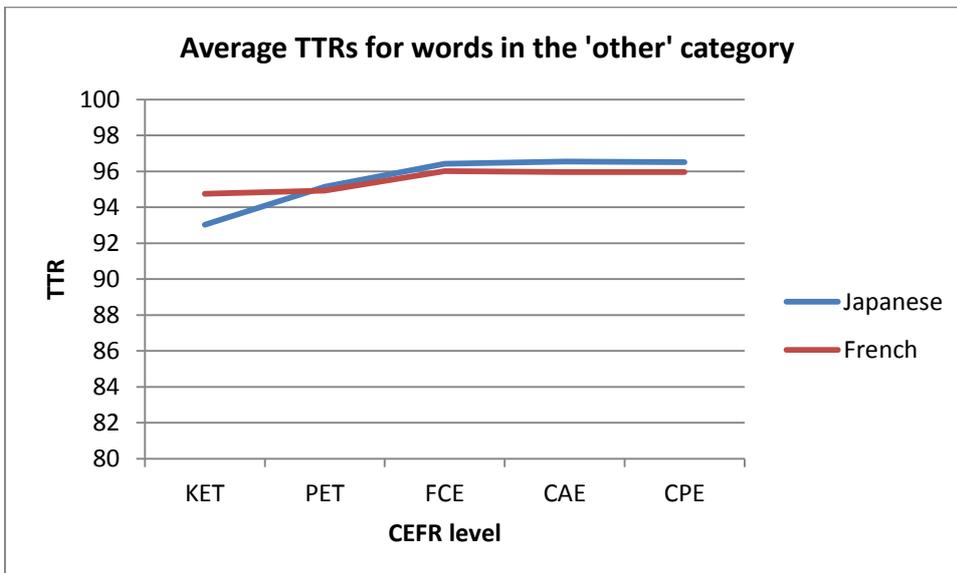
Figure 4.29: Average TTRs for remaining words after OC indirect and direct MRWs have been extracted (the 'other' category)

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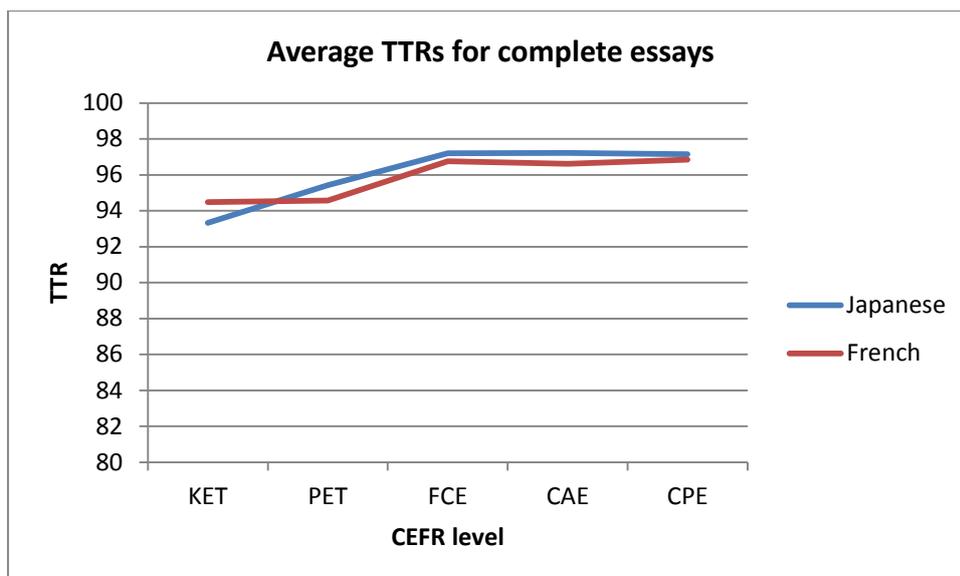
Figure 4.30: Average TTRs for complete essays

As suggested in Chapter 3, these graphs show that there is noticeably more variation in the average type-token ratio scores for corrected open-class MRWs as learners progress through the levels, whereas the TTRs for the lexical items excluded from the open-class MRW analysis and the TTRs for complete essays remain fairly uniform after FCE level. There is also a perceptible difference between the language backgrounds, with Japanese learners producing higher TTRs in their overall essays and non-open class indirect/direct metaphors, but the French learners producing more of a variety of open-class MRWs (although the differences between the language backgrounds are not statistically significant at any level). This could be taken as an indication that while metaphor use seems to develop similarly to general lexis in terms of frequency band, the variety of metaphors used develops very differently as learners make progress. It is also interesting to note that after KET level, the highest TTR scores for metaphor are lower than the respective scores in the complete essays and 'remaining words' graphs, which could suggest that learners are relying more on a small number of metaphors in their writing. This is especially interesting given the results

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discussed in Section 4.3 above, where it was noted that learners seem more likely to use open-class MRWs from higher frequency bands. It may be that learners rely on what Hasselgren (1994: 237) refers to as 'lexical teddy bears' in their metaphor use, depending on a small set of conventional, 'safe' MRWs they know. Given the higher metaphoric error rates observed in section 4.4, however, this may not be the case. The question of metaphor creativity and conventionality will be returned to in Chapter Five.

It was shown in Section 4.4.2.1 above that the levels of variation in LFP scores of open-class MRWs were considerably higher than the general levels of variation, and this trend is also noted here:
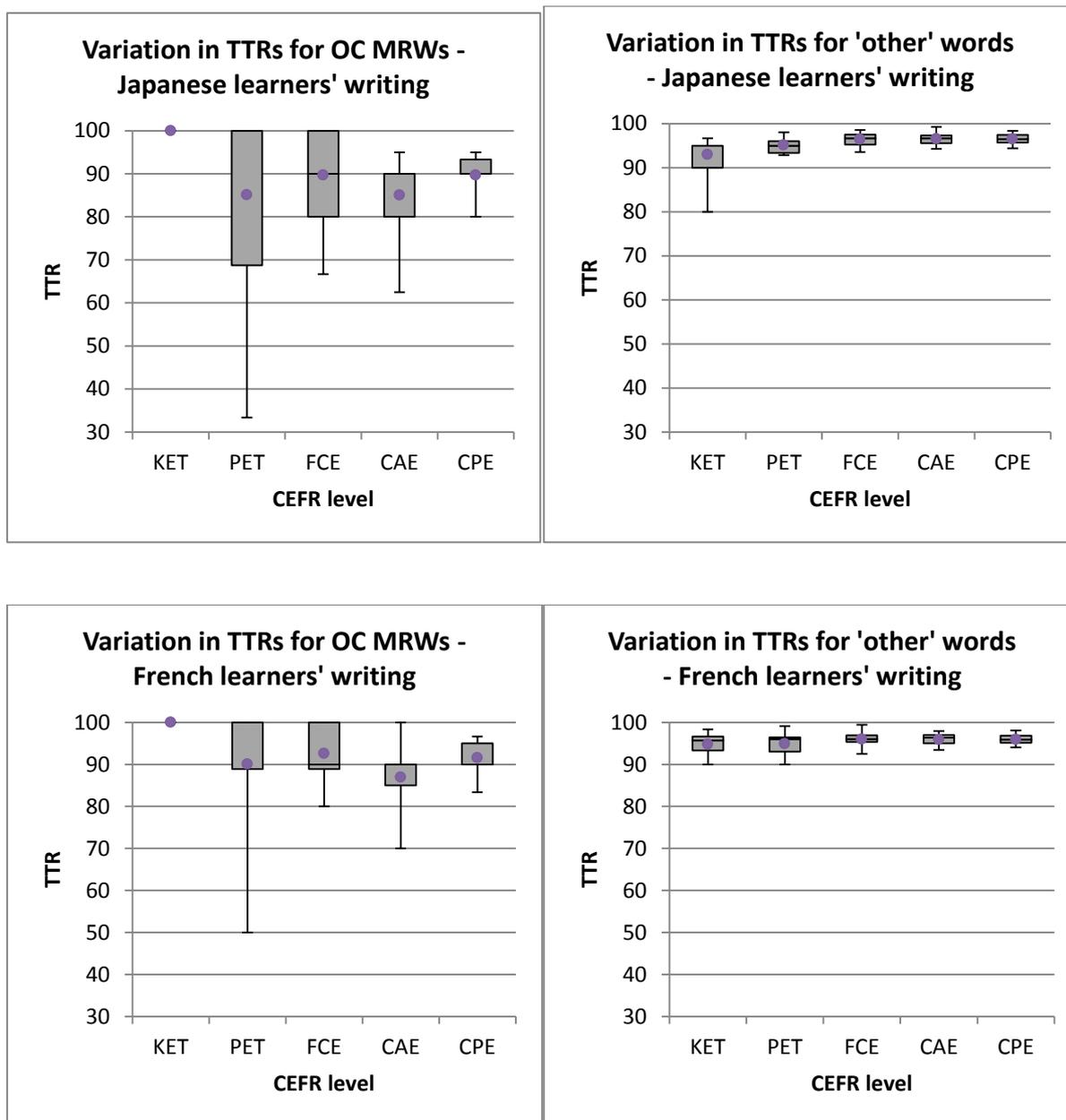
Figure 4.31: Box-and-whisker plots showing variation in TTRs for OC MRWs and 'other' words

Figure 4.31 above shows that for both French and Japanese learners, there is considerably more variation in the TTR scores for open-class MRWs than for 'other' words. This means that not only do learners of the same level and language background vary considerably in the amount and LFP score of the open-class MRWs they use, the variety of MRWs they produce also depends greatly on the individual learner.

These results are also interesting when compared to the findings from the LFP analyses reported above. In Section 4.4.1, it was noted that learners make significant progress in terms of their use of words from the higher frequency bands at FCE level, and that thereafter, their use of words from band 3 and beyond 3000 continues to develop. However, while Figure 4.30 above mirrors the 'jump' in progress between levels PET and FCE for both languages, the average TTR scores for complete essays then plateau. It therefore seems the case that while learners will continue to develop in their lexical sophistication post-FCE, they will not use a demonstrably greater variety of words.

4.5   Interim conclusions and implications: vocabulary breadth

Before moving on to the second analysis, it is worth summarising the main findings of the LFP analysis. LFP analysis was shown to be an adequate research tool which produced the expected overall patterns. However, it was noted that such a framework does not take into account the individual variation in language learning patterns, as some words may be more salient for some learners than others. Similarly, frequency lists do not always match the order in which words are presented in a course. Despite these problems, however, a number of interesting findings were gained. It was seen that:

- MRWs tended to come from lower frequency bands than non-MRWs. However, open-class MRWs were more likely to come from comparatively higher bands than the other words in each essay. This was taken to suggest that metaphor plays an important role in learners' developing lexical sophistication.

- There were high levels of individual variation in the use of metaphor from different frequency bands, which exceeded overall frequency variation levels. Similarly high levels of variation were noted in the metaphor TTR scores. This variation serves as a

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caution against drawing firm conclusions from the dataset, and the variation observed in metaphor LFP scores provides further support for the hypothesis that metaphor use varies significantly, even among learners of the same language and level.

- Lexical error rates involving metaphor increase even as overall error rates decrease, suggesting that learners experience difficulty in using these words correctly (although the extent to which it can be claimed that this is due to a word's metaphoricity remains contentious). Metaphoric error rates also positively correlate with metaphor LFP scores, while this relationship was not found for general error rates and LFP scores. However, as metaphoric error rates increased throughout the levels, along with usage of metaphor from lower frequency lists, this should not be taken to indicate a causal relationship.

- There was some indication of difference according to language background, with Japanese learners seeming to struggle with metaphor use more than French learners, even at levels where their overall error rates were lower. Japanese learners also used less of a variety of metaphor, and until level CPE, their LFP scores for open-class MRWs were lower on the whole. However, these differences were very small.

- While overall and non-MRW lexical variation as measured by TTRs plateaued after FCE level in both sets of learners, metaphor variation remained chaotic and registered slightly lower levels. This could indicate a difference between metaphor development and overall lexical development, and could be indicative of learners' reticence to vary their metaphor use despite their higher LFP scores.

4.6 Metaphor and Vocabulary Depth

The preceding analyses have concentrated mainly on vocabulary *breadth*. We turn now to an investigation of growing vocabulary *depth* and its relationship to metaphor use. Research into vocabulary depth is somewhat hampered by the fact that there are no 'clear, comprehensive and unambiguous definitions to work with' (Milton, 2009: 150), which might go some way towards explaining the relative paucity of research into vocabulary depth as opposed to breadth that Proctor et al. (2012) note. Vocabulary depth, however, can be loosely defined as how *well* a learner knows the words in their lexicon (Read, 1993), 'ranging from knowledge of [their] pronunciation, spelling, register, and stylistic and morphological features to knowledge of [their] syntactic and semantic relationships with other words in the language, including collocational meanings and knowledge of antonymy, synonymy, and hyponymy' (Akbarian, 2010: 392). Knowledge of the different senses a word can have is another important facet of vocabulary depth (Proctor et al., 2012), with Richards (1976: 79) asserting that 'knowing a word means knowing many of the different meanings associated with the word'. For the purposes of this study, this can also be taken to mean knowledge of the metaphorical meaning extensions that a word can have. Polysemy, and by extension metaphor, also contributes to the formation of lexical networks, another factor of vocabulary depth. The development of these lexical networks is crucial to developing lexical competence because they facilitate the acquisition of new words. Once these networks are established, new words can be easily assimilated into them, which is considerably more economical than learning each related word sense separately (Verspoor and Lowie, 2003).

Vocabulary depth is therefore an important concept, but it is difficult to operationalise for research. The majority of research in this area has involved participant testing using

instruments such as the *Word Associates Test* (Read, 1993). Tested methodologies for investigating vocabulary depth from a corpus have not been established. This has perhaps been out of necessity: there is as yet no tool that can automatically distinguish between the different senses or morphological derivations of a word such as 'date', which appears in the first frequency band even though its different senses (i.e. as a fruit, as the verb 'to date' romantically, or perhaps to 'date' a painting or artefact) may be less common. The lack of research in this area is problematic, however, as 'ultimately the question is not what learners know about a word but what they can do with it,' and tests of vocabulary in use must also supplement tests of declarative knowledge to obtain a comprehensive picture of the learner lexicon (Read, 2004b: 224).

One key study that goes some way towards remedying these problems is Crossley et al.'s (2010) investigation of polysemy in a longitudinal corpus of learner speech using polysemy data from WordNet (2010). WordNet is a lexical database which is organised into sets of synonyms, or *synsets.* This enables the researcher to investigate the different senses a word can have, thanks to the different networks it is part of. For example, *way* is shown to have twelve different senses, as shown below:

- manner, mode, style, **way**, fashion (how something is done or how it happens) *"a lonely way of life";*
- means, agency, **way** (thing or person that acts to produce a particular effect or achieve an end) *"the true way to success"*
- direction, **way** (a line leading to a place or point) *"didn't know the way home"*
- **way** (the condition of things generally) *"that's the way it is"; "I felt the same way"*
- **way**, path, way of life (a course of conduct) *"we went our separate ways";*
- **way** (any artifact consisting of a road or path affording passage from one place to another) *"he said he was looking for the way out"*

- **way** (a journey or passage) *"they are on the way"*

- room, **way**, elbow room (space for movement) *"make way for";*

- **way** (the property of distance in general) *"it's a long way to Moscow"; "he went a long ways"*

- **way** (doing as one pleases or chooses) *"if I had my way"*

- **way** (a general category of things; used in the expression `in the way of') *"they didn't have much in the way of clothing"*

- **way** (a portion of something divided into shares) *"they split the loot three ways"*

The Coh-Metrix online interface (Graesser et al., 2004) was then used to return the mean polysemy values of the content words in their transcripts of learner speech, representing the mean number of senses each word in the text had. Word frequency measures were also obtained using the Coh-Metrix interface, which takes its frequency information from the CELEX lexical database (which in turn uses COBUILD frequency data) (2007).

Crossley et al.'s (2010) results showed that over a period of 16 weeks, both the frequency values and the polysemy values for learner speech increased significantly before plateauing after the 16-week mark. These findings were taken to indicate a correlation between frequency and polysemy effects. A subsequent qualitative analysis of the variety of word senses being used also showed that not only did learners use more words with the potential to be polysemous up to the 16-week mark, they also produced more word senses as they progressed, and that this progression continued after 16 weeks, leading them to conclude that:

> although learners' production of polysemous words tapers off after an initial period of growth, the actual sense relations that L2 learners use in their discourse increase in type (more varied senses of a lexical item). In other words, the frequency of polysemous words such as *think* and *know* seem to stabilize as a function of time learning the language; however, the frequency of the difference sense

relations produced for these words is greater in the second and third trimesters of the study (Crossley et al., 2010: 599).

On the basis of this research, a methodology was developed for the present study which, it was hoped, could go some way towards indicating the relationship between metaphor use and growing vocabulary depth in the dataset used in this thesis. However, the results gained from such an analysis must only be taken as an indication, for without access to individual learners and the chance to undertake a longitudinal study as Crossley et al. (2010) did, there are severe limits to the insights gained (Schmitt, 1998).

4.6.1 Research Questions

The section of the study aims to address the following questions:

1. Does polysemy, as measured by mean WordNet polysemy values, develop in the same way in the data used for this thesis as found by Crossley et al. (2010)?

2. Is there a correlation between polysemy values and open-class metaphoric density for each essay?

3. How do learners make use of different word senses as they progress through the levels, and does the use of different word senses correlate with increasing open-class metaphoric density?

4.7 Methodology

Each essay, with spelling errors corrected, was uploaded into Coh-Metrix and the mean WordNet polysemy scores recorded. These results were then plotted on a graph to track how polysemy develops over time. A correlation analysis was then performed to compare the relationship between polysemy and open-class metaphor density. However, as Crossley et al. (2010) note, even if learners begin to produce more polysemous words as they

progress, this does not necessarily mean that they produce more senses for each individual word. In order to investigate this question, an analysis of individual words is required. These words were selected by producing frequency lists for open-class metaphor using WMatrix (Rayson, 2009), an online interface that can be used to compare corpora. These words had to occur enough times in both subcorpora to enable an investigation of their different senses in use, so the frequency lists generated by WMatrix for the open-class metaphor occurring at least ten times in the French and Japanese subcorpora were examined. Using the metaphor frequency lists as a first step, instead of lists generated from the whole essays, removed the need to work through the high-frequency grammatical and non-polysemous words dominating the top of the general frequency lists. Table 4.21 below shows the open-class MRWs (excluding personification) which occur ten times or more in the French and Japanese subcorpora:

French subcorpus		Japanese subcorpus	
MRW	Raw frequency	Japanese	Raw frequency
have	60	have	62
way	52	give	21
find	27	way	20
give	20	make	19
spend	19	forward	18
make	19	get	16
hand	18	keep	16
had	17	spend	14
point	15	things	13
long	14	take	13
hard	14	addition	13
order	13	feel	13
part	13	looking	12
far	12	point	12
look	11	order	12
forward	11	congestion	12
fit	10	something	11
take	10	view	11
made	10	long	11
has	10	had	10
great	10	made	10
		hand	10
		find	10
		given	10
		reflect	10

Table 4.21 Table showing raw frequencies of the most common OC MRWs

On the basis of these lists, five words were selected: *have, give, make, way* and *find.* These words were then inputted into WordNet to ensure that each had a range of senses. Each example of the words was then extracted from the corpus along with its context, and coded according to which WordNet sense it belonged to.

4.8   Results and discussion: polysemy analysis

Figure 4.32 below shows the average polysemy scores for essays at each CEFR level for the two language backgrounds.
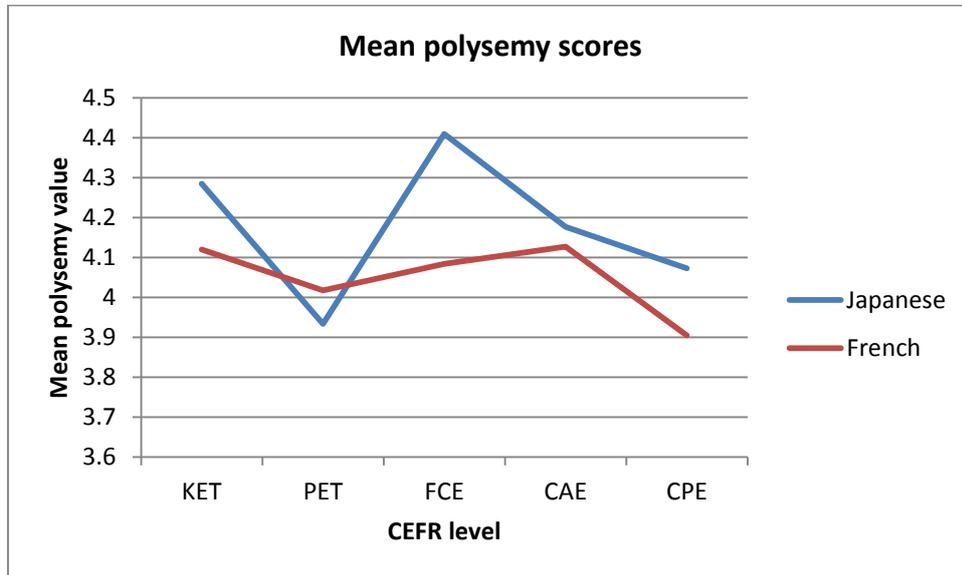
Figure 4.32 Graph showing mean polysemy scores

The differences are significant in the Japanese data from PET to FCE only with a medium effect size, U = 129.5, z = -2.289, p = .022, r = .35. In the French data, differences are significant only for the decrease between CAE and CPE, again with a medium effect size, U = 137, z = -2.101, p = .036, r = .33.

To facilitate comparison, Figure 4.33 below shows the results obtained by Crossley et al. (2010: 585):
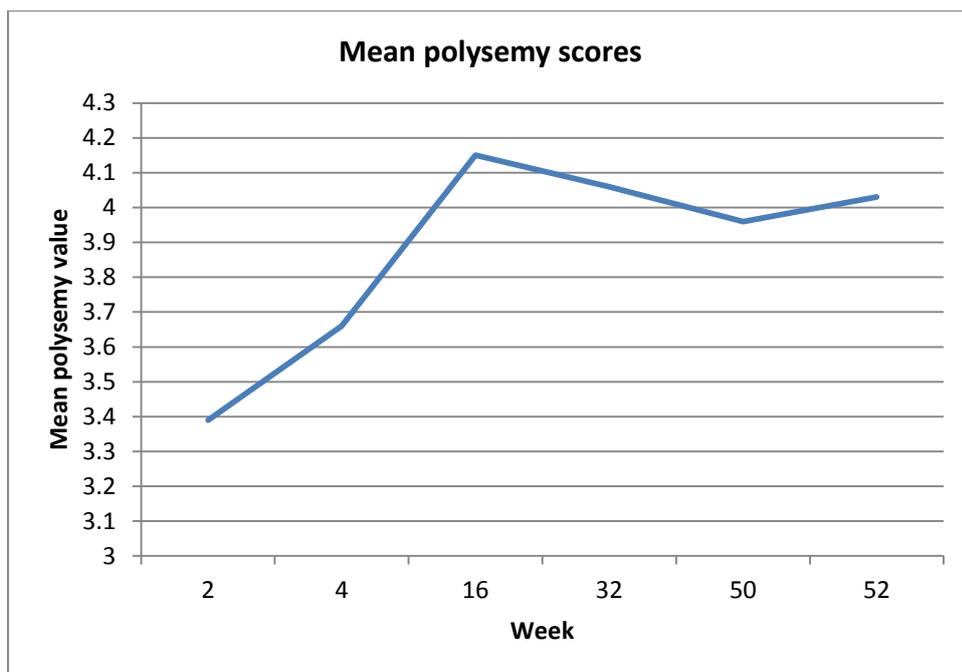
Figure 4.33: Graph replicating the results obtained by Crossley et al. (2010: 585)

These results enable answers to the first two research questions concerning vocabulary depth.

4.8.1 Does polysemy, as measured by mean WordNet polysemy values, develop in the same way in the data used for this thesis as found by Crossley et al. (2010)?

It is clearly somewhat problematic to compare the two sets of results as Crossley et al. collected spoken data from the same learners over a set timeframe. However, their data can still be used to frame the findings from the data used in this thesis. Comparing these two sets of results, a somewhat different pattern is seen. First, there is a decrease in polysemy scores in both the French and the Japanese data between KET and PET (although these differences are not statistically significant). This was not seen in Crossley et al.'s data, and it may have been due to the length of the essays at KET level. As the texts at this level

are very short, with a small number of content words, only one or two words would need to obtain a polysemy score to increase the average. It could also be due to the fact that the highly frequent words most likely to be found at this level are also likely to have more senses (Crossley et al., 2010). In the Japanese data, there is a significant increase in polysemy scores between PET and FCE, followed by a period where no significant change takes place. This is mirrored in Crossley et al.'s data between weeks 2 and 16, although the post-FCE 'plateau' in the Japanese data registers slightly more change. However, there is no such increase in the French data, and the only significant change is the decrease between levels CAE and CPE. The French learners therefore seem to follow a very different path to the learners in Crossley et al.'s study, with no evidence of the significant increase and subsequent plateau in polysemy use which they found and which is replicated in the Japanese data. This may be due to the participants involved in Crossley et al.'s study, who had three participants who were native speakers of Arabic, and three who were native speakers of Spanish, Japanese and Korean respectively. They did not isolate the Spanish speaker's scores, so it could be that the notable increase and plateau is a feature of learners from non-European language backgrounds. Further research would be necessary to verify this hypothesis.

4.8.2 Is there a correlation between polysemy values and open-class metaphoric density for each essay?

A first look at Figure 4.32 above suggests that no correlation will be found between polysemy and open-class metaphoric density, as the patterns are very different to those observed in the metaphoric density graphs reported in Chapter 3. The statistically significant increase in polysemy score between PET and FCE in the Japanese data is mirrored by a significant increase in open-class MRWs, but the French learners' significant decrease in

polysemy scores between CAE and CPE occurs alongside an increase in open-class MRW density. Spearman's rho tests confirmed that there no significant correlation being found in the French data (r_s = .128, p = .096, n = 105). However, a correlation was found between open-class MRW density and polysemy score in the Japanese data (r_s = .184, p = .03, n = 105).

At first sight this lack of significant correlation in the French data seems very unusual, but it can perhaps be explained by a closer look at what the WordNet polysemy scores returned by Coh-Metrix represent. Each content word in a text is assigned a polysemy score based on the number of different senses it has; it is not a binary value based on whether or not a word is polysemous. MRWs such as 'feedback' or 'congestion', for example, both have a polysemy score of 2 as they have two senses recorded in the WordNet database. However, a more commonly-used MRW such as 'way' has 12 different senses as seen in Section 7 above, and thus has a polysemy score of 12. The different pattern observed in the French data could therefore indicate their use of less frequent MRWs with correspondingly fewer word senses, and Section 4.2 in the investigation of vocabulary breadth above also seems to indicate this. It should also be noted that non-MRWs could also register high polysemy scores.

These findings have important implications for the second overall research question of this thesis, which was concerned with investigating how metaphor interacts with other aspects of language. It was previously noted that metaphor plays a key role in meaning extension (Taylor, 2002), and that metaphor would therefore be expected to contribute significantly to increased vocabulary depth. While this certainly seems to be the case for the Japanese learners, the French learners deviate significantly from this hypothesis, with no correlation

between their use of open-class MRWs and vocabulary depth as measured by polysemy score. It is therefore perhaps more accurate to consider metaphor as spanning both vocabulary depth and vocabulary breadth, with the increased use of MRWs not necessarily an indicator of developing vocabulary depth if the MRW is one of only two senses (or, indeed, if the word is conventionally used metaphorically). Furthermore, of course, the polysemy scores obtained cannot provide an indication of whether the learners are able to actually produce the different word senses. Because of this, the qualitative analysis of the different word senses introduced in Section 4.7 is required.

4.8.3 How do learners make use of different word senses as they progress through the levels, and does the use of different word senses correlate with open-class metaphoric density?

This section reports the results of the qualitative analysis into the use of the different word senses of the most frequent open-class MRWs. *Have, give* and *make* are presented first due to their status as delexical verbs (See Chapter Five), which may thus behave differently to *way* and *find.*

4.8.3.1 *Have*

Examples of *Have to* expressing obligation, and *have* as an auxiliary verb, were excluded from this analysis as they did not appear in WordNet's definitions of *have*. Of the 19 senses that WordNet includes, 12 were represented in the dataset as shown below. They are presented in order from the most to the least frequent, according to WordNet's own frequency counts. The number of metaphorically-used senses are also given.

Meaning	Japanese					French				
	KET	PET	FCE	CAE	CPE	KET	PET	FCE	CAE	CPE
1. Have or possess, in a concrete or abstract sense	-	5	16	23	3-	5	4	22	26	28
2. Have as a feature	1	1	6	1	1	-	3	-	1	3
3. Experience, go through mental or physical states/experiences	-	3	-	4	4	-	7	2	4	8
4. Consume, ingest	1	1	-	8	-	2	2	1	9	-
5. Have a personal or business relationship with someone	-	-	-	-	1	-	1	-	-	1
6. Hold, throw, give – organize or be responsible for	-	-	1	1	1	-	-	-	1	1
7. Suffer from, be ill with	-	-	2	-	-	-	1	-	-	-
8. Induce, cause to do, cause to act in a specified manner	-	-	-	-	-	-	-	1	-	2
9. Accept, receive willingly something given or offered	1	-	-	-	-	-	-	-	-	-
10. Get something, come into possession of	-	-	2	-	-	-	-	1	-	-
11. Suffer, sustain, undergo	-	-	-	-	-	-	-	-	1	-
12. Give birth, deliver a child	-	-	-	-	1	-	-	-	-	1

Total	3	10	27	37	38	7	18	27	42	44
Total different senses	3	4	5	5	6	2	6	5	6	7
Total instances of *Have* marked as MRW	2	7	21	22	32	2	11	17	24	36
% metaphor	66.67	70.00	77.78	59.46	84.21	28.57	61.11	62.96	57.14	81.82

Table 4.22 Table showing different senses of 'have'
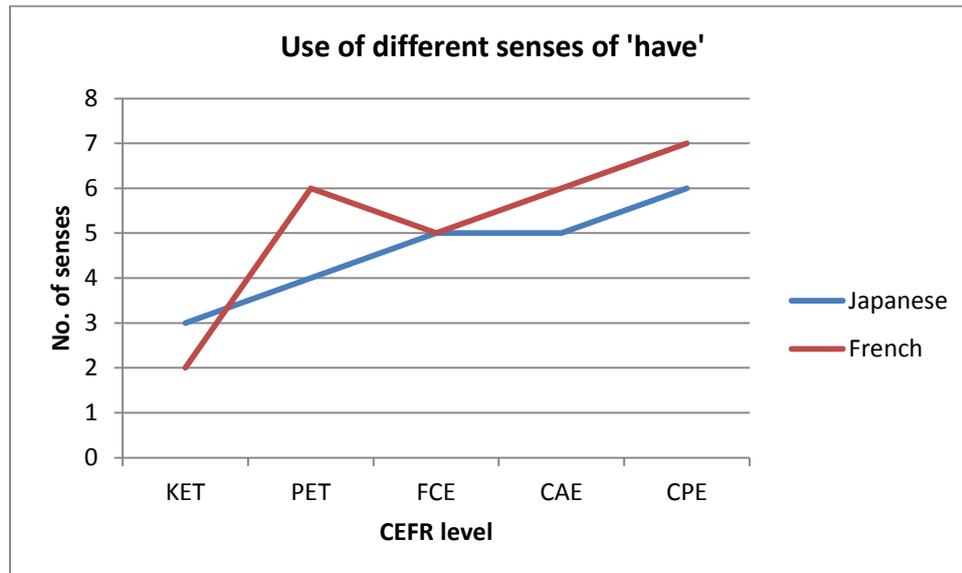
Figure 4.34 Graph showing progression in the use of different senses of 'have'

These results show that both groups of learners use more senses of the word as they progress through the levels. It is interesting to note that at some points the use of new senses mirrors the patterns observed in overall MRW density development in Chapter 3. For the French learners, for example, the small decrease in their metaphoric density at FCE is mirrored by a decrease in the number of senses they use, and statistically significant increase in metaphoric density between levels KET and PET matches the large increase in the use of difference senses between these levels. On the whole, however, there are only small differences between the two groups of learners in terms of the number of senses they

use, with the French learners using only one more than their Japanese counterparts at CAE and CPE level.

Some of the new senses observed in the table can be explained by the topics that learners are writing about. The large use of the 'consume/ingest' sense of *have* at CAE level in both languages, for example, is due to learners writing about the changes in their country's eating habits, and therefore frequently using phrases such as *have breakfast* or *have dinner.* This should perhaps be considered a drawback to the methodology, as the task requirements will play a significant role in whether learners will have a chance to demonstrate their knowledge of the different senses of a word.

In terms of the use of the metaphorical senses of *have*, Figure 4.35 below shows that, with the exception of a decrease at CAE, learners use more metaphorical senses of *have* as they progress through the levels. Again, this anomalous decrease at CAE can be explained by the frequent use of *have* in the sense of 'consume or ingest', which was not considered to be metaphorical:
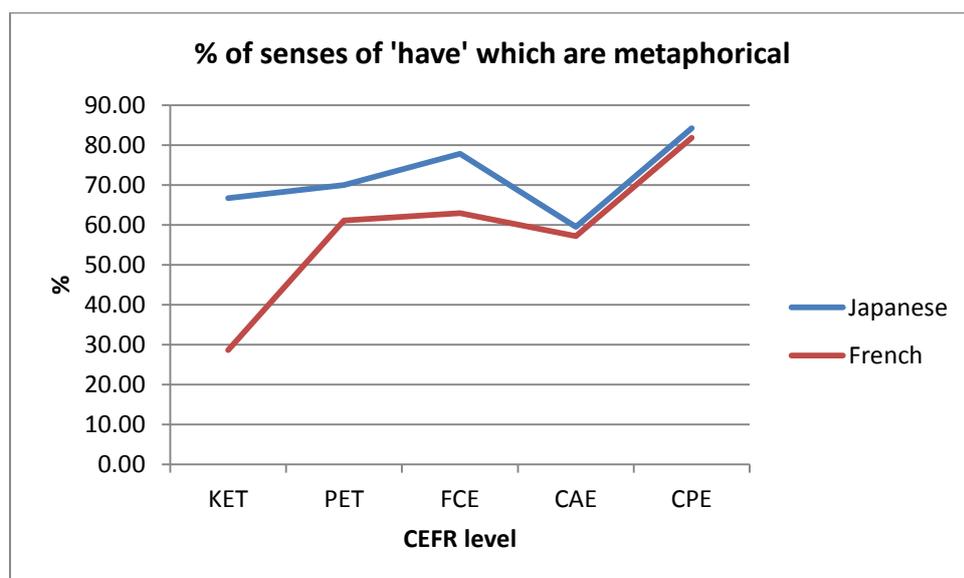
Figure 4.35: Graph showing % metaphorical senses of 'have'

Overall, however, this first analysis has shown that learners will use more senses of *have* as they make progress, and their use of metaphorical senses will also increase. This finding corroborates those of Crossley et al. (2010) and provides evidence from the data that metaphor does indeed contribute to increased vocabulary depth and knowledge of different word senses. We turn now to the remaining MRWs chosen to see if these conclusions are borne out.

4.8.3.2 *Give*

WordNet gives 44 senses of *give,* some of which were very specialised so it is perhaps unsurprising that only ten were represented in the dataset.

Meaning	Japanese					French				
	KET	PET	FCE	CAE	CPE	KET	PET	FCE	CAE	CPE
1. Cause to have, in the abstract or physical sense	-	-	-	8	6	1	1	-	4	7
2. Be the cause or source of	-	-	1	-	-	-	-	1	1	-
3. Transfer possession of something concrete or abstract to somebody	-	-	-	-	-	2	-	1	1	3
4. Convey or reveal information	-	-	6	7	5	-	-	3	-	1
5. Pay, convey, as of a compliment, regards, attention etc	-	-	-	-	-	-	1	-	-	-
6. Present, make a gift of	1	-	-	4				-	3	-
7. Give, pay, devote	-	-	-	-	1	-	-	-	-	-
8. Grant, bestow	-	-	-	-	-	-	-	1	-	-
9. Perform to an audience	-	-	-	-	1	-	-	1	1	1
10. Submit for consideration, judgment or use	-	-	-	1	1	-	-	-	2	1
Total	**1**	**0**	**7**	**20**	**14**	**4**	**2**	**7**	**12**	**13**
Total different senses	**1**	**0**	**2**	**4**	**5**	**3**	**2**	**5**	**6**	**5**
Metaphors	**0**	**0**	**7**	**15**	**13**	**1**	**2**	**6**	**8**	**12**
% metaphors	**0**	**0**	**100**	**75**	**92.86**	**25**	**100**	**85.71**	**66.67**	**92.31**

Table 4.23 Table showing different senses of 'give'
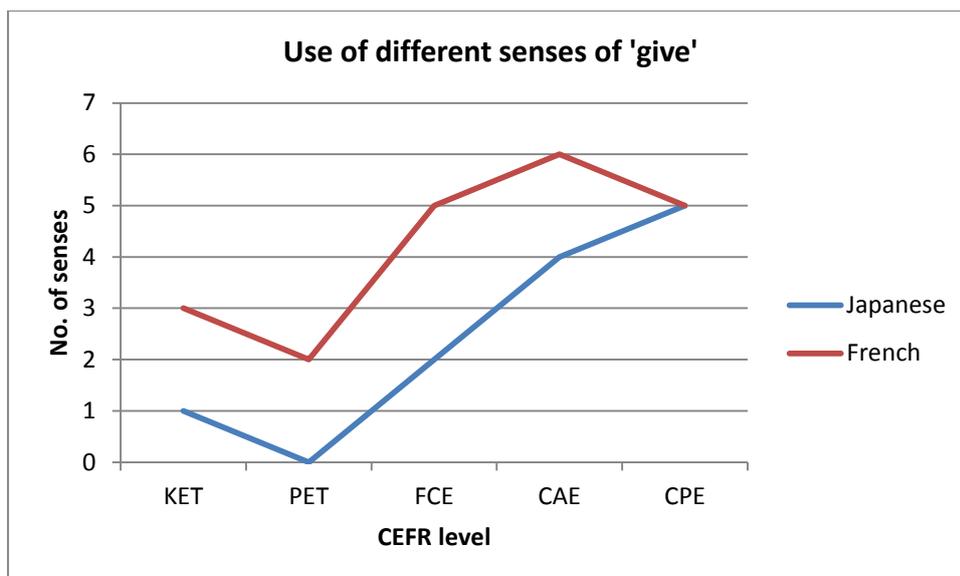
Figure 4.36 Graph showing progression in the use of different senses of 'give'

In the case of *give,* the French learners use at least two more senses than the Japanese learners at each level until level CPE, where both groups produce five different senses. However, the two groups of learners differ in the senses they use, with the third, fifth and eighth meanings not represented at all in the Japanese data while the French learners use all ten meanings found in the dataset. While the size and nature of the dataset make it impossible to draw firm conclusions, it is possible that the Japanese learners slightly lag behind their French counterparts in terms of their knowledge of *give*. However, this analysis provides further support to the insights gained in Section 4.8.3.1 above; on the whole, learners use more senses of *give* as they progress.

The percentages of the different senses which are metaphorically used at each level, however, show a slightly different pattern:

% of senses of 'give' which are metaphorical
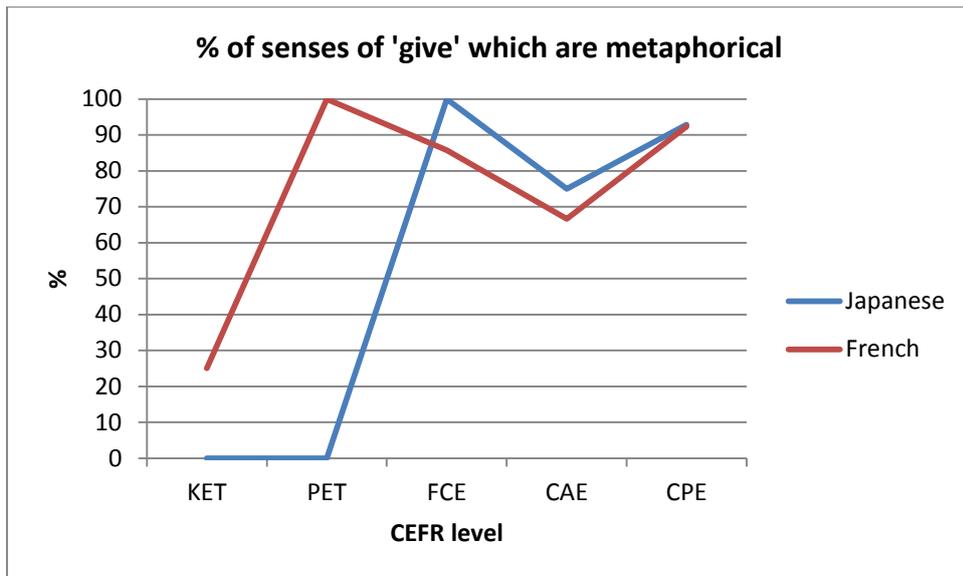
Figure 4.37: Graph showing % metaphorical senses of 'give'

Both groups of learners produce a significant increase in their metaphoric use of *give*, each corresponding with the points at which their open-class metaphor use overtook closed-class use. The subsequent decrease, however, should perhaps not be considered significant due to the small figures involved.

4.8.3.3 *Make*

Make had 49 senses listed in WordNet, of which twelve were represented in the dataset.

	Meaning	Japanese					French				
		KET	PET	FCE	CAE	CPE	KET	PET	FCE	CAE	CPE
1.	Do, engage in	-	-	-	5	2	-	2	-	2	2
2.	Give certain properties to something or someone	-	-	1	4	6	-	-	2	1	7
3.	Cause to be or to become	-	-	4	4	3	-	-	-	4	2
4.	Cause to do, cause to act in a specified manner	-	1	-	-	-	-	2	2	5	1
5.	Produce, manufacture	-	-	1	-	-	-	-	-	-	-
6.	Formulate or derive in the mind	-	-	1	-	-	-	-	-	-	-
7.	Compel somebody or something to act in a certain way	-	-	-	1	1	-	-	-	-	-
8.	Perform or carry out	1	-	-	-	2	-	-	-	-	-
9.	Construct, build	-	1	-	-	-	-	1	1	1	-
10.	Act in a certain way so as to acquire (i.e. friends, enemies)	-	4	-	-	-	-	1	-	2	-
11.	Carry out, commit (i.e. a mistake)	-	-	-	-	-	-	-	1	1	-
12.	Proceed along a path (i.e. make one's way)	-	-	-	-	-	-	-	-	-	1
	Total	**1**	**6**	**7**	**14**	**14**	**0**	**6**	**6**	**16**	**13**
	Number of different senses	**1**	**3**	**4**	**4**	**5**	**0**	**4**	**4**	**7**	**5**
	Metaphor	**0**	**6**	**5**	**14**	**12**	**0**	**5**	**6**	**13**	**13**
	% metaphor	**0**	**100**	**71.43**	**100**	**85.71**	**0**	**83.33**	**100**	**81.25**	**100**

Table 4.24 Table showing the different senses of 'make'
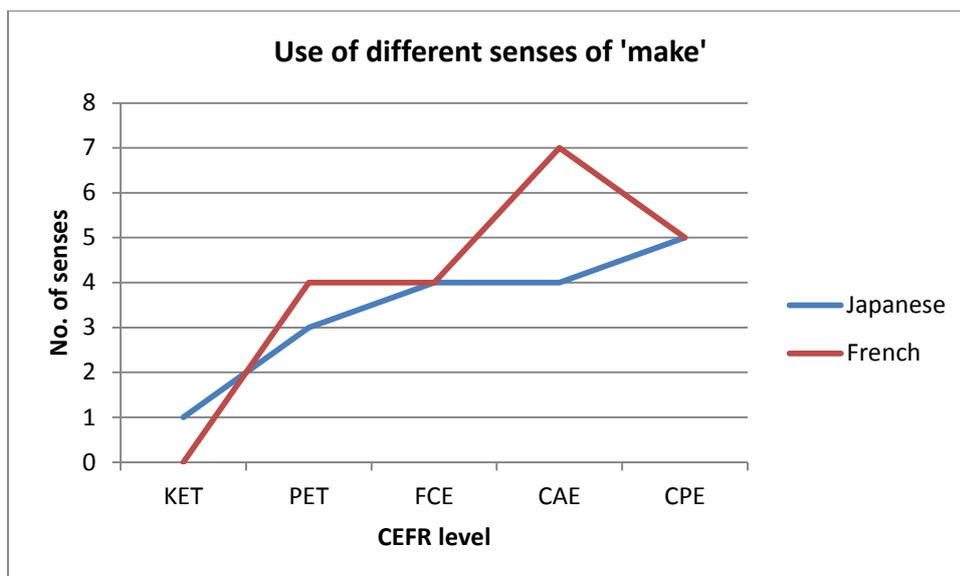
Figure 4.38 Graph showing progression in the use of different senses of 'make'

There are no substantial differences between the French and Japanese learners in terms of their use of the word *make* except at level CAE, where the French learners use three more senses. It is perhaps interesting to note the French learners' decrease in the number of senses used between CAE and CPE levels, as was also noted in the case of *give*. Given the very small frequencies of these words at each level, it is perhaps unwise to speculate too much on why this might be, but at this point in the analysis some patterns can nonetheless be observed. In the case of *have* and *make*, both groups of learners converge at FCE level to produce four different senses of *make* and five of *have*. In both cases, the Japanese learners plateau between levels FCE and CAE before adding one more sense at CPE level, while the PET-FCE boundary causes either a plateau (in the case of *make*) or a decrease (in the case of *have*) for the French learners, which corresponds with their slight decrease in MRW density at this point. The picture for *give* is somewhat different, however, and may show more similarities with the non-delexical verbs analysed below.

In terms of the use of metaphorical senses of 'make', the picture is somewhat chaotic, although it is perhaps interesting to note the variation in use between the two groups of learners:

% of senses of 'give' which are metaphorical
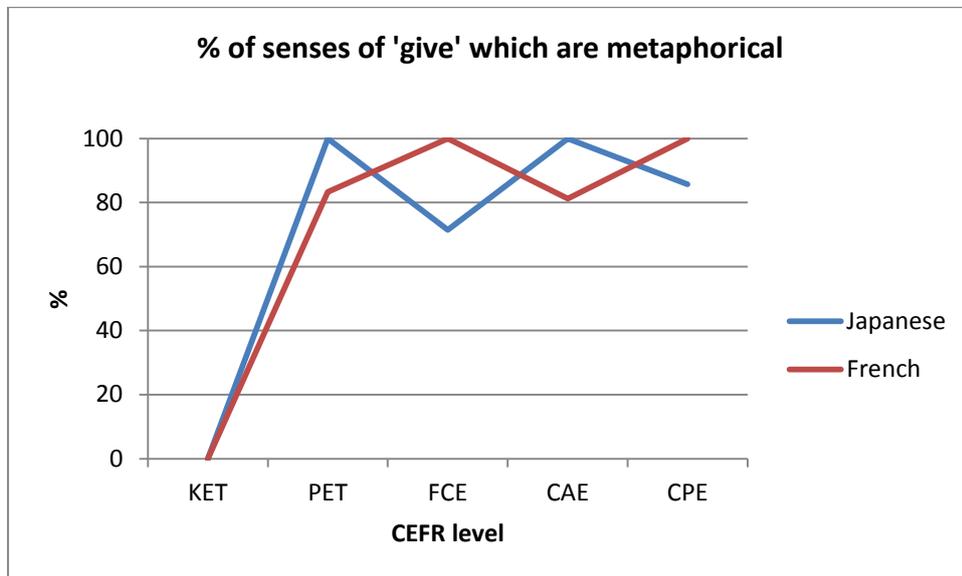
Figure 4.39: Graph showing % metaphorical senses of 'make'

4.8.3.4 *Way*

Of the twelve senses identified for *way* by WordNet, only five were represented in the corpus.

	Meaning	Japanese					French				
		KET	PET	FCE	CAE	CPE	KET	PET	FCE	CAE	CPE
1.	manner, mode, style, way, fashion (how something is done or how it happens) "a lonely way of life"	-	-	2	4	7	-	-	8	1-	14
2.	means, agency, way (thing or person that acts to produce a particular effect or achieve an end) "the true way to success"	-	-	2	6	3	-	-	6	11	5
3.	direction, way (a line leading to a place or point) "didn't know the way home"	-	1	-	1	-	-	-	-	1	-
4.	way (the condition of things generally) "that's the way it is"; "I felt the same way"	-	-	-	-	-	-	-	-	-	1
5.	way (a journey or passage) "they are on the way"	-	-	-	-	-	-	-	-	-	1
	Totals	**0**	**1**	**4**	**11**	**10**	**0**	**0**	**14**	**22**	**21**
	Total different senses used	**0**	**1**	**2**	**3**	**2**	**0**	**0**	**2**	**3**	**4**
	Metaphors	**0**	**1**	**4**	**10**	**10**			**14**	**22**	**21**
	% Metaphor	**-**	**100**	**100**	**90.91**	**100**	**-**	**-**	**100**	**100**	**100**

Table 4.25 Table showing the different senses of 'way'

Use of different senses of 'way'
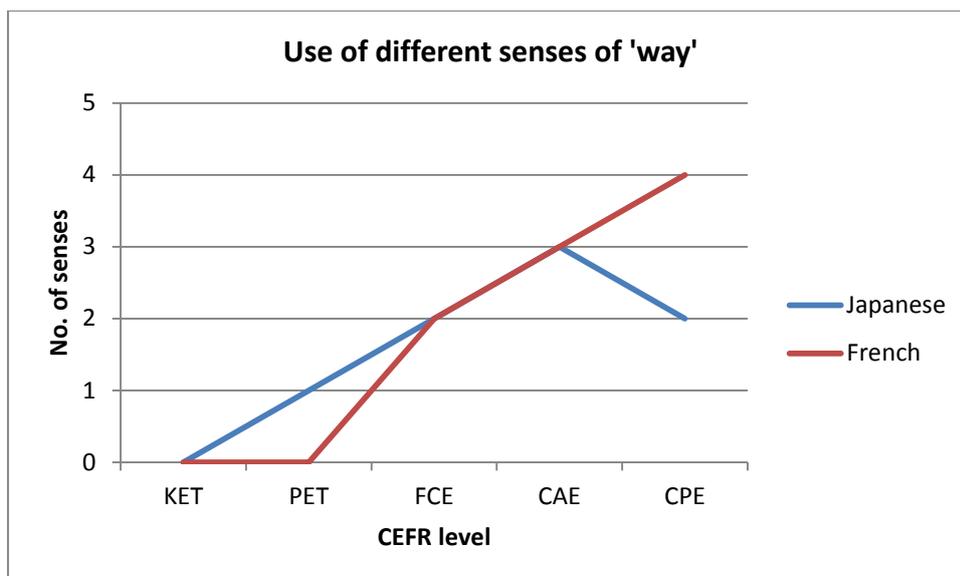
Figure 4.40 Graph showing progression in the use of different senses of 'way'

The most striking finding from this analysis is the near-absence of *way*'s literal, basic sense, which provides further evidence for the fact that more frequent senses are not necessarily the literal, basic ones (Sinclair, 1991). Even the first use of the word in Japanese PET ('We didn't lose our *ways*') was coded as metaphorical, although it is arguably closer to the literal sense of *way* than later senses. These more metaphorical senses develop at level FCE, where *way* is used to express both manner and means of accomplishing something. Here again, however, learners are shown to use a greater variety of senses as they make progress, although in the case of *way*, there is no evidence to suggest that it is knowledge of the word's metaphoric extensions which contributes to the increase in vocabulary depth as the senses used are almost exclusively metaphorical. These findings corroborate those of MacArthur and Littlemore (2011), whose investigation into L2 spoken discourse showed similar patterns. They note that the metaphorical sense of *way* may be the only sense the learner knows, thus comprising its basic sense for them.

This analysis does indicate a further potential drawback to the methodology, namely, that the WordNet senses do not include the word's function in formulaic sequences, which may differ from its individual senses. Out of the examples of *way* coded as 'Manner, mode or style' above, *way* often appeared as part of the sequence *in a way*, such as in the following examples:

Technology has in a *way* changed my life (French FCE)

This opinion gets the point in a *way*, I'd say (Japanese CAE)

This observation demonstrates the importance of supplementing this type of lexical analysis with an investigation of formulaic sequences, which will be performed in Chapter 5.

4.8.3.5 Find/found

Find had 16 meanings in the WordNet database, of which nine were represented in the corpus.

	Japanese					French				
Meaning	KET	PET	FCE	CAE	CPE	KET	PET	FCE	CAE	CPE
1. Encounter; come upon, as if by accident; meet with (i.e. 'We find this idea in Plato')	-	-	1	4	-	-	-	3	-	2
2. Discover or determine the existence, presence of fact of; detect, observe, discover (i.e. 'We found traces of lead in the paint')	-	-	-	1	1	-	-	4	2	-
3. Come upon after searching; find the location of something that was missing or lost (i.e. 'Did you find your glasses?')	2	-	2	1	2	-	1	4	3	-
4. Find out; ascertain; establish after a calculation, investigation, experiment, survey or study (i.e. 'The physicist who found the elusive particle won the Nobel Prize')	-	-	3	-	2	-	-	-	1	3
5. Feel; come to believe on the basis of emotion, intuitions, or indefinite grounds (i.e. 'I found the movie rather entertaining')	-	-	-	-	2	-	-	1	5	3
6. Get something or somebody for a specific purposee; get hold of (i.e. 'I found this gadget that will serve as a bottle opener')	-	-	-	-	-	-	1	-	-	1

7. Discover (i.e. 'She found that he had lied to her')	-	-	-	1	-	-	-	-	-	-
8. Obtain through effort or management (i.e. 'She found the time to take care of her aging parents')	-	-	-	-	-	-	-	1	4	-
9. Perceive oneself to be in a certain condition or place (i.e. 'I found myself in a difficult situation')	-	-	-	-	-	-	-	-	-	1
Totals	2	0	6	7	7	0	2	13	15	10
Total distinct senses	1	0	3	4	4	0	2	5	5	5
Metaphor	0	0	3	7	5	0	2	7	13	10
% metaphor	0	0	50	100	71.43	0	100	53.85	86.67	100

Table 4.26 Table showing the different senses of 'find'
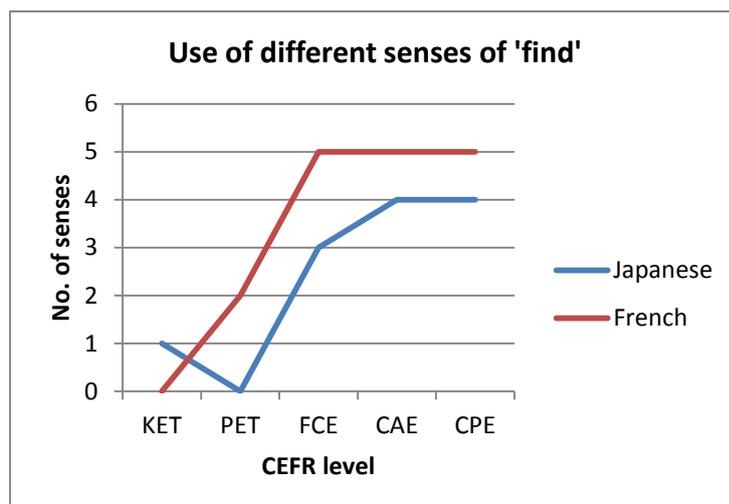
Figure 4.41 Graph showing progression in the use of different senses of 'find/found'

Again, a very similar pattern is noted, with both groups of learners using more senses as they reach the higher levels. However, in the case of *find,* the learners seem to reach a plateau, at FCE for the French learners and CAE for the Japanese. Again, the Japanese learners are seen to use fewer senses than their French counterparts, which was also noted in the preceding analyses (except in the case of *way).*

In terms of the metaphorical uses of *find*, again, there is some variation between the two groups of learners. The French learners use exclusively metaphorical senses at level PET, when they first use *find*. The Japanese learners, however, seem to begin by using more literal senses, before producing the metaphorical senses at FCE level. In both cases, the learners' production of metaphoric senses coincides with their use of more open-class MRWs as discussed in Chapter 3.
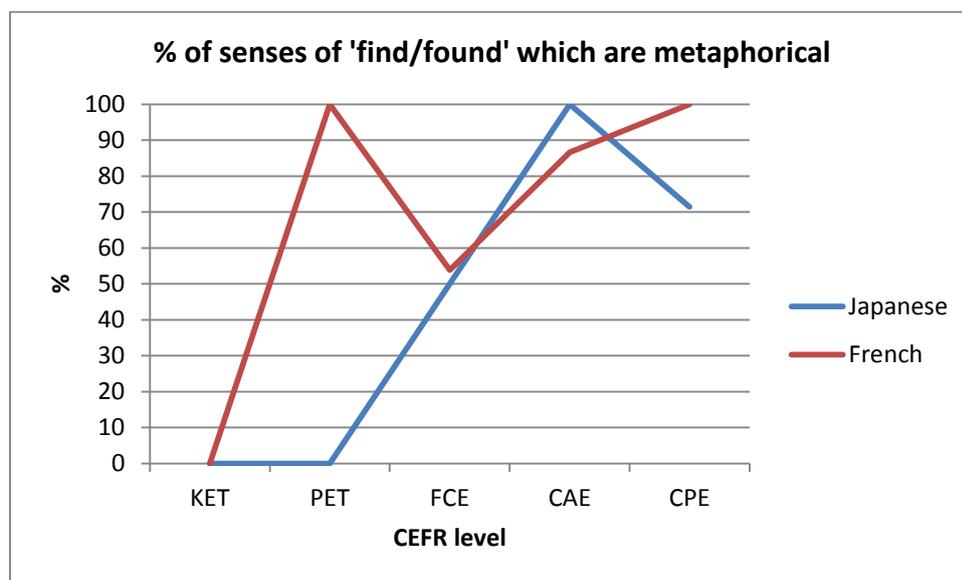
Figure 4.42: Graph showing % metaphorical senses of 'find/found'

The hypothesis made in section 8.3.3 above, regarding the differences between the delexical verbs and non-delexical verbs could be said to be true. The patterns observed for *give* are perhaps more similar to those seen for *way* and *find*, without the decreases or plateaux observed from PET-CAE levels in *have* and *make*. The use of delexical verbs will be further investigated in Chapter Five, but the fact that learners' use of *give* progresses along similar lines to that of *way* and *find* suggests that it may be more semantically rich for them.

4.8.3.6 Correlations between different word sense uses and metaphoric density

In Section 4.8.2 above, it was shown that while a correlation between polysemy values and open-class metaphoric density was observed for the Japanese data, it was absent from the French data. It was noted that this could be due to learners' use of MRWs with few distinct senses. The analysis of the use of different word senses reported in the preceding sections enables us to view this question in a slightly different light, by investigating whether there is a correlation between the number of different senses used in each level and the open-class metaphoric density of the level. To do this, a Spearman's *rho* was performed to investigate the relationship between level open-class metaphoric density and the number of senses of each word found therein. A significant correlation was found (r_s = .599, *p* = .000, *n* = 50). Given that the relationship between metaphoric density and WordNet polysemy values investigated in Section 4.8.2 was shown to be significant for the Japanese data only, calculations were performed on the two language backgrounds separately. Again, a significant correlation was found for both the Japanese learners (r_s = .645, *p* = .000, *n* = 25) and the French learners (r_s = .590, *p* = .001, *n* = 50).

4.9 Interim conclusions and implications: vocabulary depth

While, as has already been noted, it is impossible to draw firm conclusions regarding vocabulary depth from the kind of data used in this study, the annotation of the use of different word senses of polysemous lexical items, with the help of WordNet for sense identification, has been shown to yield interesting descriptive results. First, a relationship between the use of more polysemous words and open-class MRWs was observed in the Japanese data, but not the French. This could indicate that the French learners are more likely to use less frequent words with fewer potential senses as they progress through the

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levels and produce more open-class MRWs, while the Japanese learners use more frequent words.   It was noted that such a finding could indicate that metaphoric competence has an impact on both vocabulary breadth and depth, and as these two elements cannot be easily separated (Read, 2004b), it is also unwise to view metaphor as having an effect on either one individually.

Even with such a small corpus, it is possible to track the increased use of the different senses of a word, reflecting the learners' growing productive vocabulary depth as they progress through the levels. The results also hint at variation among learners according to their native language, although this would require further research to verify. In particular, Japanese learners use fewer different senses of the polysemous words analysed on the whole. This could be due to the Japanese language extending word meanings differently to European languages, but this would require further research to verify. However, the analysis of the use of different word senses also showed that the later senses were not necessarily metaphorical. In some cases, the metaphorical senses were used before the non-metaphorical ones, for example in the case of *way* for the Japanese learners.

On the whole, while the shortcomings of the data and methodology used preclude definite conclusions, these analyses do suggest interesting avenues for further research.   A longitudinal study, perhaps one that analyses the use of different word senses in an individual learner's writing over time, would be especially beneficial. However, without eliciting the word, it would be very challenging to ensure that the word was used often enough to enable robust comparisons to be drawn. Even *way*, which was the second most frequent open-class metaphor in the French dataset after *have*, occurred only 52 times in a subcorpus of 105 essays.   A more practical solution could be to elicit sentences from

learners as they progress, asking them to demonstrate their knowledge of the different senses of a word. However, as Sinclair (1991) notes, even native speaker intuition is notoriously flawed, so just because a learner didn't produce a sentence with a particular sense, it would not necessarily mean that that sense was not part of their productive vocabulary. Bolstering such research with word association tests such as those developed by Read (1993) may go some way towards responding to such a problem.

4.10 Overall conclusions, implications and suggestions for further research

This chapter has sought to explore the lexical development of Japanese and French learners from the perspective of both breadth and depth, and to investigate the role of metaphor as a function of, and a contributing factor in, this development. Lexical frequency profiling was used to provide an overall picture of lexical breadth, which showed high degrees of variation within language and level. By CPE level, the statistics for both the French and Japanese datasets are similar, suggesting that the different developmental paths bring learners to a similar point regardless of their native language. Level FCE was shown to be the level where learners started using words from the lower frequency bands in earnest, which was unsurprising given previous findings regarding that level. In terms of errors, French learners were shown to be more 'erratic', while Japanese general error rates steadily dropped. It was suggested that this could be due to Japanese learners being more cautious, but even at FCE, where French error rates spiked, Japanese learners were seen to be using more words from bands three, four and five than their French counterparts. More research into this area is therefore necessary.

Looking specifically at metaphor, LFP scores are lower overall, possibly due to the prevalence of MRWs in discourse, and the fact that the polysemous nature of MRWs means

they are able to be used in a wide range of contexts. However, comparing the LFP scores of MRWs with those of non-MRWs, it was noted that MRW scores are higher, suggesting that MRWs contribute to lexical sophistication even at the lower levels. Chapter Five reports the results of an analysis into the conventionality of metaphor so it will not be addressed at length here, but metaphors at this level were found to be highly conventional. The MRWs' higher LFP scores could also therefore serve to discourage any 'special' status given to metaphor, as even the highly conventional MRWs contribute to the sophistication of the learners' writing, even at the lower levels.

Returning to the findings from the LFP analysis, French learners use metaphor from bands two and above slightly earlier than the Japanese learners, at PET as opposed to FCE, the points at which the open-class/closed-class MRW crossovers occur. However, variation rates in metaphor LFP scores and TTRs are higher than those observed for non-MRWs, suggesting that metaphor use varies significantly, even among learners of the same level and language, both in terms of amount (see Chapter Three), type and variety of usage. This variation is significant, as it suggests that metaphor use depends heavily on the individual and thus obtaining a general portrait of metaphor use in learner writing is very difficult.

In terms of errors involving metaphor, a decrease in overall error rates was accompanied by an increase in metaphoric error rates, especially at level FCE for the Japanese learners, despite their overall lexical error rates at this level being lower than the French learners'. This could be seen to provide further evidence for Littlemore et al.'s (2014) findings that learners do struggle with using metaphor. A weak positive correlation was also observed between metaphoric error rate and LFP score ($r = 0.23$, $n = 127$, $p = 0.011$).

While vocabulary depth is difficult to measure with corpora, WordNet proved a useful tool in investigating the developing senses of polysemous words. The analysis showed how learners became more likely to use different senses of words as they progressed through the CEFR levels, and also hinted at potential variation across languages. However, it was noted that metaphor's role in vocabulary depth was often unclear, with no significant relationship observed between increased open-class MRW use and higher polysemy scores for the French learners. Similarly, the developing use of the different senses of the five words analysed do not always follow a linear path from literal senses to metaphorical, providing a further facet of the definition of metaphoric competence. In short, the use of MRWs cannot necessarily be used to imply productive 'metaphoric competence', as the findings from this analysis suggest that in some cases the metaphorical senses are available to the learners before the non-metaphorical ones.

Overall, these analyses show that metaphoric competence cannot be separated from general lexical development. As learners progress, they use more metaphor as a matter of necessity, and they also become more sophisticated in its use, drawing it from higher LFP bands as their CEFR level increases. Different senses of words also come into evidence with learner progress, but these are not always the metaphoric senses. In defining metaphor's relationship with vocabulary depth and breadth, it is perhaps more accurate to conclude that it is not possible to separate the three concepts, as a development in all three areas is inevitable as learners progress. The concept of 'metaphoric competence', therefore, is difficult to define when looking only at the metaphor from a quantitative point of view. Because of this, a closer analysis of conventional versus novel metaphor, and the functions metaphor is used to perform, is necessary.

This chapter also revealed some methodological shortcomings which could be usefully overcome in future research to yield more accurate results. The LFP methodology for investigating vocabulary breadth, for example, should perhaps control more strictly for task type, perhaps through undertaking a longitudinal study giving participants the same question prompt at different stages of their development. It could also be beneficial to use custom-made word lists based on the vocabulary to which participants are exposed at different points during their development. In terms of depth, a longitudinal study would be necessary to verify some of the findings from the analyses in Section 8, perhaps triangulated with experimental data as suggested in Section 9. Despite these problems, however, the analyses reported in this chapter have shown that metaphor use develops concurrently with vocabulary breadth and depth, but is perhaps not enough to assume a causal relationship between metaphor use and vocabulary development. We return to this question in the next chapter, which addresses the conventionality of metaphor and its implications for metaphoric competence.

5 CONVENTIONALITY OF METAPHOR AND A STUDY OF THE RELATIONSHIP BETWEEN METAPHOR USE AND PHRASEOLOGICAL COMPETENCE

5.1 Introduction

So far, the analyses performed have focused on single words, investigating the quantity and type of MRWs used by the learners and investigating their relationship to lexical development. However, language production does not normally operate at the level of the single word. Sinclair (1991) proposes that there are two 'systems' for using language. In the *open-choice principle*, text is seen as a series of slots which can be filled with virtually any word. In the *idiom principle*, however, the choice of words that can fill the slot is constrained. This can be by the nature of the world (things occurring together, for example, are likely to be mentioned together), or by register and social norms. This principle also suggests that a user has 'a large number of semi-preconstructed phrases' at their disposal, and it is this method of processing language that is the default; only when 'there is a good reason, the interpretative process switches to the open-choice principle and quickly back again. Lexical choices which are unexpected in their environment will presumably occasion a switch; choices which, if grammatically interpreted, would be unusual are an affirmation of the operation of the idiom principle' (Sinclair, 1991: 114). This suggests that words are often co-selected to some extent, leading to strong syntagmatic relationships between them (Adolphs and Durow, 2004).

This concept has particularly important consequences for studies into metaphor use, as metaphorical expressions are often 'fixed' to a greater or lesser degree (Kathpalia and Carmel, 2011: 282). Previous research into metaphor produced by ESL learners has

suggested that the knowledge of '"prefabricated" metaphoric expressions' enables native speakers to process metaphors automatically, but that ESL/EFL learners probably do not have this luxury, leading to difficulties in both interpretation and production (Kathpalia and Carmel, 2011: 274). Indeed, Kathpalia and Carmel's (2011) study indicated that learners often decomposed such 'prefabricated' metaphoric expressions to produce unidiomatic language. The difficulties experienced by learners with conventional patterns of language such as these 'prefabricated' expressions are well documented, with Yorio (1989: 61) summarising his research into learner use of idioms, formulae and collocations by stating that 'everything that could go wrong with them, did!'. This included issues with grammar, lexical choice, mixing conventional idioms, using a pattern with the wrong meaning for the context, or simply attempting to produce a conventional pattern but failing to do so.

If these 'prefabricated' expressions are indeed stored whole in the user's mind, thus negating the need to process figurative language in these sequences metaphorically as Kathpalia and Carmel (2011) suggest, this has significant implications for investigations of what metaphoric competence is and how it develops. If metaphoric competence is simply a matter of using metaphor accurately and appropriately, whether or not it is processed figuratively would not make a difference. However, one facet of metaphoric competence is the ability to 'make metaphoric connections between ideas' as Kathpalia and Carmel propose (2011: 288), and such metaphors are perhaps not therefore indicative of developing metaphoric competence in this area. Therefore, a distinction should be drawn between metaphorical language occurring as part of a conventional collocation or formulaic sequence, and metaphorical language which occurs outside these patterns.

Moreover, leaving aside the implications of the status of metaphor in these sequences for potential processing and mappings, the ability to produce metaphor in conventional sequences is still an important element of communicative competence. As Tomasello (2000: 209-210) summarises,

> To become a competent speaker of a natural language it is necessary to be conventional: to use language the way that other people use it. To become a competent speaker of a natural language it is also necessary to be creative: to formulate novel utterances tailored to the exigencies of particular communicative circumstances.

In other words, the use of metaphor in these sequences provides a useful benchmark with which to measure the conventionality or creativity of metaphor use, both of which are fundamental to linguistic competence. The aim of this chapter is therefore twofold: to gain an impression of the link between metaphor and phraseological competence, and to gauge the conventionality of metaphors used by the learners. For the purposes of this analysis, 'phraseological competence' can be defined as the learners' ability to produce conventional collocations and formulaic sequences, after Howarth (1998).

This chapter presents the results of two analyses, designed to investigate the following questions:

1. To what extent is the metaphorical language found in the current dataset part of conventional language patternings such as formulaic language or collocation, and thus potentially not being processed metaphorically? Is there an observable change as learners progress through the levels?

2. Do learners have the same difficulties using this patternings as Kathpalia and Carmel (2011) and Yorio (1989) suggest? That is, are the metaphors that occur outside of

these patternings due to errors, including the unidiomatic decomposition of conventional phrases, or to learner creativity?

These questions correspond to the broader aims of this thesis by investigating metaphor's relationship to phraseological competence, and suggesting the implications of these findings on how metaphoric competence should be defined and measured. The structure of this chapter is as follows. First, I comment on why it is important to identify conventionality in learners' metaphor use. Second, I give a brief overview of the fields of collocation and formulaic language, being the two key areas by which conventionality can be measured for the purposes of this analysis. This overview also introduces research suggesting how these phenomena function in the mind, and the implications of these findings for research into metaphorical competence. This rather ambitious literature review covers a wide range of topics, and suggests multiple avenues for further research. Some of the questions it poses will be addressed in the analyses performed in this chapter, but many remain to be investigated. Suggestions for future research are therefore given in the conclusions to this chapter. I then detail the methodology adopted in isolating conventional collocations and formulaic sequences before presenting the results and discussions of each analysis in response to the research questions shown above. The final section presents the results of a small error analysis which seeks to respond to research question two of this chapter and to provide further insight into the difficulties learners may experience using metaphor.

5.2 Literature Review: Conventionality/Creativity, Collocation and Formulaic Language

In this section, I introduce the main areas investigated in this chapter: conventionality of metaphor and collocation and formulaic language, along with research on the ways in which they are processed.

5.2.1 Why is it important to draw a distinction between conventional and non-conventional metaphor?

In Chapter 1, it was shown that metaphors function on various degrees of metaphoricity. The metaphorical/literal divide is therefore not clear-cut, and the metaphors observed in language fall at certain points on a scale. Hitherto, studies have not significantly accounted for this observation in their design, and neither do methodological tools such as the MIP(VU). Deignan's (2005) observation that the boundaries are somewhat fuzzy, and that there is a certain degree of subjectivity in metaphor categorisation, goes some way towards explaining this lack.

However, in investigations of metaphorical competence, these distinctions are important to draw for two main reasons. First, as Tomasello (2000) states, both conventionality and creativity are important facets of communicative competence. Second, the cognitive processing of metaphor may differ depending on the metaphor's place on the metaphoricity scale, as Genter and Bowdle's (2001) Career of Metaphor theory posits (see Chapter One). If metaphoric competence is understood as simply being the ability to correctly use MRWs, then it does not matter if conventional metaphors are processed metaphorically or not. The fact that they have the *potential* to be is enough. However, if metaphorical competence includes the ability to 'think' metaphorically – to use metaphorical mappings to derive the

meanings of words, or to use metaphors creatively for rhetoric effect, for example – the question becomes significant. The picture becomes more complex when considering that the ability to use conventional metaphor correctly could also be considered part and parcel of a developing lexicon. It has already been noted that some words are used more often metaphorically than literally (Sinclair, 1991, Steen, 2009, Walker, 2008a), and thus learners are likely to encounter their metaphorical senses before, or alongside, their literal senses. Again, this poses a similar question that definitions of metaphoric competence should take into account: if a learner uses the metaphorical sense of a word because it is the sense that s/he encountered first, or possibly the only sense s/he knows, does that demonstrate increased metaphoric competence or simply lexical development?

It is beyond the scope of this study to reach a definitive conclusion on how metaphors are processed. However, the brief review of the research given in Chapter One indicates one crucial point: metaphor processing is likely to depend heavily on the salience of a word's figurative or literal meanings. The more salient (familiar, frequent, conventional or prototypical) a sense is, the faster it will be activated, and this does not necessarily entail the activation of cross-domain mappings (Giora, 2003). Indeed, 'to understand… conventionalized expressions, knowledge of the lexicon would suffice' (Glucksberg and McGlone, 1999: 1543), as sufficient lexical knowledge would render their metaphorical senses sufficiently salient to be accessed automatically. If 'many of the linguistic forms of metaphors in usage are conventionally metaphorical constructions' (Steen, 2009: 306), increased metaphor use would be a natural corollary of developing phraseological and lexical proficiency and not necessarily an indication of developing metaphorical thought. This could certainly be considered a type of metaphorical competence, as it involves the

accurate use of metaphorically used lexical items, but a distinction should be drawn between this definition of metaphorical competence and a definition that involves figurative thinking.

However, it is important to note at this point that this analysis will only show a part of the picture, as it will not be able to provide insight into the actual cognitive processes occurring. This is due to two main reasons, the first being the high level of individual difference inherent in language processing. Both the graded salience hypothesis (Giora, 2003) and the semantic underspecification model (Frisson, 2009) propose a view of lexical access that seems highly subjective and particular to the individual. The same metaphor used by two different learners could therefore be the result of very different cognitive processes. As Steen (2009: 352) summarises,

> The fact that symbolic synchronic or historical analysis may helpfully privilege a particular class of senses as direct or nonmetaphorical does not directly map onto individuals' cognitive representation of such senses as prior or even necessary in the online comprehension of linguistic forms when these are to be processed in metaphorical ways. And the fact that subsequent reflection upon the cognitive products of such metaphorical comprehension can also make available nonmetaphorical senses to the perceptive language user, which may be seen as perhaps providing a connection via a conceptual source domain for interpreting the metaphorical senses of the same words, again, does not mean that these nonmetaphorical senses also played a role during comprehension. The behaviour of both metaphorical and nonmetaphorical senses is a highly variable function of the salience of the senses of the metaphorically used words in the language as a whole, the language of the various groups an individual belongs to, the language as mentally stored in the grammar of an individual's mind, and the language as appropriate for the various types of occasion of use.

Expressed differently, Steen seems to be suggesting that it is not possible to assess metaphorical cognition by investigating its products, because there is such a high level of

subjectivity involved. Not only will the producer of the language under investigation have his or her own cognitive structure with a different lexical knowledge base and different levels of salience attributed to different senses, the researcher will too. There is also the further issue of researcher bias; as a 'perceptive language user' investigating a particular linguistic feature, a researcher is arguably more likely to infer connections where there were none.

It is reasonable to assume that the situation becomes more complex for non-native speakers, as language learning is a chaotic process that differs significantly from learner to learner (Ellis, 2007, Larsen-Freeman, 2007). Even the term 'conventional' is somewhat problematic when investigating metaphor use by language learners because even if most native speakers were to agree that a particular metaphor was conventional, it would not be so to a non-native learner encountering the meaning for the first time. However, metaphor research that focuses simply on deciding whether a lexical item is metaphorically used or not misses out on these significant nuances in metaphor type. The analyses reported in this chapter aim to go some way towards rectifying this lack.

The second drawback to this study is its use of written text. It was noted in Chapter 1 that there are relatively few studies investigating metaphoric competence in learner writing, and a potential reason for this might be the extent to which it is even possible to observe metaphorical cognition in writing (Steen, 2009). Steen notes that 'elicitation techniques including thinking aloud or interviewing would probably have to be utilized to get at these behavioural data,' as attempting to investigate the writer's cognitive processes from their writing is 'too speculative to be taken seriously' (Steen, 2009: 363).

Because of this, the use of English learners' written language to assess their 'metaphorical competence' as it related to thought is highly problematic, as it cannot provide any information on the cognitive processes involved. A metaphor considered by a native speaker to be highly conventional, for whom its metaphorical mapping is very salient, may not be conventional or salient to a learner, and its production by that learner may therefore be the result of metaphorical thinking. Alternatively, the use of a highly conventional metaphor could show that its meaning is highly salient to the learner, to the point that its figurative meaning is not consciously activated. Clearly these two options represent very different views of metaphorical competence: in the former, the ability to use figurative extensions and cross-domain mappings to produce metaphorical phrases which are conventional in the target language, and in the latter, sufficient lexical development that conventional metaphorical meanings are cognitively entrenched and thus sufficiently salient to require no cross-domain mapping. It is not possible to gain this information from learners' writing, so counting potential metaphors in learner text does not represent an adequate measure of developing metaphorical competence as it relates to thought.

Before moving on to discuss the conventional language patternings investigated in this chapter, it is worth briefly summarising and contextualising the research introduced so far. It has been noted that a distinction should be drawn between conventional and unconventional metaphor use, as the two represent different facets of linguistic competence. Some of the research on processing of conventional metaphors suggests that while conceptual mappings may be activated, it is equally plausible that metaphorical and literal senses of a word are both activated depending on the context and their salience to the learner, or that a fuzzy, 'underspecified' meaning is activated. While the research

presented here has been focused mainly on comprehension, these findings have significant

implications for research into metaphoric competence. Put simply, it is not possible to

ascertain the cognitive processes of learners from their written production, and that

individual difference is likely to play a significant role. Despite this, however, we are still left

with the question of drawing a distinction between conventionality and creativity in learners'

metaphor production in order to reflect the gradability of metaphor discussed in Section

1.1.2, and to separate the two areas of language competence that Tomasello (2000) defines.

We turn now to defining the phenomena of collocation and formulaic language and how

they can aid in classifying metaphor use as conventional.

5.2.2 Collocation

Collocation can be defined as the phenomenon by which two or more lexical items are

habitually found in each others' environment (Deignan, 2005: 79). For example, *auburn*

naturally collocates with *hair* (Deignan, 2005: 194), and while the adjectives *strong* and

powerful are more or less synonymous, *powerful tea* is not a conventional collocation

whereas *strong tea* is (Firth, 1957). Collocation is extremely common, with some

researchers suggesting that all lexical items have words with which they habitually collocate

(Sinclair, 1991, Stubbs, 1996). Knowledge of conventional collocational patterns is thus seen

as vital from a pedagogical standpoint. As Read (2004a: 155) asserts,

> …learners need to have more than just a superficial understanding of the meaning; they should
>
> develop a rich and specific meaning representation as well as knowledge of the word's formal
>
> features, syntactic functioning, **collocational possibilities**, register characteristics, and so on. (My
>
> emphasis).

Hoey (2005) proposes his theory of lexical priming to explain the phenomenon of

collocation. Given that there is statistical evidence for collocation, he argues, it must

therefore be a psychological phenomenon relating to the way in which words are stored in the mind. He posits that the use of a particular word psycholinguistically predisposes the listener or user to expect or use another word; they are 'primed' to hear or use it. For example, a listener will be quicker to recognise the word *heart* if they had previously heard the word *body*, rather than an unrelated word (Hoey, 2005: 8). This theory leads to the assumption that each word is therefore primed to collocate with others, and that every time a word is encountered, this priming is either weakened or reinforced depending on the associations it has. When investigating metaphor use, it is reasonable to suggest that a user could therefore be 'primed' to use a metaphorically used item by virtue of its place in a conventional collocation. This could pose problems for non-native speakers, who may not have had sufficient encounters with the words to build up such primings leading to production of unidiomatic language. Such a situation is further aggravated by primings in the learner's L1 being transferred into their L2 production, despite the primings being different in each language (Hoey, 2005).

Although Hoey himself does not include empirical psycholinguistic evidence to support the claims he makes, subsequent studies by McDonald and Shillcock (2003a, 2003b) have produced evidence in support of his theory. In these studies, eye tracking was used to investigate the duration of gaze fixations on verb-noun bigrams, comparing those that were conventional collocations and those that were not. They researched sets of words with high *transitional probabilities*, that is, where one word had a high probability of following the one before it. They found that these sequences led to shorter fixation times than their unconventional counterparts, leading the researchers to suggest that 'the brain is able to draw upon statistical information in order to rapidly estimate the lexical probabilities of

upcoming words' (McDonald and Shillcock, 2003a: 648). However, a subsequent study suggests that McDonald and Shillcock's results may in fact be better explained by predictability due to the context of the sentence, rather than any intuitive knowledge of the statistical probability of upcoming words (Frisson et al., 2005). Nevertheless, the authors 'do not want to argue that transitional probabilities have no significance whatsoever in reading, though [they] question whether TP effects are truly independent of what has traditionally been considered predictability effects' (Frisson et al., 2005: 871). Similar studies show that native speakers are quicker to decide that letter strings were English words when they were followed by frequent collocates than when they were not (Ellis and Frey, 2009). It seems, therefore, that there is evidence to support Hoey's theory as Millar (2011) suggests, although the extent to which it can be separated from other cognitive processes at work is not yet known.

Further support for the psycholinguistic reality of collocations can be found in their links with ICMs, or 'idealized cognitive models', developed by Lakoff (1987). ICMs can be described as 'relatively stable mental representations' of knowledge about the world (Littlemore, 2009: 79), which are abstract enough to allow generalization across multiple contexts. The word BACHELOR is often used as an example (Fillmore, 1975: 128). While a simple definition of the concept BACHELOR might be an ADULT UNMARRIED MALE, (Croft and Cruse, 2006: 28), there are many situations in which this definition does not hold up. The Pope, for example, is an adult unmarried male, but would not conventionally be considered a 'bachelor'. In understanding the term, therefore, we resort to our knowledge about the world, considering that the Pope having taken a vow of celibacy precludes his inclusion in the 'bachelor' category. ICMs are thus complex representations which include

cultural knowledge about the world as a whole, and can therefore vary between language users from different cultures. For many English speakers, for example, the ICM for CHRISTMAS involves spending time with family, whereas in South Korea it is mainly celebrated by young couples in a manner reminiscent of Valentine's Day in the UK (Littlemore, 2009).

This fact alone offers potential for misunderstanding between speakers from different cultures, but the situation becomes more complex when the relationship between ICMs and collocation is taken into account. Collocation has been shown to be motivated by underlying ICMs to a certain extent (Littlemore, 2009). For example, the most frequent collocates for the word 'dog' in the English language relate to knowledge about dogs that is shared among English speakers; *owner, walk, pet* and so on. In cultures where dogs are bred for food, however, these collocates would not be as common. Even for learners from cultural backgrounds where dogs do have a similar role, perhaps the collocates *mad* and *eared* would be less salient. *Eared* stems from the metaphorical expression 'dog-eared' and *mad* refers to the song lyric 'mad dogs and Englishmen go out in the midday sun', thus tapping into shared cultural knowledge which is likely to be quite opaque for a learner (Littlemore, 2009: 84). 'Thus,' Littlemore (2009: 83) summarises, 'the in-depth knowledge of the ICMs that native speakers and advanced learners have for words and concepts may account in part for their use of authentic-sounding collocation patterns'.

Studies of collocation have typically followed one of two approaches; following Walker (2008a: 9) and Nesselhauf (2004), a useful distinction can thus be drawn between the lexical approach and the frequency/statistically based approach to collocation. An overview of

these approaches will now be given, as they each inform the methodology adopted to identify conventional collocations in this study.

The lexical approach suggests that a pair or group of words can be defined as a collocation according to the criteria of **commutability** and/or **compositionality.** Commutability refers to how 'fixed' the collocation is; whether one item can be replaced with another. Walker (2008a: 11) gives the example *torrential rain*, noting that there is a limited number of nouns that could replace the word *rain* and that therefore *torrential rain* demonstrates a lack of commutability. Compositionality, on the other hand, refers to how far it is possible to derive the meaning of the phrase from its constituent parts. In a phrase such as *handle the sale,* for example, the reader must rely more on the context of the phrase to derive its meaning, because *handle* is used figuratively (Walker, 2008a: 10).

Howarth (1996) distinguishes between **free** and **restricted** collocations on the basis of these criteria. Free collocations, he argues, are those which comprise two or more words used in their literal sense, where each is substitutable with other words. Restricted collocations occur when one word is used in a specialised sense: 'figurative, delexical or in some way technical' (Howarth, 1996: 47). Metaphor is likely to be frequently found in such conventional collocations, therefore, Carter (1998: 63) offers phrases such as *harbour doubts* and *fan a riot* as examples of figurative language within collocations. The 'delexicalised' items to which Howarth refers are the elements within collocations which seem to carry less meaning than the other(s), such as the verbs *have, do, give, take, make and put* (Deignan, 2005: 51). However, it is important to note that these delexicalised elements are also frequently metaphorically used according to the MIP. The verbs in each of these examples would be marked as metaphorical, thus suggesting that figurative

language plays a significant role in collocational patterns. Indeed, Deignan (2005: 219) proposes that 'metaphorical language tends to be more fixed than literal [language]', and Aisenstadt's (1981) research seems to confirm this. She investigated restricted collocations, which she defines as 'combinations of two or more words, the components of which are used in one of their unidiomatic (often secondary, abstract, figurative) meanings, which follow certain structural patterns, and in which one word at least is restricted in its commutability not only by its grammatical and semantic valency, but also by usage' (1981: 54). She draws a distinction between these and free collocations, which have free commutability. 'They are even more different from idioms,' she adds, 'by their unidiomatic meanings being the sum of meanings of their components, and by their regular patterned variability' (Aisenstadt 1981: 54). She goes on to observe that 'many components function in [restricted collocations] in a secondary, abstract meaning,' giving examples such as *pay attention* or *command respect* (Aisenstadt 1981: 58), similarly to Howarth's (1996) definition above. She notes that the main, concrete meaning of the verbs *pay* and *command* commute freely, but that they are restricted when used figuratively. However, this does not seem to be the case with the delexicalised items Howarth (1996) refers to above; despite being used figuratively, Aisenstadt notes that *give, have, make* and *take* 'have a rather wide and vague meaning and collocate with many different nouns,' suggesting that their delexicalised status 'results in a possible interchange of those verbs, otherwise not synonymous at all,' as seen in examples such as *have a look/take a look/give a look* (Aisenstadt, 1981: 57).

However, other writers, such as Benson et al. (1986) restrict their use of the term 'collocation' to only those phrases which 'exhibit either a lack of commutability, or a lack of

compositionality' (Walker 2008a: 11). For them, Howarth's 'free collocations' would therefore not be considered collocations at all. As an example, they give the phrase *condemn murder,* (Benson et al., 1986: xxiv) arguing it to be a 'free combination' due to the fact that 'the verb *condemn* occurs with an unlimited number of nouns'. However, Walker (2008a: 12) argues that the use of the verb *condemn* is, in fact, limited by such factors as register and the specific meaning of the verb.

It could be argued that frequency/statistically based approaches to collocation offer a possible response to this argument. Under this approach, a collocation is defined as a co-occurrence which occurs more frequently than would be expected by chance (Sinclair, 1991). To ascertain whether or not this is the case, Stubbs (1995) advocates the use of statistical measures in conjunction with the raw frequencies of the collocation under examination. It has been suggested that t-score is one of the most reliable indicators of collocation, with t-scores of 2 or more suggesting that a collocation is statistically significant (Walker, 2008b). However, it is also advisable to take into account the raw frequencies of the collocation. 'Statisticians often transform data… in order to fit results to some other set of values,' notes Stubbs (1995: 40), which 'can hide the original values and make them more difficult to interpret… Linguists should certainly keep an eye on the original raw frequencies of collocations.' Using the BNC to investigate the example *condemn murder*, given above, *murder* collocates with the lemma *condemn* with a t-score of 1.9479, with *murder* occurring within the three words before or after *condemn* five times. In this case, therefore, it seems that the co-occurrence of *condemn* and *murder* is not significant enough to class it a collocation. As will be seen in the Methodology section below, a combination of these two approaches is used to identify the collocations in this study.

5.2.3 Formulaic Language

We turn now to a related field of study: formulaic language. It would be beneficial at this point to refer to Walker's (2008a: 29-30) comments on the relationship between collocation and formulaic language. He notes that while collocations normally consist of two words that follow conventional grammar rules, formulaic sequences tend to be continuous in nature (although some variation is permitted, as will be seen shortly), consisting of more than two words and often grammatically anomalous. However, he points out that 'as collocations can themselves be regarded as a type of phraseological unit, it is inevitable that there will be a degree of overlap' (Walker, 2008a: 30). Formulaic sequences also often serve a pragmatic function (Conklin and Schmitt, 2008), as Nattinger and DeCarrico (1992: 37) summarise:

> Collocations are strings of specific lexical items… that co-occur with a mutual expectancy greater than chance. These strings have not been assigned particular pragmatic functions by pragmatic competence. Lexical phrases are collocations… that have been assigned pragmatic functions…

For the purposes of this study, it is important to note that these two phenomena, collocation and formulaic language, will be referred to as a whole; for the purposes of analysis, no distinction will be drawn between them. The terminology employed to refer to these phenomena will be 'Conventional language patternings', after Philip (2011: 4).

As Schmitt (2010) points out, formulaic language is not a homogenous category, and its study has been somewhat hampered by the lack of a comprehensive definition (Wray, 2002). It is Wray's definition that will serve as the starting point for the definition adopted for the purposes of this study. She proposes that a formulaic sequence is:

> a sequence, continuous or discontinuous, of words or other elements, which is, or appears to be, prefabricated: that is, stored and retrieved whole from memory at the time of use, rather than being subject to generation or analysis by the language grammar (Wray, 2002: 9).

The first part of the definition shows that 'we are concerned with <u>sequences</u> of lexis' (Schmitt and Carter, 2004: 3). Despite the plethora of frameworks adopted by different researchers, all definitions agree with the basic observation that certain fixed or semi-fixed patternings are extremely frequent in language use. As early as 1975, Becker proposed that as speakers, we do not use our grammatical and lexical knowledge to create large numbers of novel utterances, but prefer instead to '[stitch] together swatches of text that we have heard before' (Becker, 1975: 60). Biber et al. (2004) investigated the prevalence of these patternings by researching 'lexical bundles', defining these as four-word sequences occurring 40 times per million words. This 'exploratory' (Biber et al., 2004: 377) approach, involving the generation of bundle lists from the corpus in terms of frequency, revealed 43 bundles in the conversation data they analysed, 84 in classroom teaching, 27 in textbooks, and 19 in academic prose; a far greater incidence thus being noted in spoken discourse. However, this study uses a statistical approach to the identification of lexical bundles, defining them simply as 'the most frequent recurring lexical sequences' (Biber et al., 2004: 376). This means that many of the bundles have no discernible meaning in themselves.

Erman and Warren (2000) took a different approach, investigating the amount of what they term 'prefabs' in spoken and written discourse, defining a 'prefab' as 'a combination of at least two words favored by native speakers in preference to an alternative combination which could have been equivalent had there been no conventionalization' (2000: 31). They first identified the number of 'slots' in the texts, saying that 'each word in a text is thought to fill a slot,' (Erman and Warren, 2000: 34) before calculating the number of these slots

that were filled with words that were part of prefabs. They found that in written discourse, 52.3% of the slots were occupied by formulaic chunks, with the figure being 58.6% for spoken language. The methodologies adopted are clearly very different, with Erman and Warren's study using a more intuitive-based method than Biber et al.'s frequency-based analysis, which could explain the different results found.

Whatever the methodology employed, formulaic language is shown to be frequent in discourse, and it is worth investigating why this might be. Put simply, formulaic language has significant cognitive effects in both spoken and written discourse. In spoken discourse, formulaic language reduces processing demands on both the speaker and the hearer; 'if a phrase is recognized as lexical, then it can be processed accordingly, since the corresponding phrase can be accessed in the hearer's language repertoire. In other words, there is no need for the hearer to analyse language exhaustively' (Skehan, 1998: 38). In written discourse, lexical phrases are frequently used to organise a text, introduce information and engage with sources (Allerton et al., 2004: 171, Schmitt and Carter, 2004). It has also been suggested that formulaic language may 'provide a kind of pragmatic 'head' for larger phrases and clauses, where they function as discourse frames for the expression of new information,' serving as '(1) stance expressions, (2) discourse organizers, and (3) referential expressions' (Biber and Barbieri, 2007: 270). Such a function in written discourse could therefore serve to reduce processing demands on the reader, similarly to its role in spoken discourse.

The extent to which such sequences are indeed processed holistically is somewhat problematic, as it is very difficult to ascertain. Regarding Wray's (2002) definition given above, Read & Nation (2004: 25) state,

If (Wray's) definition is adopted, then the ultimate goal of an analysis will be to identify sequences that are "stored and retrieved whole from memory at the time of use". This is a challenging goal because the means of storage and retrieval of the same sequence can differ from one individual to another, and can differ from one time to another for the same individual depending on a wide range of factors such as changes in proficiency, changes in processing demands, and changes in communicative purpose.

Evidence for this variability was identified by Grant (2003: 122), who found that many non-compositional idioms are subjected to considerable variation in language; the idiom *put your foot in your mouth*, for example, gave rise to such variants as *putting his foot in his mouth to the kneecap* and *put his foot well and truly in his mouth*. Following Wray's definition, such transformations 'would be excluded because they would involve "generation or analysis of the language grammar"' (Read and Nation, 2004: 26). However, as both Wray herself and Read and Nation point out, the definition is deliberately inclusive, omitting to state the exact form in which the sequence must be stored and highlighting that it need not be continuous. Nevertheless, the variation observed in a number of multiword units does render research into processing difficult.

Despite the difficulties in ascertaining the extent to which such sequences are processed whole, numerous studies have commented on their effects on fluency and processing, which is likely to be an indicator of holistic processing. As early as 1956, studies into human memory capabilities showed how individuals can use 'recoding' to increase the amount of information they are able to retain in short-term or working memory, which is very limited in capacity, by arranging lists of small amounts of information into larger 'chunks' (Miller, 1956). The ability to do this has a significant effect on processing speed, as '[i]t would be physiologically impossible for us to produce speech with the rapidity and proficiency that we

are able to if we had to plan and perform each segment individually' (Code, 1994: 139). The brain appears to be better equipped for memorising than for processing online, so being able to use formulae reduces online processing time and thus frees up resources for other communicative tasks, such as future discourse planning (Pawley and Syder, 1983). This is hardly surprising, as '[i]f creatively-generated language was cognitively more efficient, we would not expect to find formulaic sequences realizing functional language usage nearly as frequently as we do in corpus evidence' (Schmitt and Carter, 2004: 5). Research into the use of formulaic sequences by second language learners also suggests that they are used to improve fluency even at the early stages of development. In an extensive study of the language development of Wes, a native speaker of Japanese, Schmidt (1983: 150) notes that Wes had 'a rather rich repertoire of formulaic utterances, memorized sentences and phrases,' indicating that he had chosen the acquisition of formulae from such sources as television advertisements, music and conversations with native speakers as a 'major language strategy'.

So far, therefore, it has been established that formulaic sequences constitute a significant part of discourse, and that they aid language production by reducing online processing time. It has also been noted that the variability of such sequences makes it difficult to ascertain the extent to which they are being processed holistically. However, for the purposes of this analysis, this is an important subject for discussion. One of the main aims of this chapter was to seek to ascertain the relationship between metaphoric competence and formulaic language; if metaphors are found in formulaic sequences, are they processed metaphorically? Of course, it is not possible to reach a firm conclusion without recourse to psycholinguistic experimental methods, and similarly to the MIP only highlighting words

with the *potential* to be metaphorically used, the corpus-based methods used here will also only identify sequences with the *potential* to be processed holistically. However, data from eye-tracking studies have provided a substantial body of evidence in support of holistic processing (Underwood et al., 2004). When reading a text, eye movement tends to be jerky, with an individual stopping to pay closer attention to certain words, jumping back to parts of the text that they had previously stopped on, or jumping forwards. After this movement, or *saccade*, has been completed, the eyes rest in a stage known as *fixation*. It is in this stage that information is extracted from the page. Occasionally, readers fixate upon a point in the text that had been previously fixated or passed over; a *regression*. Regressions to a certain area of the text normally indicate that such an area has caused the reader difficulty. Longer fixations tend to imply the necessity for longer processing, and thus the greater difficulty of the text. Underwood et al. (2004) investigated fixations on the terminal words of formulaic sequences. They found that when reading a passage containing formulaic sequences, both native and non-native speakers fixated terminal words less when those words were part of formulaic sequences. However, native speakers fixated terminal words in formulaic sequences less often than non-native speakers, and spent less time on them. Furthermore, the difference between fixation on terminal words in and out of formulaic sequences was reliable for the native speakers, but not for the non-native speakers. In summary, both groups fixated less on words in formulaic sequences, being 'largely consistent with the view that such sequences are stored and processed as wholes' (Underwood et al., 2004: 162). Moreover, even though the non-native group had more and longer fixations on terminal words in formulaic sequences than the native group, they still required fewer fixations in formulaic sequences than in non-formulaic texts, suggesting that despite their lower reading proficiency, formulaic sequences still offer them a processing advantage.

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However, a similar experiment used a self-paced reading test to investigate processing of component words in formulaic sequences (Schmitt and Underwood, 2004). In this study, the words of a text were shown on a computer screen one by one, with the participant pushing a button to advance to the next word. Each button press is timed, thus measuring the time taken to process each word. Interestingly, 'there was no difference in how long it took both natives and non-natives to read the target terminal words vs. the control words,' that is, terminal words in formulaic sequences vs. words outside them (Schmitt and Underwood, 2004: 186). Such a finding seemed to call into question the assumption that words in formulaic sequences are processed faster than non-formulaic words, and the authors surmised that perhaps the whole sequence or at least parts of it need to be viewed together in order for it to be recognised as a sequence. A later study tested this theory, again using self-paced reading tasks but this time presenting a text line by line instead of word by word. This time, the results showed that both native and non-native speakers read formulaic sequences quicker than the control phrases (Conklin and Schmitt, 2008).

Care should therefore be exercised when claiming that all formulaic sequences are stored holistically in the mind. Schmitt et al. (2004: 128) test the assumption 'that recurrent clusters identified by corpus analysis are also stored as holistic formulaic sequences in the mind' by using dictation tests. A set of corpus-derived clusters were embedded into a short story which was played, in bursts, to groups of native and non-native speakers who were then asked to repeat what they had heard. The hypothesis was that if the clusters were stored holistically, they would be accurately produced in the participants' repetitions. The results were mixed, with some clusters being reproduced faithfully by almost all participants, others by almost none. However, the authors argue that just because some clusters were

not reproduced, this does not mean that they were not stored holistically, as they could have been 'blocked' from the repetition for an unknown reason (Schmitt et al., 2004: 137). The clusters that were attempted, but varied in some way, are arguably the most interesting as these were probably not stored holistically; if they had been, they should have been reproduced intact. In summary, the results suggest that only a minority of clusters tested were stored holistically by the native speaker participants, even less by the non-native participants. Thus, the authors conclude, 'these results suggest that not all recurrent clusters identified on the basis of corpus analysis are psycholinguistically valid, that is, stored as holistic units in the minds of proficient speakers' (Schmitt et al., 2004: 138).

However, while the authors argue that the fact that the clusters were varied implies that they were not processed holistically, this assumption is open to challenge. Many such expressions exhibit a certain degree of variability, as shown above in Grant's (2003) research. It is therefore possible that even if these sequences were stored and retrieved holistically, this then gives the speakers time and processing power to vary them (Pawley and Syder, 1983). Furthermore, Jiang and Nekrasova (2007: 435) posit that Schmitt et al.'s (2004) results may have been due to the fact that some of the clusters used did not function as 'coherent and complete [units]', such as *I see what you* and *as shown in figure*. Underwood et al.'s (2004) study, however, used idioms and coherent formulas, which may explain their results in support of holistic processing. Jiang and Nekrasova's (2007) own study required participants to assess whether a particular phrase was grammatical. Both non-native and native speaker participants responded faster to formulaic sequences than to non-formulaic phrases, and there was a lower error rate in determining the grammaticality of formulaic sequences.

The type of the formulaic sequences in question may also play a role in how they are processed. Columbus (2010) compared reading times of idioms, restricted collocations and lexical bundles, finding that while all types of sequence were read faster than the non-formulaic controls, processing times varied depending on the type with idioms being processed the fastest. Such a finding could also explain the somewhat conflicting results in the studies above, which were not controlled for sequence type.

Electrophysiological insights gained from EEG procedures also support the theory of holistic processing. Tremblay and Baayen (2010: 170) conclude their study into participants' ability to recall four-word sequences by stating

> The electrophysiological results provided evidence to the effect that (at least some aspects of) four-word sequences are retrieved in a holistic manner… rather than computed online via rule-like processes.

Similarly, evidence from research into aphasia suggests that 'novel and formulaic language are affected different by different types of brain damage: left hemisphere damage leads to selective impairment of novel language (with relative preservation of formulaic language), while right hemisphere and/or subcortical damage lead to selective impairment of formulaic language (sparing novel language)' (Van Lancker Sidtis, 2009: 460). Such a finding, while not necessarily alluding to holistic processing, does imply that such sequences are at least processed differently to non-formulaic language.

The majority of the evidence does therefore seem to suggest that formulaic sequences are, at least to a certain extent, processed holistically. There is also evidence to suggest that such sequences have a positive effect on fluency and communicative competence as suggested above, which gives further clues as to their processing in the mind. For native

speakers, formulaic language is in greater evidence in fast-paced, pressured situations such as auctions or horse races (Kuiper, 2004, Kuiper and Haggo, 1984). Non-native speakers, too, have been shown to show a greater level of fluency when using formulaic sequences, and they use them frequently (Conklin and Schmitt, 2008). Indeed, Pawley and Syder (1983: 191) argue that 'fluent and idiomatic control of a language rests to a considerable extent on knowledge of a body of "sentence stems" which are "institutionalized" or "lexicalized"'.

Before continuing by exploring the relationship between conventional language patternings and figurative language, it is worth briefly summarising what has been proposed so far. It has been shown that conventional language patternings are likely to be processed holistically, although learners may decompose them as Yorio (1989) and Kathpalia and Carmel (2011) noted. This is especially the case for formulaic sequences, but collocations have also been shown to have a psycholinguistic reality, with priming patterns being built up through repeated exposure to word and their collocates (Hoey, 2005). With this in mind, it could be argued that a learner's use of conventional metaphor may not require the ability to make metaphorical mappings between ideas that is one facet of metaphoric competence. However, these findings are subject to the same criticism made by Steen (2009) above, that it is not possible to discern learners' cognitive processes from their written production. Despite this drawback, is still worthwhile using these phenomena to distinguish between the use of 'conventional' metaphors, defined as those which occur in these conventional language patternings, and those which do not.

5.2.4   The Conventional versus the Creative

So far, it has been shown that metaphor frequently occurs within conventional language patternings such as collocation and formulaic sequences. It would therefore seem that the

ability to use metaphor in conventional, native-like language patternings is a fundamental part of developing metaphoric competence as it relates to the production of idiomatic language, even though it may not require the formation of 'metaphoric connections between ideas' (Kathpalia and Carmel, 2011: 288) that can be considered another facet of metaphoric competence.

A tension can be observed at this point between conventional language patterning and creativity. Deignan (2005: 193) describes this tension as the opposition of two forces; one is the 'need to express and develop abstract and innovative ideas through metaphor', the other is the tendency to 'reuse known sequences of words with meanings that are regularly associated with them'. This tension is further described by MacArthur (2010). While acquiring formulaic language may help learners to develop fluency, she claims, it may also have a negative effect on learners' use of creative metaphor. She gives an example of Spanish learners correctly using the expression 'travel broadens the mind' in their written work, but then notes that they failed to engage with the metaphor or develop it after their use of the phrase. 'While this may be desirable in increasing the speed of delivery and naturalness of speech,' she notes, 'it is not necessarily advantageous in planned language production, such as writing, nor will it serve the learners' purpose of expressing their own meanings in thoughtful ways' (MacArthur, 2010: 260).

However, it is not necessarily possible to draw such a clear-cut distinction between formulaic language and creativity, as 'creativity that is also meaningful involves exploitation of conventional, familiar language' (Philip, 2011: 4). Indeed, Pawley and Syder (1983) argue that the knowledge and use of formulaic language actually facilitates creative language use, by freeing up cognitive capabilities which can then be used to produce creative variations.

However, it must be noted that their research focuses on spoken discourse. If creativity 'seems to be constrained by conventional language patternings' (Philip, 2011: 4), Hoey's (2005) theory of lexical priming, detailed above, is also of relevance. The implications of the theory of lexical priming are significant in an investigation of non-native writing. Hoey (2005) notes that creativity in language can come about as a result of a writer or speaker overriding typical primings. Partington (1998) gives an example of this: upon hearing the phrase *tidings of great*, hearers are primed to expect 'joy', so when Burgess writes 'That night in Southern Australia brought its first snuffle of *tidings of great horror*,' the comic effect is particularly strong (Partington, 1998: 121). Phillip's (2011) assertion that meaningful creativity must be grounded in a knowledge of the conventional is also corroborated by Partington's (1998) view of creativity being based on an exploitation of typical collocational frameworks. For example, Edward Thomas' poem *February Morning* includes the following line:

> And God still sits aloft in the array/That we have wrought him, stone deaf and *stone blind* (Partington, 1998: 122)

Here, Thomas manipulates the conventional collocation 'stone deaf' in a novel way, with the result that 'blind' is greatly intensified. However, for this result to be achieved, the reader has to be aware of the use of 'stone' as an intensifier in the collocation *stone deaf* (Partington, 1998). Such theories suggest that in order for meaningful creativity to occur, therefore, the language user has to have knowledge of the typical primings or collocational patterns in the first place, which may not be the case for non-native writers.

To briefly summarise before continuing, it has been shown that there is considerable interplay between metaphor and conventional language patternings such as collocation and

formulaic language. While it is not possible to ascertain the extent to which metaphors in such patternings are processed metaphorically, it does enable us to make some important claims. First, conventional metaphors *may* be processed holistically or be primed by their co-occurrence with other lexical items. Conventional metaphors *may* also not involve the activation of cross-domain mappings, but instead be processed through categorisation (Gentner and Bowdle, 2001). The use of conventional metaphors could have implications for creative metaphor use, as MacArthur (2010) and Deignan (2005) suggest. Creativity is constrained by or built upon conventional language patternings (Hoey, 2005, Partington, 1998, Philip, 2011), which further highlights the importance of phraseological knowledge in discussions of metaphoric competence. To be creative, learners must first know how to be conventional. Conventional and creative metaphor thus represent two different aspects of metaphoric competence, which may also require different cognitive functions, although it is not possible to discern this from the learners' written output.

5.3 Methodology for the Identification of Conventional Metaphor as Found within Conventional Language Patternings

This section is devoted to a discussion of the methodology used to separate the metaphorically-used lexical items in the corpus that were part of a conventional language pattern, be that a formulaic sequence or conventional collocation, from those that were not. This will be followed by results and discussion, followed by some implications for metaphor research in non-native writing.

As noted above, metaphor use is deemed conventional according to its inclusion in conventional language patternings, including collocation and formulaic sequences. It was hoped that this approach will identify the maximum number of conventional metaphors

while remaining within the limits of practicality. One area which is not covered by this methodology is the extent to which the metaphoric meanings of single words are those which are conventionally used. For example, the metaphoric sense of the word *target* is significantly more common than the literal sense in the Bank of English, accounting for 76% of 500 concordance lines sampled (Walker, 2008a: 120). There are two main reasons for this. First, this chapter is also concerned with the relationship between metaphor use and phraseological competence, and such an analysis would not be helpful to investigate this question. Second, an analysis of this nature is highly time-consuming, involving the sampling of several hundred concordance lines for each MRW. Such an undertaking for each MRW in the dataset would therefore be unfeasible.

Given the large variety of definitions and frameworks adopted by different researchers, it is not surprising that the identification of conventional language patternings has been undertaken following a variety of methodologies as well. Adolphs and Durow (2004) note three main methodologies: those that rely heavily on intuition, those that use corpus data (Nattinger and DeCarrico, 1992), and those that use frequency data to generate lists of sequences from a corpus (Biber et al., 2004). However, to obtain maximally valid results, triangulation is normally advisable (Wray, 2002), so this study draws on more than one research methodology.

The current study uses a combination of intuition and corpus data, loosely corresponding to the lexical and statistical approaches to collocation outlined in Section 5.2.2 above. The use of frequency data to generate sequence lists was discarded for a number of reasons. First, the focus here is on potential conventional language patternings which contain metaphor only. The generation of such a list from frequency scores alone would not have made the

distinction between metaphoric and literal lexical items. Second, such a methodology '[collapses] distinctions that intuition would deem relevant,' with clearly conventional phrases such as 'on the other hand' being generated alongside phrases such as 'to do with the' (Simpson-Vlach and Ellis, 2010: 490). Third, the minimum frequency for a particular sequence before it qualifies as formulaic is often somewhat arbitrary (Adolphs and Durow, 2004), with previous research using cut-offs of between 10 and 40 instances per million words (Simpson-Vlach and Ellis, 2010). This presents a problem for the small dataset used in this project, which has only 40,000 words; even 10 occurrences per million entails an occurrence needing to occur 0.4 times in the data, so every combination of words would register as a sequence. Even if the cut-off point were to be increased, requiring at least two occurrences in the whole dataset, chunks that intuition would deem conventional patternings would still be missed. A clearly conventional patterning such as *vicious circle* (Japanese CPE) only appears once in the dataset, so would be missed by an automatic frequency-based approach, an issue documented by Moon (1998). It is therefore not feasible to use such an approach for the data used in this project.

Open-class indirect and direct MRWs were extracted from the data set, along with the context in which they were found. This sub-set of the data was then coded according to whether each metaphorically-used item was part of a conventional language patterning.

5.3.1 Intuition (loosely corresponding to the lexical approach)

A certain degree of intuition was used in the first stages of coding. Some cases of metaphor clearly occurred in a conventional collocation or fixed phrase: *shopping center,* for example, or *I'm looking forward to.* In coding these phrases, the lexical approach was used; phrases

were coded according to their inclusion in Carter's (1998) classification system, an edited

version of which is presented below:

Category	Description	Examples
Unrestricted collocations	This describes the capacity of particular lexical items to be open to partnership with a wide range of items.	*Take a look/a/holiday/a/rest* *Run a business/team/shop* etc
Semi-restricted collocations	This category embraces lexical patterns in which the number of items which can be substituted in different syntactic slots is more determined.	*Harbour doubt/grudges/uncertainty/suspicion* *Fan a riot/discontent/disturbance*
Familiar collocations	Combinations here are between words which keep regular company with each other.	*Innocent bystander/unrequited love/unmitigated disaster/readily admit/lukewarm reception*
Restricted collocations	Partnerships in this category are generally more fixed and closed. Also included here are irreversible binomials such as *cash and carry/ups and downs* etc.	*Stark naked/pitch black* *Cash and carry/ups and downs/hit and miss*

Table 5.1 Classification of collocations, adapted from Carter (1998: 70-71)

Already some problems with this method arise. Native speaker intuition is notoriously

flawed (Sinclair, 1991) and a phrase's status as a conventional patterning is likely to vary

between speakers of different speech communities (Wray, 2002). Perhaps more seriously, it

is not possible to apply native speaker intuition as an explanation for linguistic features

produced by EFL learners who 'may or may not have an intuitive basis' for their L2

production (Read and Nation, 2004: 30). In the light of these concerns, the intuitive

approach was used sparingly and where there was any uncertainty, a statistical approach was adopted to check.

5.3.2   The statistical approach: using corpus data

In terms of statistical approaches to collocation and formulaic language, previous research has sometimes adopted a frequency-based methodology; Biber et al (2004), for example, use a cut-off of 40 occurrences per million words. However, raw frequency alone does not give any indication as to the significance of its findings, so it is worthwhile to combine it with statistical measures.   Commenting on his findings that the verb *to cause* collocated overwhelmingly with negative examples such as *danger, trouble* or *concern,* Stubbs (1995: 30-31) suggested that 'Raw joint frequencies… could be more reliably interpreted if we had comparative information about how frequently words such as *trouble* or *accident* occur independently in the corpus. And positive collocates do also occur, but we do not know how much *more* likely is *cause for concern* than *cause for confidence.*' Statistical measures such as Mutual Information (MI score) and t-score can be used to accomplish this, as they compare '(a) how often something is actually observed and (b) how often it might be expected merely by chance', the hope being that (a) is significantly larger than (b)' (Stubbs, 1995: 31).

Nevertheless, reservations can be expressed when using such measures with linguistic data. Comparing the observed with the expected assumes a comparison between '(a) a real corpus and (b) a hypothetical corpus consisting of the same words in random order' (Stubbs, 1995: 31), the null hypothesis being that there is no difference between the two. However, 'standard statistical procedures assume proper random samples in which values are independent observations, but since textual data are never in this form, this calls into

question whether such statistics can reasonably be used on language data' (Stubbs, 1995: 31). Furthermore, the way in which statisticians 'transform data… to fit results to some other set of values… can hide the original values and make them more difficult to interpret' (Stubbs, 1995: 40), and because of this Stubbs advocates also taking the collocation's raw frequencies into account.

Where there was doubt as to the significance of a collocation having followed the lexical approach, the collocation in question was investigated using the British National Corpus, as it was felt that the current dataset was too small to produce meaningful statistical information. As Read and Nation (2004: 30) state, 'if the investigator can specify particular words or word strings that are potentially formulaic… the [corpus] software can instantly assemble all of the examples in the corpus for inspection and further analysis,' after which '…the quantitative evidence supplied by the software needs to be evaluated by the application of human judgment to determine which of the word sequences are formulaic' (2004: 30-31). Millar's (2011) study takes a similar approach, checking each collocation identified in a learner corpus against the BNC.

The procedure for investigating such collocations was as follows. Take the example 'it's so <u>close</u> to <u>heaven</u> that you never want to leave', from the Japanese PET data. A corpus query for *heaven* in all subcorpora of the British National Corpus returns 2,326 hits. *Close* appears twice within a -3 to 3 window of *heaven*, both in the -2 position, as shown below:

I think it's because you're **close** to **heaven** up here. *(Written data)*

Will I [unclear] **close** to **heaven**. *(Spoken data)*

The very low raw frequency is combined with a low t-score of -0.1846, suggesting that this is not a conventional language patterning. T-scores of above 2 are considered to be statistically significant.

On the other hand, take 'your food habits will play a big role' (French FCE). 'Play a role' was considered to be evidently conventional, and a statistical check verified this; *play* collocates with *role* 1451 times in the corpus in a -3 to 3 window, with a t-score of 37.5878. However, *big* collocates with *role* 17 times in the window -3 to 3, with a t-score of -1.3585. This does not appear to be significant, and this is corroborated when taking into account the fact that we are only interested in the item *big* when it occurs in the -1 position; here, the t-score is 0.4659.

Phraseological errors were treated in the following way. Consider the phrase 'It does make a sence for us' (Japanese CAE). The point of interest here is whether there is a conventional collocation between *make* and *sense,* which indeed there is (t-score = 33.6913). However, the fact that the learner has included the indefinite article could suggest that while the learner is aware of the phrase *to make sense,* s/he does not know its grammatical behaviour, and so the phrase has been annotated as a conventional patterning with an error. Similarly, '[the event] will hold next Saturday' (Japanese PET) was coded in the same way. Other examples, such as 'it's a very long travel' (French KET) or 'I hope you are in good fit!' (French KET) were not marked as conventional, but were annotated as errors.

There were some cases in which, despite a high frequency and t-score, the example was classified as not being part of a conventional patterning due to the context in which it was found. For example, in the Japanese KET example 'You will hear big noise,' *big* was shown to collocate with *noise* within a -3 to 3 window with a t-score of 3.9469. In the -1 position,

as it is found in the example, the t-score rose to 4.1396. However, in the examples found in the corpus, *noise* is normally used metaphorically in this case:

1	he come to Amerigo, and he make **big**	**noise**	in New York, Chicago, Detroit. All the places
2	He make **big**	**noise**	, big bangs, you know.' She made a gun
3	with such calls as 'Shake it off'. THE **BIG**	**NOISE**	This is a stunt for older more self-confident
4	storm. It comes. It goes. It is a **big**	**noise**	for nothing.' He drew me into the family
5	but didn't realise he was such a **big**	**noise**	. 'I wasn't rude but I wasn't given time
6	Les Sealey has been ordered to be a **big**	**noise**	at St. Andrew's by Birmingham City manager
7	mad pop kids with big cocks and **big**	**noise**	who appear and disappear
8	which I can easily do. Then he can be a **big**	**noise**	over there. Francis understood all of this,
9	Cyril [gap:name] at that time who was a **big**	**noise**	in [gap:name] , and er he furnished it for us
10	you see because he were a **big**	**noise**	you know, he he'd got a big business in
11	No ... ' replied Jimmy. 'I'm just a **big**	**noise**	, that's all. But I dare say you won't
12	'Don't make such a **big**	**noise**	round the Club, eh?
13	one of the Co-op members, he was a **big**	**noise**	there I think, I don't know if he was the
14	, yes, some men's do. He's a **big**	**noise**	now; at least he imagines he is.
15	Calls himself Jack something or other. A **big**	**noise**	in the record industry
16	has not established himself as a **big**	**noise**	in Europe. His music is the kind of accessible
17	**Big**	**noise**	made at QUB
18	It caused panic among the people and a **big**	**noise**	but no casualties.'
19	Oops, and I [pause dur="6"] [unclear] **Big**	**noise**	isn't it? Dad I want to screw it.

Of these examples, and taking into account further context where necessary, only numbers 2, 18 and 19 are referring to a literal noise; example 2 is portraying non-native speech in a fictional work, example 18 is a quotation and 19 is spoken language. Despite the t-score,

therefore, it was decided that 'big noise' is not a conventional patterning in the context in which it is used in the dataset.

One final point of note regarding collocation is that of the span of text within which collocations can be found. While Sinclair's (1991) definition advocates a maximum of four words between the node word and its collocate, there is sometimes a case for extending this span to arrive at a full picture of a word's collocational behaviour (Walker, 2008b). In this analysis, this was done at certain points. We can take as an example the word 'congestion', from this phrase in a Japanese CAE essay:

> Making new road plans is also difficult. This <u>congestion</u> will last at least 7 years…

Given that the whole essay was about traffic congestion, its use here was considered to be strongly primed by the context and to thus be an example of conventional metaphor. The most significant collocate of *congestion* was *traffic*, with a t-score of 2.2259, and *congestion* had already appeared in this collocation four times in this essay. It should therefore be noted that 'collocation' here is being defined quite loosely.

To conclude this section, therefore, it has been shown that in order to annotate the open-class metaphorically used lexical items according to their inclusion in conventional language patterings, be they collocation or formulaic sequences, a variety of techniques were used. A certain amount of intuition was first employed in the first round of coding, which adopted a lexical approach. The uncertain cases were then analysed using the statistical approach, but caution was also used here to ensure that the examples found in the BNC reflected the usage under investigation.

5.3.3 Delexical verbs

It was noted above that verbs such as *give, have, take* and *make* are frequently semantically depleted in conventional patternings (Deignan, 2005). These verbs were isolated from the dataset when they were considered to behave in such a way; *get* was also included in this category, as it has also been shown to appear in a large number of such phrases (Parrott, 2000). The decision to investigate these verbs separately was taken due to their high frequency in the language, the fact that they are so often delexicalised as noted above, and the observation that they frequently cause problems for learners (Nesselhauf, 2004). It is surmised that these verbs, when used in this way, may even function similarly to closed-class lexical items in that their meaning within the phrase may not be immediately apparent.

At this stage it is worth going into more detail on the nature of these phrases, as not all occurrences of *give, have, take, make* and *get* in the dataset were considered to be semantically depleted. As Nesselhauf (2004: 20) notes,

> What is special about these combinations is that the noun is derivationally related to a verb that is roughly synonymous with the whole combination: the meaning of *make an arrangement,* for example, largely corresponds to the meaning of *arrange.* The noun is eventive and carries the bulk of the meaning, while the verb contributes comparatively little to the lexical meaning of the combination.

While research into the use of these phrases has employed a range of definitions (Nesselhauf, 2004), For the purposes of this study, I adopt the following definition. The verb must be one of *make, take, give, have* or *get,* used in a conventional language patterning according to the methodology given above. If an article is used, there must be an alternative roughly synonymous verb related to the noun, broadly following Allerton (2002). *Make a mistake* (French FCE), for example, was classed as a delexical verb combination as it could be reformulated as *be mistaken.* The reason for the stipulation that an article should

be used for this criteria was because it was noted that phrases such as *take care, take part* or *take place* were frequently found in the dataset, and while there is no synonymous verb related to the noun, *take* was nonetheless considered to be delexicalised.

Get was considered to be delexicalised only when it was used in its sense of 'becoming'; examples such as *get important call* (Japanese KET) were not considered to be delexicalised as *get* is here being used to mean *receive.* When *get* was used to mean 'becoming', the same rules apply as above; *get married* would be considered a delexical verb combination as it could be reformulated as *to marry,* whereas *getting fewer* (Japanese FCE) would not as there is no related synonymous verb.

Despite this system, there were still several difficult cases. Phrases such as *I'll give you some information/advice* (Japanese CAE), for example, could be reformulated as *inform/advise* respectively, whereas *I'll give you some tips* has no such reformulation even though the verb *give* seems to be functioning in the same way in the three phrases. In this case, the former two examples were marked as delexicalised while the latter was not, although the potential problems with such a decision are recognised. The phrase *give my opinion,* for example, could arguably be reformulated as *to opine,* but this was considered to be insufficiently used in everyday English to justify *give my opinion*'s inclusion as a delexical verb combination (66 hits in the BNC). A similar example was found in the case of *have a very significant impact* (Japanese CAE); this could be restated as *to significantly impact upon,* but *Michael Owen has these positive economic impacts* (Japanese CAE) cannot thus be restated, even though the verbs are playing the same role in each sentence. In this case, only the former was marked as delexical.

The phrase's context and grammatical behaviour also had to be taken into consideration. *Have an effect on,* for example, was considered delexical due to its possible reformulation as *to affect.* However, modification of the noun as in the example *to have a good effect* (Japanese CPE) meant that the phrase was not coded as delexical, as it was not considered to have a possible reformulation. Similarly, *give guidance* would be considered delexical, but *give good guidance* (Japanese CPE) was not. Another factor to be considered is that of tense and sentence structure; while *give a lecture* would be marked as delexical (due to its related verb *to lecture*), *some of the lectures given by the actors* (French CPE) was not.

The occurrence of errors further complicated some of the coding decisions. In the example *mankind begins to take aware of the importance* (French FCE), for example, *take* appears to be functioning delexically, but because the phrase itself is an error, it was not marked as delexical.

5.4   Results and Discussion

This section presents the findings and implications of the analyses described above.

5.4.1   Conventional metaphor as found in conventional language patternings

It was shown above that many conventional language patterns contain figurative elements, and so it is hardly surprising that a very high percentage of metaphorically used items occur as a part of these patterns, as Table 5.2 below shows.

	Level	Total open-class MRWs analysed	Open-class MRWs in conventional language patternings	Open-class MRWs not in conventional patternings	% MRWs in conventional language patternings
Japanese	KET	14	12	2	85.71
	PET	39	36	3	92.31
	FCE	233	206	27	88.41
	CAE	381	350	31	91.86
	CPE	556	502	54	90.29
French	KET	11	8	3	72.73
	PET	95	78	17	82.11
	FCE	211	178	33	84.36
	CAE	316	276	40	87.34
	CPE	557	501	56	89.95

Table 5.2 MRWs in conventional language patternings
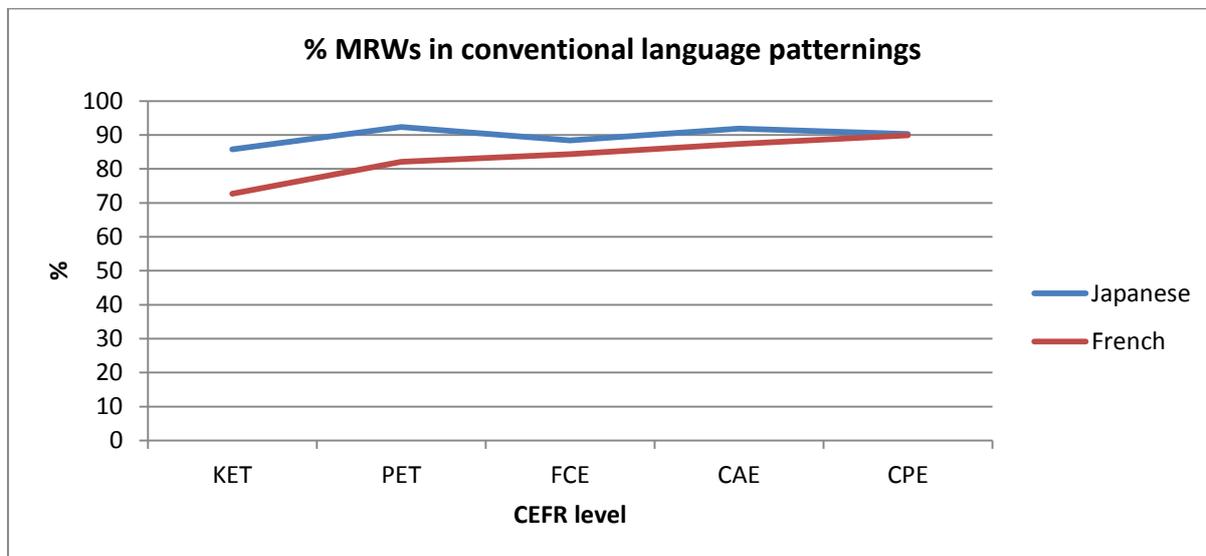
Figure 5.1 Graph showing percentages of MRWs occurring in conventional language patternings

As expected, metaphorically used items appear in conventional patternings in the majority of cases. It has already been noted that it is not possible to claim that the use of these highly conventional metaphors precludes metaphoric processing, but it does imply that

learners may be likely to rely on conventional metaphor within conventional sequences. Ultimately, given the fact that this study uses corpus data instead of psycholinguistic experimental data, these findings can only be treated as a provisional suggestion that the high levels of metaphor in conventional language patternings may suggest that such metaphor is not an indicator of metaphoric thought. Instead, it is perhaps more accurate to claim that the use of these metaphors is an indicator of phraseological competence, which should therefore be considered a key element of metaphoric competence.

The fact that metaphorically used items appear in conventional patternings in the majority of cases can also be used to respond to MacArthur's (2010) comment that knowledge of such patternings could impede learner creativity. It has already been proposed that the amount of metaphorically used items used is bound to increase as the level does, by virtue of an expanding learner lexicon, and to such a statement can be added the fact that as learners progress, they will also be exposed to more conventional language patternings. So far, therefore, it does not seem particularly surprising that the number of conventional language patternings should increase with level; it has already been shown that there is a significant relationship between figurative and formulaic language or conventional collocational patterns, so as figurative production increases, so too should use of conventional sequences. However, the percentages of metaphors found in formulaic sequences at the higher levels (post-FCE) remain fairly constant, despite the steady increase in open-class metaphor count. Were the frequencies of metaphorically used items that were not in conventional sequences to level off or decrease as the levels progressed, there might be cause to share MacArthur's (2010) concern that use of conventional patternings impedes creativity. However, this does not appear to be the case. Nonetheless, it is worth

examining those metaphors that fall outside the conventional patternings to ascertain whether they are a result of deliberate creativity, phraseological error, or just a use of language which does not register as conventional in the BNC. These questions will be addressed below.

5.4.2 Delexical verb combinations

We turn now to the delexical verb combinations discussed above. Figure 5.2 and Figure 5.3 below show the frequencies of delexical verb combinations compared to other forms of conventional language patterning for the two languages:
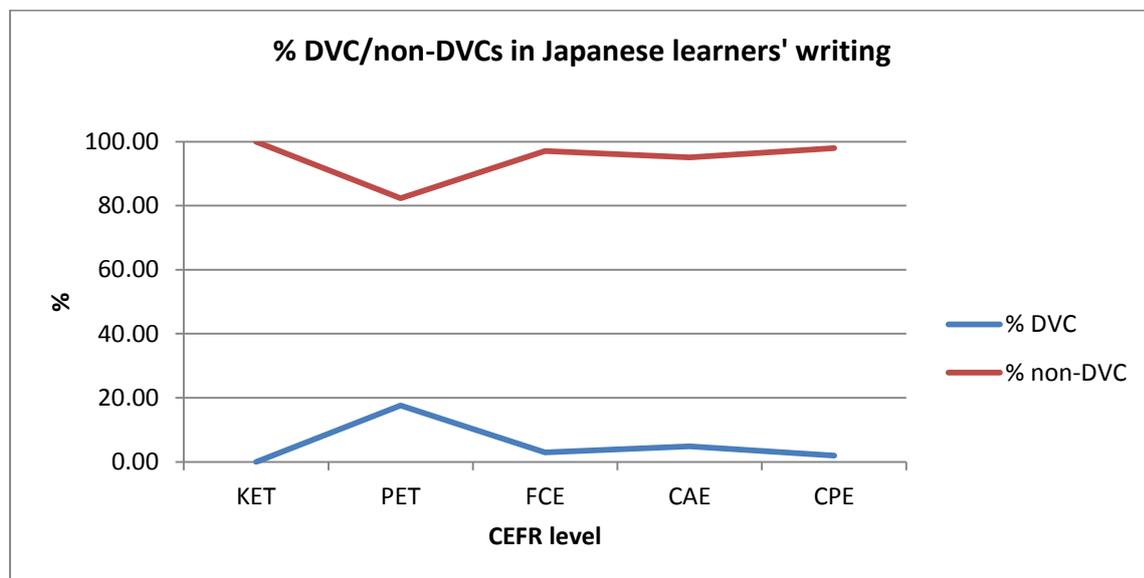
Figure 5.2: DVC/non-DVCs in Japanese learners' writing

% DVC/non-DVCs in French learners' writing
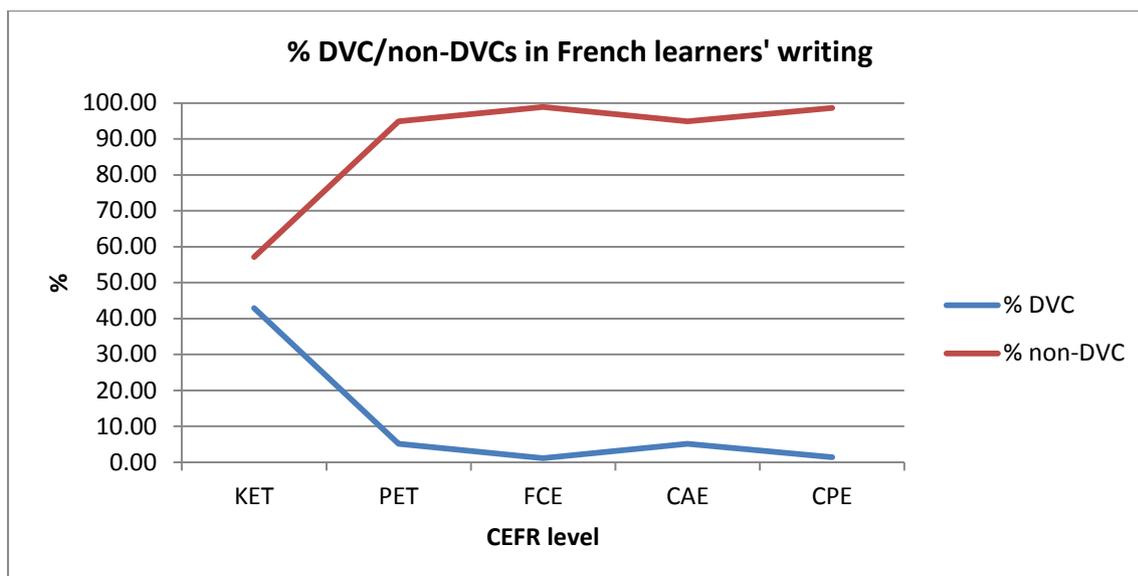
Figure 5.3 DVC/non-DVCs in French learners' writing

An interesting comparison can be drawn between these graphs and those comparing open- and closed-class metaphor use in Chapter Three. In the Japanese data in particular, there is a sharp increase in the use of non-DVC conventional patternings between the PET and FCE levels, which is also where the open class items were shown to overtake the closed class items for Japanese learners. For the French data, this crossover occurred earlier, between levels KET and PET, and the French learners' use of non-delexical verb combinations also registers the greatest increase here. The small increase in DVC use at the CAE level in both L1 backgrounds can also be noted in the open/closed class comparisons made previously; in both the French and Japanese data, there is a similar increase in the use of closed class items at the CAE level. Such observations suggest that delexical verbs in such combinations somehow 'bridge the gap' between closed and open class metaphorically used items. The similar patterns found suggest that the metaphorically used items in delexical verb combinations are being treated in the same way as 'dead', closed class metaphors.

So far, therefore, the following interim conclusions can be drawn:

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- An overwhelmingly high percentage of open-class metaphorically used items occur as part of conventional language patternings, be they formulaic sequences, conventional collocations, or delexical verb combinations.

- Delexical verb combinations appear to behave in a similar way to closed-class lexical items.

The next section presents the results of the error analyses. These were designed to ascertain the extent to which learners struggled to produce conventional language patternings, and how far the metaphors outside these patternings could be attributed to error.

5.4.3 Errors within conventional patternings

As discussed above, non-native speakers have been shown to experience difficulties with formulaic language and conventional collocation. This section explores the extent to which this is the case in this data. Here, the label 'error' was applied to any example where the learner had used an incorrect grammatical structure in assembling the collocation or sequence, for example, 'I'm mad *of* it' (French KET) instead of *about* or *for*. Spelling errors were not counted.

	Level	Sequences	Errors	% patternings containing errors
Japanese	KET	12	1	8.33
	PET	36	5	13.89
	FCE	206	6	2.91
	CAE	350	6	1.71
	CPE	502	14	2.79
French	KET	8	1	12.50
	PET	78	3	3.85
	FCE	178	8	4.49
	CAE	276	12	4.35
	CPE	501	8	1.60

Table 5.3 Table showing percentages of conventional patternings containing errors
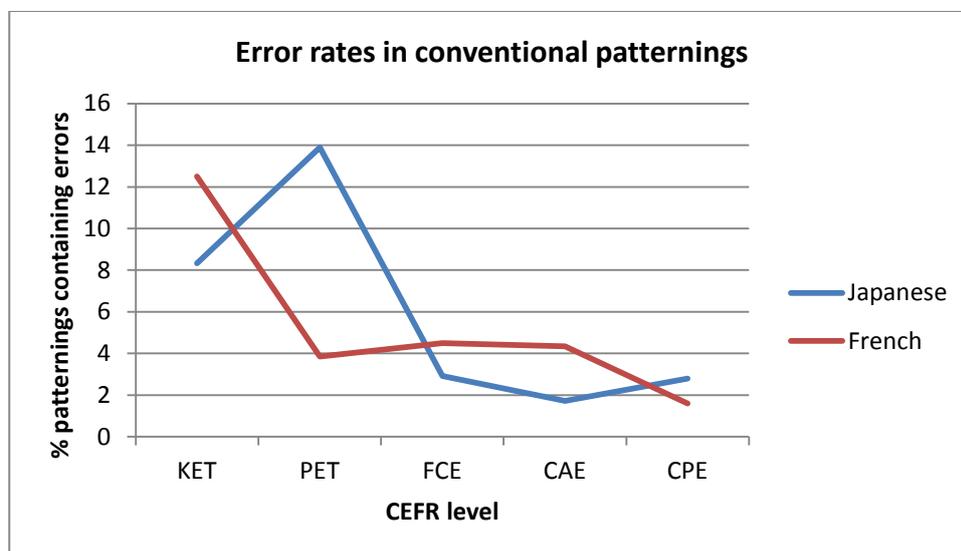
Figure 5.4 Graph showing error rates in conventional language patternings

The first point to note is that the steep decreases between levels KET and PET for the French learners, and PET and FCE for the Japanese learners, are not significant due to the small numbers of sequences involved. What is particularly interesting about these figures is that

there is very little variation in error rates within these conventional patternings after PET level for the French learners, perhaps with the exception of the French learners' decrease between CAE and CPE, or FCE level for the Japanese learners. This could be somewhat discouraging, as it implies that even as learners progress through the levels, their error rates within these patternings do not change significantly.

5.4.4 Metaphor outside conventional patternings

This final section investigates the nature of metaphor outside the conventional patternings previously identified. To do this, these metaphors were annotated as falling into one of three categories. The first was 'errors'. Each example was investigated using the error coded version of the Cambridge Learner Corpus. Metaphors were classed as 'errors' only if the marker recommended the word be changed; spelling errors or grammatical errors in this case were not considered errors. For example, the sentence 'to have a good and *balance* meal' was assigned a 'derivation of adjective' error, but the adjective itself was deemed to be appropriate even though 'balanced meal' is not a significant collocation in the BNC. This sentence was therefore not coded as an error. While not all essays that had been annotated for metaphor were found in the coded version of the Cambridge Learner Corpus, the error was normally replicated in essays that were included.   The second was 'deliberate/creative'. These were metaphors that were considered to have been deliberately chosen for their humorous or rhetorical effect. This is discussed only briefly here, as Chapter Six presents a full analysis of the different functions of metaphor found in the corpus. While the subjectivity of this method is noted, it was considered necessary to draw a distinction between metaphors found in this second category, and those in the third.

The third category comprised all examples that were not included in the first two. These were examples where learners had used a metaphor that did not collocate significantly with the words in its environment, but was not considered an error by the markers in the error-coded version of the CLC. They were also not considered to be fulfilling a particularly clear rhetorical or discursive effect. Table 5.4 below shows some examples of this.

	Level	Example
Japanese	KET	You will hear **big** noise. So you can just **follow** the noise.
	PET	*No examples*
	FCE	Technology **made** a kind of bad environment You **get** high temperature when running Scandales (sic) usually **increase** their fame
	CAE	People are aware that they **make** traffic congestion TV is a **tool**… how to use the **tool** is much (sic) important
	CPE	To **preserve** our planet It is believed to **repel** the (sic) evil Each colour has its **power**
French	KET	*No examples*
	PET	How can you **hesitate?** I would be glad to **receive** your own point of view.
	FCE	It is now important to **weigh** the cons Cars **created** pollution Fashion is an eternal **cycle**
	CAE	A way of **showing** one's identity Changes in fashion **reveal** changes in society
	CPE	The noise would **increase** too Caterham Green is **widely** patronised by youngsters

Table 5.4 Examples of MRWs outside of conventional language patternings which were neither errors nor deemed to be particularly creative

Again, at this point it is worth highlighting that there is no way of knowing for sure whether a metaphor was 'deliberately' constructed from corpus data alone. Indeed, it is arguable whether anything can actually be deliberate. Gibbs reviews psychology research that

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suggests that people frequently act contrarily to how they think, suggesting that 'people may believe that they have created a metaphor deliberately, with their very conscious thought processes being the initial, primary cause for the creation of the metaphor, yet be mistaken about the real reason they wrote or said what they did' (Gibbs Jr, 2011: 41). Even so-called 'deliberate' metaphors may be motivated by a huge number of unconscious factors. It has already been noted that much of language use is 'primed' by the context in which it is being used (Hoey, 2005), and Cameron's (2010) work on clusters has shown how metaphor seems to 'grow up' out of the surrounding discourse. It is therefore perhaps more useful to see human behaviour as emerging from the interaction of both internal and external factors (Gibbs Jr, 2011: 46). Müller (2011: 62) agrees, advocating for a 'dynamic concept of metaphor which addresses metaphors as processes, not a categorization puzzle in which metaphors jump from non-conventional to conventional, or from non-deliberate to deliberate… Rather what we find, when we study how people use metaphors, is that metaphors are activated dynamically: over the course of a discourse event and to varying degrees'. Questions of whether deliberate action is indeed psychologically possible are beyond the scope of this study, and for now it seems sufficient to note that while this analysis does include 'deliberate/creative' as a category, this nonetheless recognises that metaphor cannot be reduced to binary distinctions in this way, neither can the corpus data alone be used to identify the psychological processes of the writers.

The coding results are presented below:

	Level	% Error	% Deliberate/creative	% 'Other'
Japanese	KET	0.00	0.00	100.00
	PET	100.00	0.00	0.00
	FCE	51.85	11.11	37.04
	CAE	41.94	12.90	45.16
	CPE	35.19	11.11	53.70
French	KET	100.00	0.00	0.00
	PET	27.78	38.89	33.33
	FCE	27.27	21.21	51.52
	CAE	47.50	12.50	40.00
	CPE	16.95	38.98	44.07

Table 5.5 Classification of metaphor outside conventional language patternings
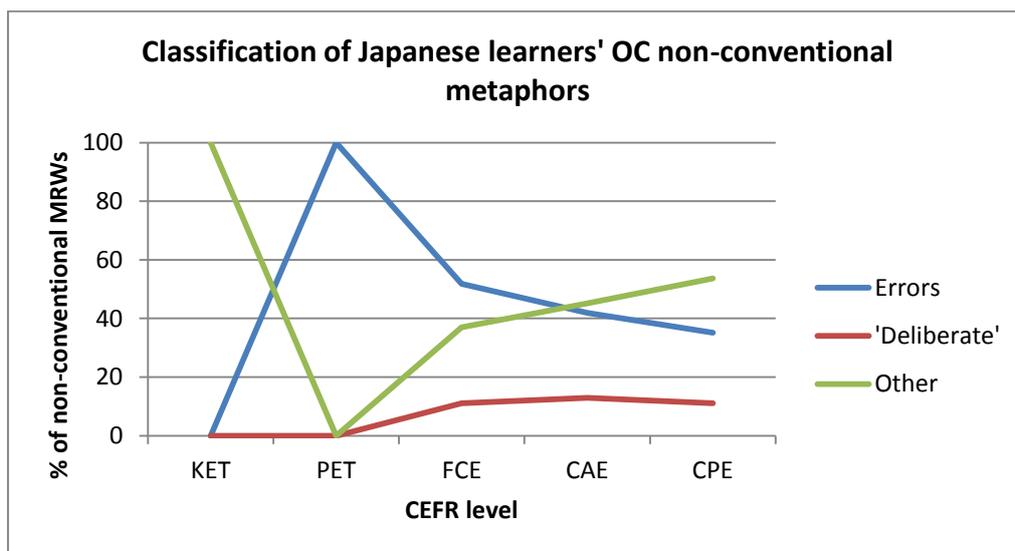
Figure 5.5 Graph showing classification of non-conventional MRWs in Japanese learners' writing
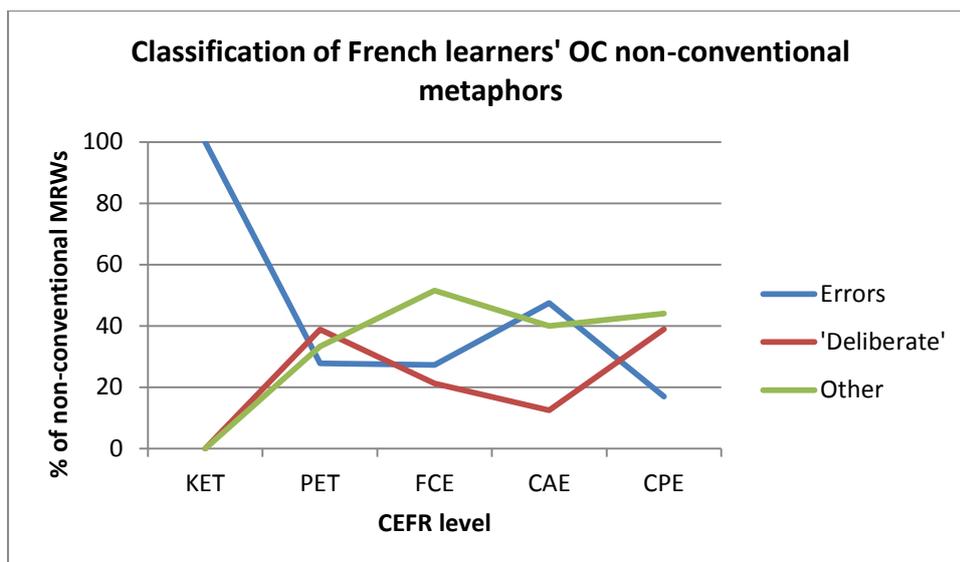
Figure 5.6 Graph showing classification of non-conventional MRWs in French learners' writing

The difference in classification here is notable, and it is the 'deliberate' category that perhaps deserves the most attention. This will be examined in more detail in Chapter Six, but for now it seems to be the case that French learners are more likely to 'experiment' with metaphor, exploiting it for rhetorical or humorous purposes. To illustrate this, here are some examples of metaphors coded as being potentially deliberately used:

> Far from the *grey walls* of our towns
>
> A *jail* of a zoo
>
> It mades (sic) them becoming like *vegetables*
>
> Are the clothes we wear the *windows* through which we expose to all our inner
>
> selves?

In each of these examples, metaphors were considered to be used for emphatic or rhetorical purposes, and the fact that it is the French learners who are more likely to exploit this potential is interesting. It may be because of the similarities between French and English that leads French learners to be more confident to 'play' with language in this way,

but further research would be necessary to ascertain the extent to which this is the case. However, for the Japanese learners in particular, it seems that MacArthur's (2010) concern that conventionality could impede creativity is borne out in this data; while the difference is not so notable for the French learners, errors and 'other' MRWs still account for the majority of MRWs in non-conventional patternings.

This may be due to the fact that students are aware that they are being assessed on their performance, which may make them less confident to engage in creative language use for fear of it being considered an error. Indeed, a closer look at the phrases marked as 'errors' in the coded version of the CLC indicates that they may well be justified in their fear. There are several examples where the designation of 'error' could be considered to be penalising learners for attempting to be creative. One French learner at FCE level, for example, writes about how people 'got married and built a family', which was marked as an error. While 'to build a family' is not a significant collocation in the BNC, it does occur (albeit only once), and the meaning is clear. Similarly, a Japanese learner at CAE writes about how Japan 'went to ruin in 1945' at the end of the Second World War, which was again marked as an error with 'defeated' proposed as an alternative verb. A French learner of the same level encourages a friend, worried about being invited to a French wedding ceremony, to be 'smart, smooth and relaxed', which was also considered an error. Examples are also found at CPE level, with one Japanese learner writing 'ad hoc remedies would not heal their problem'. Again, this has been marked as an error, with 'solve' proposed as a more acceptable verb. However, it could be argued that the learner here is using an extended metaphor, drawing twice on the source domain of illness or injury to create the metaphors *remedies* and *heal*. Using the more conventional verb 'solve' would cause the sentence to lose a certain degree

of cohesion, along with the evocative imagery that *heal* creates. A French learner at this level produces a rather beautiful passage describing her experiences seeing a famous flute player in concert:

> There he was, <u>making</u> the music <u>alive</u> in my ears, <u>raising</u> <u>deep</u> feelings and emotions that <u>rose</u> <u>above</u> the <u>outskirts</u> of reality.

'Alive' was marked as a 'derivation of verb' error, and 'making the music *live* in my ears' was considered a more appropriate response. 'Outskirts' was considered an inappropriate noun, with 'boundaries' suggested as an alternative. In this and the previous examples, there seems to be a strong case for arguing that the learners' original choices were not only grammatically and communicatively acceptable, but they also contributed to make the points memorable and evocative. MacArthur's (2010) concerns about conventionality impeding creativity could perhaps be mitigated by a greater tolerance for learners' experimentation with language on the part of the markers.

5.5   A broader analysis of errors in metaphor use

The analyses above have given a small glimpse at the link between metaphor and errors, but in order to obtain a full picture, a more comprehensive analysis is required. This is particularly relevant at this point in the thesis, because the analysis presented in the next chapter moves away from the linguistic forms of metaphor and into the functions it is used to perform. Given Littlemore et al.'s (2014) findings that metaphor error rates were much higher than the overall error rate, and the insights into lexical errors involving metaphor in Chapter 4, it was hypothesised that a similar pattern would be observed in the data used here.

In order to investigate the relationship between metaphor use and errors, a selection of essays from the error-coded version of the Cambridge Learner Corpus was used. However, because not all the essays coded for metaphor were found in the error-coded corpus, a selection of five essays from each level and language background was extracted; the two essays with the highest overall metaphoric density, the two with the lowest, and the median. In cases where the coded version of the Cambridge Learner Corpus did not include these essays, the closest alternative was used.

5.5.1 Overall error rates

The first analysis was performed by calculating the overall error rates for each level. The average error rates for each language group at each level are shown below:
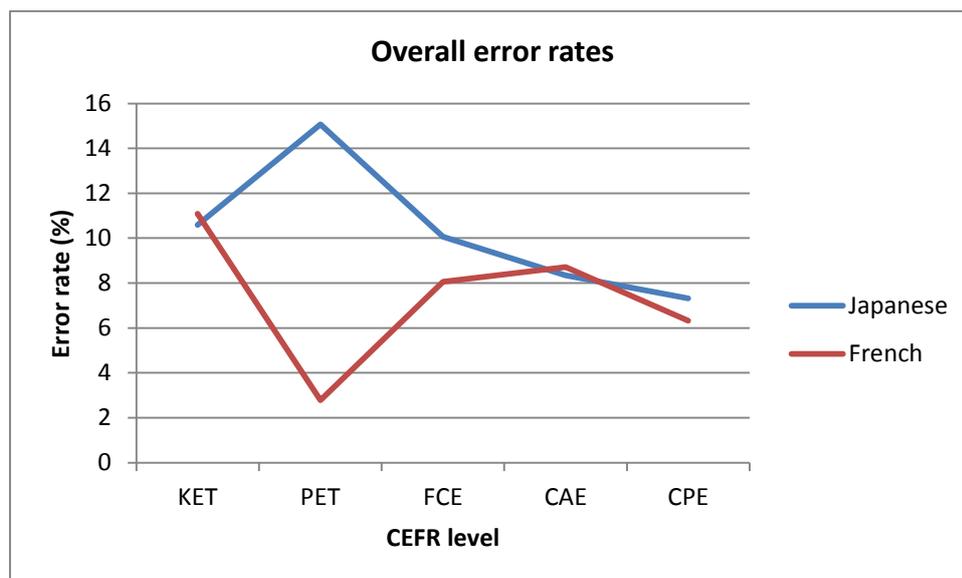
Figure 5.7 Graph showing overall error rates in a subset of the dataset

These findings seem to corroborate those of previous analyses regarding the status of FCE as a threshold level. Before this point, the learners undergo drastic changes in their error rates and follow very different paths according to their language background, but at FCE and

beyond not only are the changes less marked, there is also very little to separate the two groups of learners.

Looking at the scatterplot showing the error rates for each individual essay, a similar pattern emerges.
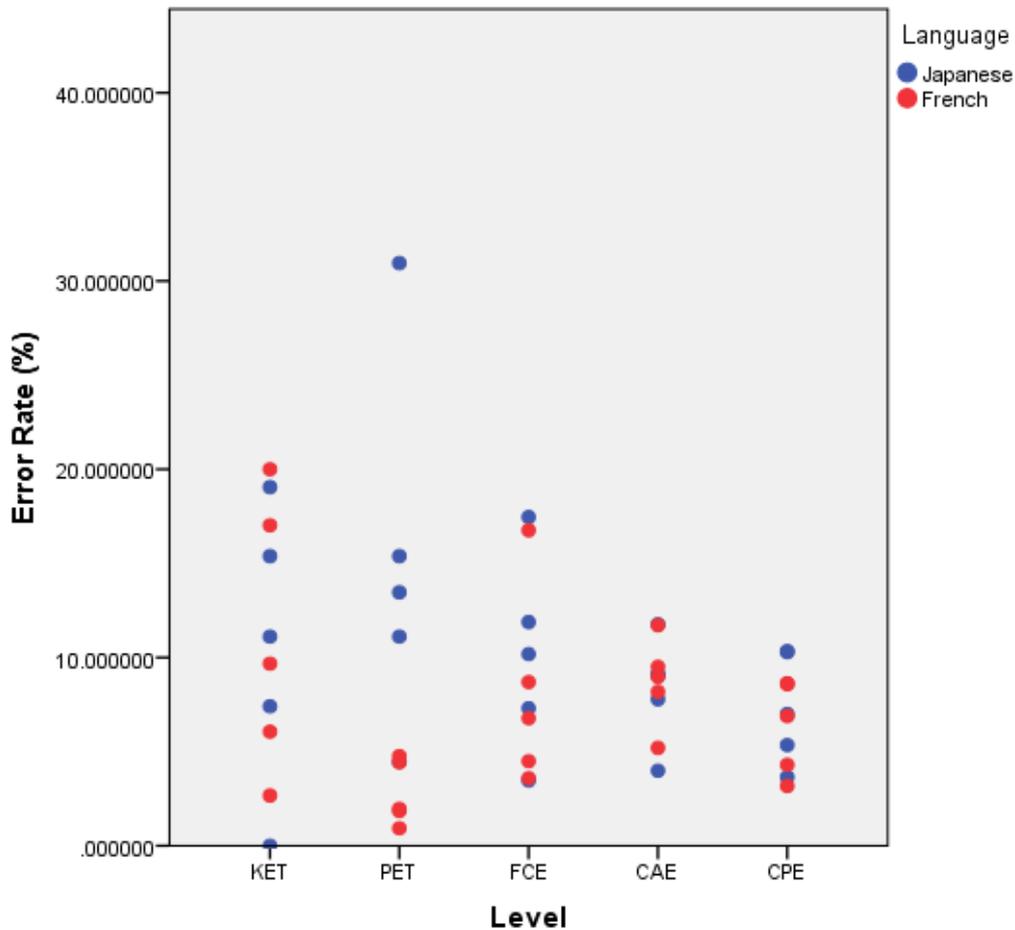
Figure 5.8 Scatterplot showing variation in overall error rates

After FCE, not only do the two groups of learners reach a very similar point in terms of the error rates of their essays, there is also less variation between learners of the same language background. Again, this could indicate the status of FCE as a threshold level, after which point the learners plateau somewhat in their error rates.

5.5.2 Correlations between metaphor use and error rate

The first analysis performed on this subset of the data involved ascertaining whether or not there was a correlation between error rate and metaphoric density. A Spearman's *rho* correlation revealed no significant relationship, r_s = .148, p = .305.

This is surprising as it seems to run counter to Littlemore et al.'s (2014) findings at first sight. If students struggled with metaphor as much as they claim, a correlation might be expected. However, their analysis was more fine-grained, separating the different error rates and comparing the patterns through the levels, so the analysis was repeated on the data from the French and Japanese learners. The results gained from Littlemore et al.'s (2014: 140) analysis of the writing of German and Greek learners are also presented below to facilitate comparison.
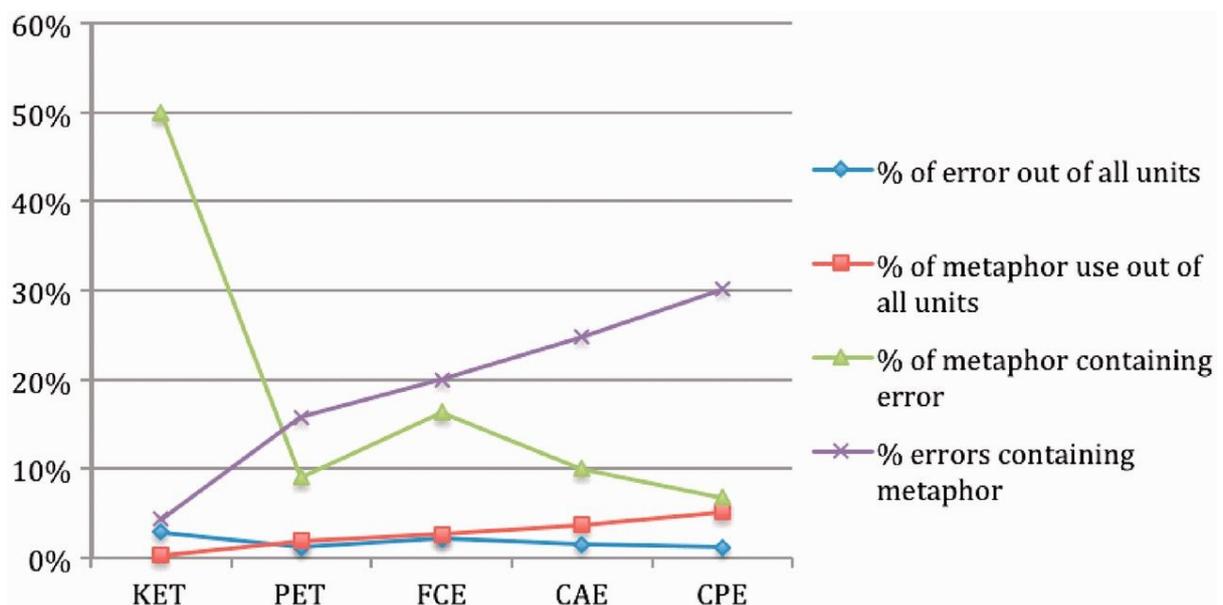
Figure 5.9 Errors containing metaphor compared with all errors, taken from Littlemore et al (2014:140)
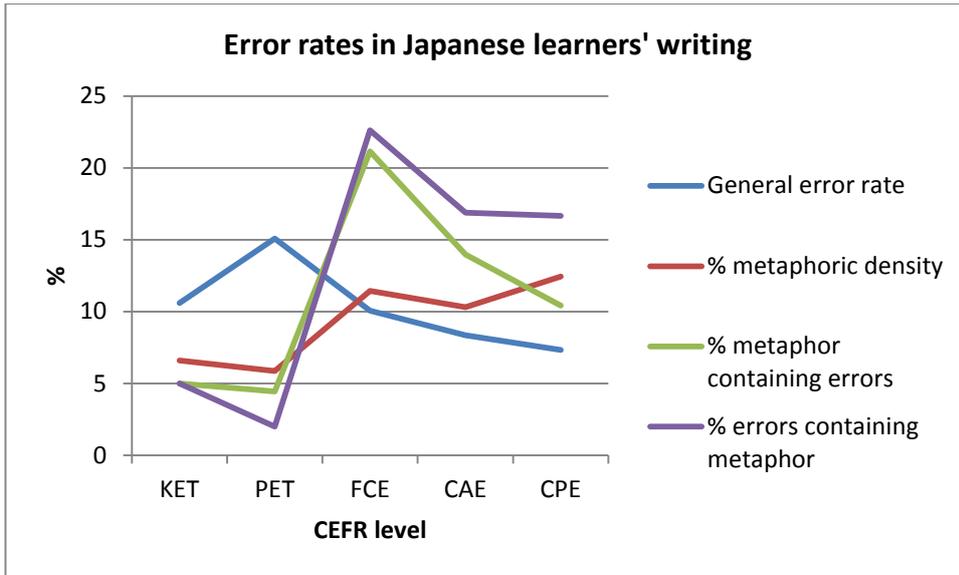
Figure 5.10 Errors containing metaphor compared with all errors in writing produced by Japanese learners
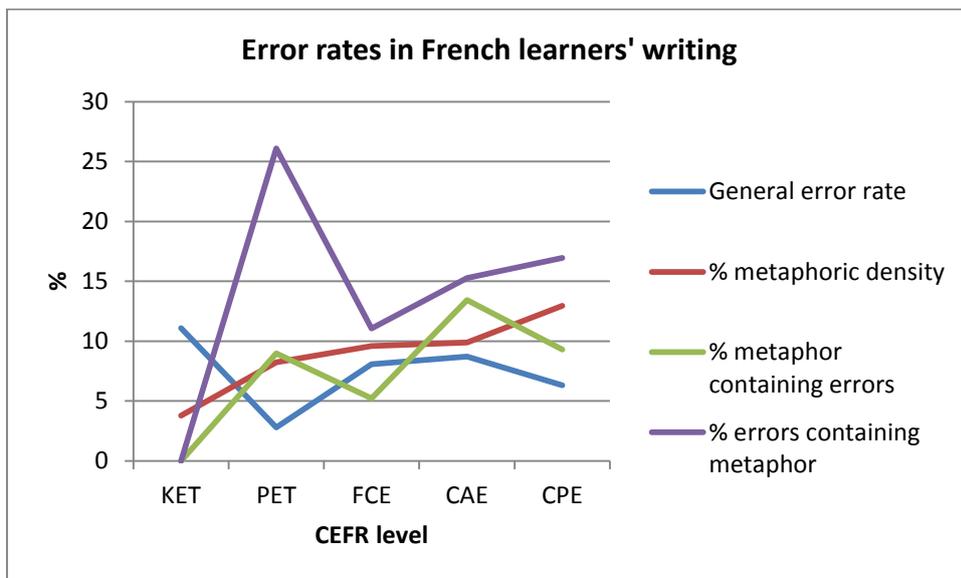
Figure 5.11 Errors containing metaphor compared with all errors in writing produced by French learners

First, these graphs show a noticeable difference between the two groups of learners investigated in this thesis. Looking at the significant spikes in the '% errors containing metaphor' figures, these coincide with the points at which open-class metaphor use overtakes closed-class metaphor use. For the Japanese learners, it then decreases to CAE before plateauing, while for the French learners, it continues to rise post-FCE. Similarly to

Littlemore et al.'s (2014) findings, also, the percentage of errors containing metaphor remains higher than the overall error rates throughout the levels. For Littlemore et al. (2014: 139), 'This indicates that at any stage of learning, learners are more likely to make more errors when using metaphor than when using other types of language,' suggesting that 'metaphor is something that could be usefully focussed on throughout the learning process'.

However, is it really possible to say that learners are struggling with metaphor, as Littlemore et al. (2014) claim? It has been noted that metaphor is highly conventional, and plays a role at all levels of language. It has also been noted that many of the errors learners make in its use could be more related to gaps in their phraseological knowledge than to problems with metaphor *per se.* Phillip (2010: 74) exemplifies this point with a phrase produced by an Italian L2 learner, '*a plague* that sometimes is connected to *drugs, traffic and many other dirty interests'*. She notes that 'dirty interests' is erroneous not for any conceptual reason, but because it is an unidiomatic collocation. To investigate this question in the current dataset, the error codes assigned to the errors that learners make in their metaphor use were extracted from the coded corpus.

Table 5.6 below shows the error categories that learners' MRWs were falling into.

Error category	Number of instances
replace verb	30
replace preposition	21
replace noun	10
spelling error	8
wrong verb form	5
incorrect verb inflection	5
idiom wrong	4
replace error	4
replace punctuation	4
incorrect tense of verb	4
unnecessary preposition	4
wrong noun form	3
verb agreement error	2
derivation of noun error	2
derivation of verb error	2
missing punctuation	2
replace adjective	2
replace adverb	2
unnecessary determiner	2
unnecessary punctuation	2
unnecessary verb	2
unnecessary adverb	2
countability of noun error	1
derivation of adjective error	1
replace anaphor	1
unnecessary noun	1
word order error	1

Table 5.6 Error categories assigned to metaphor

It would be very difficult to claim that some of these errors are caused by metaphor itself. Using incorrect spelling, word order, punctuation, form or tense, for example, is unlikely to be affected by the metaphoricity of the word and is more indicative of gaps in grammatical knowledge. However, there is one key area where grammatical competence and metaphoric competence overlap, as exemplified by the second most frequent error, 'replace prepositions'. This implies that learners particularly struggle with metaphorical prepositions, and hints at the strong relationship between metaphor and grammatical competence as noted in Chapter 1.

This table shows that the most common errors in the data sampled are those where the learner has picked an incorrect verb, preposition or noun. However, it is worth looking more closely at the errors coded under these categories. Many of the verbs and nouns classed as 'errors' under the first category could equally be considered creative use of language, as the meaning is clear, as shown in the examples given above. One learner, for example, states that they are confident that they will 'find *keys* to solve a problem' (Japanese CPE), which could be restated using the more conventional *way* as the markers propose. Similarly, some of the examples are coded as errors, but no alternative is proposed. This is shown in an example like 'Defining proper meal times will contribute to *break* the pace' (French FCE), which is considered an error but no alternative is given. In the sentence 'I feel that we should enjoy our lives through the fashion (sic) as much as we like in order to *feel* our *freedom*' (Japanese CAE), 'feel' was likewise considered to be an incorrect verb. Examples like this could indicate a readiness on the part of the learners to experiment with language, but their efforts are not always rewarded.

It is true, however, that some of the examples of 'incorrect' nouns or verbs could indicate problems with metaphor specifically. For example, when one learner talks about 'the different *trails* the actors had followed' (French CPE), this could indicate a belief that *trail* can be metaphorically extended in the same fashion as *route* or *path*, when its use is in fact more constrained. Similarly, when another French learner at CPE writes 'I must *own up* that it was one of the most wonderful experience (sic) I have ever had in my life,' s/he again uses *own up*, a synonym of *confess*, assuming that it can be metaphorically extended in the same way.

The 'incorrect idiom' category of errors is interesting because it could be said to exemplify the relationship between metaphor and phraseological competence. The four sentences involving metaphor coded at this category include '*From* my *point* of *view'* instead of 'in my opinion,' '*from* the beginning' instead of 'from scratch', '*making fruit*' instead of 'bearing fruit' and '*as busy as a bee*'. The latter example has been correctly formed, but is inappropriate for the context, as it is describing how the writers' grandparents were forced to work hard during the Second World War. These examples are perhaps more indicative of a lack of knowledge of the conventional formulations of these phrases rather than a problem with metaphor itself.

On the basis of these findings, it can be surmised that a notable portion of errors that involve MRWs are not a result of metaphor in itself, and that these errors account for a sizeable proportion of the overall 'errors involving metaphor' percentages. Even in those areas where metaphor could play a defining role in the error, such as the 'replace noun' or 'replace verb' categories above, the picture remains somewhat complicated as some of the 'errors' could equally be examples of learner creativity. There is also unlikely to be

complete agreement on what constitutes an 'error' in these categories. For these reasons, it may be an over-simplification to claim that learners struggle with metaphor, as many of the errors identified could equally be due to problems in other areas of competence.

5.6 Conclusions

This chapter has sought to draw a distinction between open-class metaphor that occurs in conventional language patternings, and metaphor which does not. This analysis was motivated by indications that these types of patternings are subject to different methods of psychological processing. For example, formulaic sequences seem to be processed holistically and collocation may be due to lexical priming or ICMs. Because of this, it is possible that metaphor used in these patterns is not being processed metaphorically. The analysis showed that the majority of open-class metaphor in the corpus was found in conventional collocations or formulaic sequences, which is a finding that should be taken into account when discussing the nature of metaphoric competence. Of course, it is not possible to draw firm conclusions from this study, but the preliminary findings reported here do indicate interesting avenues for further research. Perhaps the most important area for further research would be to ascertain the extent to which non-native speakers process formulaic sequences holistically as their native counterparts seem to. There could also be a case for combining analysis of written language data with interview or survey data to gain insights into the writer's ICMs and word association knowledge.

With that caveat in mind, the analyses presented in this chapter have shown that the majority of metaphor is found in highly conventional situations, and that there is a high level of variation between the language backgrounds in terms of the nature of the metaphor found outside them. French learners, however, do seem to be more confident to exploit the

discursive potential of metaphor, an area to which we return the following chapter. Sadly, their efforts are not always rewarded by the markers, who seem quick to mark such examples as errors.

Ultimately, the high percentage of metaphor found in conventional patternings presents a compelling reason for seeing metaphoric competence as a facet of phraseological and lexical competence. While encouraging learners to engage with the conceptual mappings behind conventional metaphors may very well promote their linguistic development as discussed in Chapter 1, focusing on phraseological competence will also most likely promote a learner's use of metaphor.

6 A Study of the Relationship between Metaphor Use and Broader Conceptions of Communicative Language Ability

6.1 Introduction

The previous two chapters explored the relationship between metaphor and both lexical and phraseological development, in order to begin to establish metaphor's role in these areas of developing language competence. However, linguistic competence encompasses more than just these areas. The broad area of 'communicative competence' sees these factors as just part of overall language ability, and is more concerned with the way learners can use language in an effective way to fulfil their communicative goals. Put another way, linguistic competence goes beyond merely knowing the grammatical and lexical systems of a language; learners must also be aware of how to use them appropriately for the communicative situation (Hymes, 1972). It is therefore not enough to merely investigate the metaphors that learners use, but also *how* they are used; that is, the functions they are used to perform.

This concern with the functional analysis of language began at least as early as 1923, when anthropologist Malinowski investigated what he called the 'magical' uses of language associated with a culture's ritualistic or ceremonial activities, alongside practical or pragmatic uses (Malinowski, 1923, cited in Halliday and Hasan, 1989). Subsequent research throughout the twentieth century further highlighted the different uses of language and the importance of researching them, with Halliday (Halliday and Hasan, 1989: 17) advocating viewing 'functional variation not just as variation in the use of language, but rather as something that is built in… to the organisation of language itself'.

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So far, this thesis has focused on broad grammatical competence through its exploration of lexical and phraseological features of metaphor. We turn now to Bachman's areas of illocutionary and textual competence by reporting the results of an investigation into the functions that learners use metaphor to perform in their writing as they progress through the levels. This is based on the assumption that, given metaphor's fundamental role in all areas of language, a key aspect of metaphoric competence will be the ability to use metaphor to perform a wide range of communicative functions. It should be noted, however, that it is impossible to know for sure whether the learners are deliberately using their (metaphoric) language to fulfil certain functions. It is true that the learners may not actually be aware of their use of metaphor to fulfil these functions, but this does not discount the idea of developing metaphoric competence. As Ellis (2006a) asserts, much of language learning is based on intuition, and competence does not therefore necessarily require conscious awareness. In fact, conscious awareness of how each metaphor is being used would be highly impractical, especially for the more conventional examples (see Chapter Five for a discussion of how formulaic language aids fluency). Gaining the intuition required to effectively and accurately use metaphor thus represents an important facet of metaphoric competence, so despite the inability to know the extent to which a function is being consciously performed, this analysis is still deemed significant in investigating metaphoric competence.

Furthermore, it has already been noted in Chapter Five that there is a convincing case for claiming that 'deliberate' metaphor is rare, if in existence at all (Gibbs Jr, 2011). If metaphor in language is indeed a reflection of metaphor in general human cognition, it would be fair to say that metaphor in language is inevitable and inescapable, and should not be

investigated in isolation. An analysis of the functions performed by metaphor, therefore, brings the focus to metaphor's relationship to developing communicative competence. It is emphasised that no claims are being made here as to a learner's conscious awareness of metaphor use.

6.2   Methodological framework

Chapter One introduced Littlemore and Low's (2006a) article which demonstrated how metaphor played a role in each area of Bachman's (1990: 87) framework of communicative language ability. The preceding chapters have focused mainly on metaphor's relationship to what Bachman terms 'grammatical competence', with Chapter Five partly addressing 'sensitivity to naturalness' and 'figures of speech' from the 'Sociolinguistic Competence' section too (Bachman, 1990: 87). In this chapter, we turn to two of the remaining areas, textual and illocutionary competence: the way learners use metaphor to organise their texts, and the illocutionary functions they use metaphor to perform. Again, 'Sociolinguistic Competence' as it relates to 'sensitivity to register' will also play a role here. Strategic competence will therefore be omitted from the formal framework; however, particularly noticeable occurrences of word coinage or paraphrase will be discussed.

With a dataset of just over 40,000 words, it was considered unfeasible to identify the functions performed by each metaphor in the corpus. Because of this, a three-stage analysis was designed, which aimed to provide as comprehensive a picture as possible while remaining within the bounds of practicality. The first analysis compared metaphor function in individual essays selected from levels PET to CPE, KET being excluded due to the very low open-class metaphoric densities. The second analysis took metaphors appearing in clusters and identified the functions they were being used to perform. The third analysis took an

overall view of the whole dataset with the aim of verifying the trends observed in the preceding analyses and identifying any notable features which had been missed from them due to the selection processes used.

6.2.1   Analyses 1 and 2: NVivo and the coding scheme

For the first two analyses, the essays under investigation were imported into the NVivo software package. NVivo is a tool for qualitative research which allows the analyst to annotate parts of text (in this case, metaphors), coding them at one or more user-defined 'nodes,' or categories (in this case, functions). The software is then able to provide data on coding patterns and densities for each node.

Before discussing the detailed methodologies and findings of analyses one and two, the development of the coding scheme will be discussed and its final structure explained. Originally, there was to be little deviation from Bachman's (1990) framework; all instances of metaphor would therefore fall under one or more of the 'textual', 'ideational', 'manipulative', 'heuristic' or 'imaginative' categories. However, as coding began, it became apparent that the proposed framework was overly simplistic.

First, the majority of metaphorically used lexical items were classified as 'ideational,' but the level of evaluation such metaphors conveyed varied. In many cases, this had a more manipulative effect, especially in the 'discuss' or 'letter' genres. For example, one essay in the CPE Japanese 'discussion' genre argued that sportspeople were being paid too highly. While the metaphors used in the essay were not overtly 'manipulative', the purpose of the writing was to persuade the reader of the writer's opinion, and it is hardly surprising that the metaphors used were therefore somewhat emotive. The sentence below shows an example of this (open-class metaphors are underlined):

They train until they are <u>worn</u> out and <u>resist</u> the <u>pressure</u> of having to win a game so as to be classified for the finals, and all this may be very <u>stressing.</u> But the reason as to why these players, with jobs that consist of going after a ball, receive so much money, I will never understand. I am sure that there are many people, in this world of unfairness, who work as much as, or even twice as <u>hard</u> as these players, and don't even earn a third of what these professional sportsmen do. They have to <u>go</u> through the same <u>tough,</u> <u>endless</u> daily work under their boss' <u>pressure.</u> (Japanese CPE: 'Discussion')

While each of these examples would be classed as 'ideational' under the proposed framework, they should not all be considered equal. 'To work <u>hard</u>,' for example, does not seem to carry the same emotional weight as '<u>tough,</u> <u>endless</u> daily work'; indeed, a corpus investigation revealed that 'working <u>hard</u>' often carried positive connotations, leading to success or praise, whereas 'tough work' was normally mitigated by a contrastive conjunction:

he was in the French Foreign Legion and it was fucking **tough work**, but there were some good mates around him. (BNC EE5 1254)

Yes, the face was **tough work** ; but they were working men, (BNC AE0 1333)

'It's pretty **tough work**,' he wearily confessed, 'but somebody has to do it.' (BNC E9N 35)

The repetition of the metaphor 'pressure' also serves as a cohesive device, clearly aligning the sportspeople's situation with that of regular workers, and thus serves a textual function.

There were also certain features observed on a first read-through of the data which were not included in Bachman's framework, in particular the subdivisions of the 'evaluative' category and the 'reiteration' feature which were included in the final annotation scheme. It was therefore decided that the framework employed needed to reflect these nuances, at

least to a certain extent. The following coding scheme was therefore developed on the basis of multiple passes of the data.

6.2.1.1 The framework used to annotate functions of metaphor

Category	Description	Examples
Interpersonal		
1 : Advising	Metaphor used in contexts where the writer is explicitly advising the reader to do something	<u>Take</u> some <u>distance</u> to clearly see your situation (French PET) Do not <u>waste</u> the energy! (French FCE)
2 : Manipulative	Metaphor considered to be more strongly urging the reader to follow a particular course of action, often using emotive language, or aimed at persuading them of a particular point of view	Have you <u>lost</u> your <u>mind</u>? (French PET) Are we going to <u>sacrifise</u> (sic) our park? (French CPE)
Evaluative		
1 : Emotive	Metaphor considered to evoke an emotional response in the reader, often for persuasive effect	<u>Persecuted</u> buy (sic) the media (French FCE) The <u>devastating</u> situation in Japan (Japanese CPE)
2 : Emphasis	Metaphor used to emphasise what is being expressed	I <u>strongly</u> agree with this (Japanese FCE) Fashion has got a <u>great</u> deal of importance (French CAE)
3 : Mitigation	Metaphor used to mitigate what is being said	Make a <u>little</u> sacrifice (French PET) I was a <u>little bit</u> disappointed (Japanese CPE)
4 : General evaluative	Metaphor considered to be expressing the author's opinion or further description on what is being expressed. This ranged from general, highly conventional examples to more strong, memorable ones.	It was <u>breathtaking</u> (French PET) They will have a <u>valuable</u> experiences (sic) (Japanese CAE)
Textual		
1 : Textual structuring, cohesion and coherence	Metaphor used to explicitly structure the text through	To <u>put</u> it in a <u>nutshell</u> (French FCE) On the one <u>hand</u>... on the other <u>hand</u>

	signposting or discourse markers. Also, metaphor used to provide cohesion or coherence within the text, through reference or alliterative devices	(Japanese FCE) An urban design <u>disaster</u> (French CPE)
2 : Reiteration	Metaphor used to reiterate what has already been expressed through near-synonymy. This was seen to be a notable feature in the higher levels	The explanations given there were clear and <u>concrete</u> (Japanese CPE) A way of expressing oneself, a way of <u>showing</u> one's identity (French CAE)
Creative/imaginative	Metaphor that was unconventional; metaphor used in ways not observed in the BNC, or in creative collocations	Small schools <u>rythme</u> (sic) with "boring" "little shops" "<u>little</u> teachers" (French PET) Defining proper meal-times will contribute to <u>break</u> the <u>pace</u> (French FCE)
Unmarked Conventional	Metaphor that did not clearly fall into any of the above categories; often delexical verbs or metaphor used in conventional language patternings	<u>Have</u> fun (French PET) I couldn't <u>contact</u> her easily and I may <u>lose touch</u> with her (Japanese FCE)

Table 6.1 Coding scheme to annotate the functions of metaphor

6.2.1.2 Further explanation of potentially problematic categories: 'Evaluative' and 'Creative/Imaginative'

The 'Evaluation' set of functions was the most problematic to code, and therefore warrants further discussion. The 'emphasis', 'mitigation' and 'emotive' categories were considered to be sub-categories of the evaluation function, alongside a more general 'evaluation' category which was used to code metaphor which, although seen to be fulfilling an evaluative function, did not fit in with any of the other three sub-categories. Table 6.2 below gives further examples of the range of coding for each evaluative sub-category, along with further explanation where necessary.

General evaluation	Emphasis	Mitigation	Emotive
Make a little <u>sacrifice</u>	Made a <u>big</u> progress	Make a <u>little</u> sacrifice	The decision is in your <u>hand</u> *This was considered to portray a sense of the gravity of the situation, encouraging the reader to recognise its importance*
They seem like <u>couch potatoes</u>	I <u>strongly</u> agree	I might also <u>miss</u> the <u>point</u> *This was considered to be mitigating the writer's certainty about what s/he was expressing*	…cause a sentimental <u>trauma.</u> We <u>know</u> this park since our childhood. *'Trauma' was considered to be a highly emotive word, whereas personifying the park as something that could be 'known' also encourages an emotional response*
Time will pass <u>quickly</u>	Famous people have much <u>force</u> to control the public *'Force' was considered to be a more emphatic way of expressing this point, rather than, for example 'ability' or 'potential'*	All of us, in a <u>way</u>, express our mood, way of life through our general look *This was considered to be mitigating the point by implying that while self-expression may not be through obvious means, we all still express ourselves through our appearances*	Ad hoc remedies would not <u>heal</u> their problem *The use of the word 'heal' implies that the problem is a wound from which people are suffering, and was thus considered an emotive term.*

Table 6.2 Examples of the subcategories of the 'Evaluation' function

Coding for the 'creative/imaginative' category was aided by the analysis performed in

Chapter Five, where metaphors were coded for their inclusion in formulaic sequences and

conventional collocations. Metaphors coded at this category included those that were not found in such conventional language patternings. However, it is emphasised once more that this coding scheme is somewhat subjective.

6.3 Results and Discussion of Analysis 1: Individual Essay Comparisons

This first analysis was designed to provide a first look at the functions performed by metaphor in the data. Whole essays were extracted from each subcorpus, one from each genre, and imported into the NVivo software. Each metaphor in these essays was then coded under the coding scheme described above. To attempt to ensure maximum comparability across the analyses, essays with the highest open-class metaphoric densities (excluding personification as explained in Chapter Four) were extracted.

The following tables show annotation patterns for each essay analysed.

6.3.1.1 PET

	French PET Describe	% of total	French PET Inform	% of total	French PET Recommend	% of total	French PET Request	% of total
Interpersonal								
Advising	0	0	0	0	4	23.53	0	0
Manipulative	0	0	0	0	0	0	0	0
Evaluative								
Emotive	0	0	0	0	1	5.88	0	0
Emphasis	0	0	0	0	1	5.88	0	0
Mitigation	1	9.09	0	0	1	5.88	0	0
Evaluative	2	18.18	1	50	1	5.88	0	0
Textual								
Textual structuring, cohesion and coherence	0	0	0	0	3	17.65	0	0
Reiteration	0	0	0	0	0	0	0	0
Creative/imaginative	0	0	0	0	0	0	0	0
Conventional	8	72.72	1	50	6	35.29	2	100
Total annotations	11		2		17		2	

Table 6.3 Annotations for whole essays by French learners at PET level

For the French learners at this level, the 'Recommend' essay type had the most annotations, followed by 'Describe'. This is because the learner who wrote the 'Recommend' letter uses metaphor to explicitly advise their reader; given that the task asks the learner to explicitly recommend a course of action, the fact that the learner does so using metaphor accounts for the high level of annotation. He or she also uses a relatively high level of metaphor to provide evaluation of the situation, either through mitigation or through using emotive language to portray his or her point of view in a memorable way. The metaphors used to serve a textual structuring function could also be seen as aiding the writer to put across the point in an effective way. Given that at this level, learners are expected to write 'connected' text, it is perhaps not surprising that metaphors are beginning to be used for textual structuring.

It is hardly surprising that evaluative metaphors are to be found in the 'Describe' essay, although at this level the majority of metaphors in this piece fall into the 'Unmarked conventional' category. This is equally the case for the 'Request' letter, where the only two metaphors used are unmarked conventional.

	Japanese PET Describe	% of total	Japanese PET Inform	% of total	Japanese PET Recommend	% of total	Japanese PET Request	% of total
Interpersonal								
Advising	0	0	0	0	0	0	0	0
Manipulative	0	0	0	0	0	0	0	0
Evaluative								
Emotive	0	0	0	0	0	0	0	0
Emphasis	0	0	0	0	0	0	0	0
Mitigation	0	0	0	0	0	0	0	0
Evaluative	1	25	0	0	0	0	0	0
Textual								
Textual structuring, cohesion and coherence	2	50	1	100	0	0	0	0
Reiteration	0	0	0	0	0	0	0	0
Creative/imaginative	0	0	0	0	0	0	0	0
Conventional	1	25	0	0	4	100	2	100
Total annotations	4		1		4		2	

Table 6.4 Annotations for whole essays by Japanese learners at PET level

For the Japanese learners, the picture is slightly different. There is significantly less variation in the functions that metaphor is used to perform, with only one evaluative metaphor being used (again, in the 'describe' genre). While 'textual structuring' has a role in the 'Describe' and 'Inform' genres, the 'Recommend' and 'Request' genres only feature unmarked conventional metaphor. The fact that the French learners used metaphor to perform a greater variety of functions could suggest a greater confidence in using metaphor at this

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level, mirrored by the higher metaphoric densities in the French subcorpus at this level as seen in Chapter Three.

6.3.1.2 FCE

	French FCE Article	% of total	French FCE Discuss	% of total	French FCE Letter	% of total
Interpersonal						
Advising	3	7.14	0	0	0	0
Manipulative	1	2.38	0	0	0	0
Evaluative						
Emotive	0	0	2	12.5	0	0
Emphasis	1	2.38	0	0	0	0
Mitigation	0	0	2	12.5	0	0
Evaluative	17	40.48	3	18.75	3	42.86
Textual						
Textual structuring, cohesion and coherence	6	14.29	3	18.75	2	28.57
Reiteration	1	2.38	0	0	0	0
Creative/imaginative	1	2.38	0	0	0	0
Conventional	12	28.57	6	37.5	2	28.57
Total annotations	42		16		7	

Table 6.5 Annotations for whole essays by French learners at FCE level

The results for the French dataset suggest what could be a growing ability to use metaphor to fulfil the demands of the task. The 'article' genre, for example, shows a fairly high level of metaphor to advise, which is not surprising given that the learner is writing about the most effective ways to keep fit. Similarly to what was observed in the 'Describe' essays at PET level, the high level of evaluative metaphor in the 'Article' genre here is also unsurprising. Likewise, the low coding density for the 'letter' is not surprising as the student is asked to convey factual, practical information where there is arguably less potential for metaphor use. It is also at this level for the French learners that the first example of 'reiteration'

metaphor is observed, which mirrors the increased vocabulary knowledge demonstrated by the French learners in Chapter Four.

	Japanese FCE Article	% of total	Japanese FCE Discuss	% of total	Japanese FCE Letter	% of total
Interpersonal						
Advising	0	0	0	0	0	0
Manipulative	0	0	0	0	0	0
Evaluative						
Emotive	0	0	0	0	0	0
Emphasis	2	10	1	3.03	0	0
Mitigation	0	0	0	0	0	0
Evaluative	5	25	8	24.24	2	20
Textual						
Textual structuring, cohesion and coherence	2	10	4	12.12	2	20
Reiteration	0	0	0	0	0	0
Creative/imaginative	0	0	1	3.03	0	0
Conventional	11	55	19	57.58	6	60
Total annotations	20		33		10	

Table 6.6 Annotations for whole essays by Japanese learners at FCE level

As was shown in Chapter Three, at level FCE the Japanese learners seem to 'catch up' to the French learners in terms of open-class metaphor use. Not only does their use of open-class metaphor overtake their use of closed-class metaphor between levels PET and FCE, their open-class metaphoric density is higher than that of their French counterparts. In contrast to the French data, however, these Japanese learners use more metaphor in the 'discussion' genre, where it serves primarily evaluative and textual organisation functions.

6.3.1.3 CAE

	French CAE Article	% of total	French CAE Discuss	% of total	French CAE Letter	% of total
Interpersonal						
Advising	0	0	0	0	0	0
Manipulative	0	0	1	4	0	0
Evaluative						
Emotive	1	2.78	0	0	0	0
Emphasis	5	13.89	2	8	0	0
Mitigation	2	5.56	0	0	0	0
Evaluative	7	19.44	9	36	6	28.57
Textual						
Textual structuring, cohesion and coherence	4	11.11	1	4	4	19.05
Reiteration	1	2.78	0	0	0	0
Creative/imaginative	0	0	0	0	0	0
Conventional	16	44.44	12	48	11	52.38
Total annotations	36		25		21	

Table 6.7 Annotations for whole essays by French learners at CAE level

Again, the 'letter' genre has the least metaphor for French learners at this level. French

learners' use of emphatic metaphor increases at this level, from only one occurrence at level

FCE to five here. Overall, however, there are few noticeable differences in the French

learners' use of metaphor between levels CAE and FCE. This was also noted in Chapter

Three, where only a very small difference in open-class metaphoric density was observed

between levels FCE and CAE.

Japanese learners' use of metaphor at this level is somewhat different.

	Japanese CAE Article	% of total	Japanese CAE Discuss	% of total	Japanese CAE Letter	% of total
Interpersonal						
Advising	0	0	0	0	0	0
Manipulative	0	0	0	0	0	0
Evaluative						
Emotive	0	0	0	0	0	0
Emphasis	1	4.35	1	4.76	0	0
Mitigation	1	4.35	1	4.76	0	0
Evaluative	4	17.39	10	47.62	1	2.78
Textual						
Textual structuring, cohesion and coherence	5	21.74	3	14.29	15	41.67
Reiteration	0	0	0	0	0	0
Creative/imaginative	0	0	1	4.76	0	0
Conventional	12	52.17	5	23.81	20	55.56
Total annotations	23		21		36	

Table 6.8 Annotations for whole essays by Japanese learners at CAE level

Looking at raw frequencies, the higher levels of emphatic metaphor observed in the French data are not present, and usage rates for general evaluative metaphor are also lower. It is not possible to know for sure why this might be, but it could indicate a reticence on the part of the Japanese learners to express their own opinions. Learners from Asian countries have certainly been shown to be more reticent in expressing their opinions in language classrooms. Kato (2001: 63), in a survey of different participation styles of Japanese and Australian students, even found that Japanese students considered the Australian students' tendency to 'always express clearly what they want' as 'immature'. Such a finding provides some insight into the cultural mindset Japanese learners bring with them into their English learning process, and perhaps this trend continues into their writing. While more research

would be necessary to check this hypothesis, this finding provides further support for the variation found in metaphor use, and suggests that it could be due not only to the learner's L1 but also to their cultural and cognitive background. Unlike the French learners, however, Japanese learners at this level frequently use metaphor to structure their writing. One rather surprising finding at this level is the large amount of annotations in the 'letter' genre, previously the genre with the lowest coding densities whatever the level or language. However, the fact that the writer chose to structure the letter more like an official report than a letter may explain this discrepancy.

Like their French counterparts, the Japanese learner who wrote the 'discussion' piece at this level seems to have the confidence to use evaluative metaphor, which is understandable given that s/he is being expected to put across a particular point of view. It is perhaps more surprising that such high levels of evaluative metaphor are not observed in the 'letter' genre, considering that the task required the learner to provide a report on a work experience trip which seems an ideal opportunity to use metaphor in this way.

6.3.1.4 CPE

	French CPE Article	% of total	French CPE Discuss	% of total	French CPE Letter	% of total
Interpersonal						
Advising	0	0	0	0	0	0
Manipulative	0	0	0	0	0	0
Evaluative						
Emotive	0	0	0	0	4	11.11
Emphasis	2	4.65	3	6.52	7	19.44
Mitigation	0	0	1	2.17	1	2.78
Evaluative	8	18.60	16	34.78	6	16.67
Textual						
Textual structuring, cohesion and coherence	5	11.63	2	4.35	7	19.44
Reiteration	0	0	0	0	0	0
Creative/imaginative	0	0	4	8.7	2	5.56
Conventional	28	65.12	20	43.48	9	25
Total annotations	43		46		36	

Table 6.9 Annotations for whole essays by French learners at CPE level

Perhaps the most significant finding for French learners at this level is their use of metaphor marked as creative/imaginative, particularly in the discussion genre. This is perhaps unsurprising, given the advanced level, but it is also to be noted that two of these metaphors are due to direct L1 transfer: 'taken between the <u>anvil</u> and the <u>hammer</u>'. Although perhaps novel to an English speaker, it is a direct translation of a phrase in French, 'être entre le marteau et l'enclume', 'to be between the hammer and the anvil' meaning 'to be between the devil and the deep blue sea' – although interestingly, the French phrase puts the hammer first whereas the student's translation swaps them around. Perhaps he or she forgot which one was which, which would not be surprising given that in lexical

frequency profile analyses, 'anvil' is only found in lists of the most common 11,000-12,000 words in the English language (see Chapter Four).

The creative/imaginative metaphors used in the letter genre are particularly interesting as the learner succeeds in using them to drive home his/her points in a memorable way. As noted in Chapter 2, there is considerable overlap between the genres, especially at the higher levels, with students often being required to write letters which are highly persuasive or discursive in nature. The two 'creative/imaginative' metaphors observed in the letter at this level surely contribute to this persuasive function being fulfilled:

> Destroying our park and replacing it by a supermarket only points out <u>blindness</u> in urban design.
>
> Such a construction would <u>press</u> down the value of our houses

In the first case, the use of the word 'blindness' emphasises the writer's view that such a decision would be a mistake, and highlights its severity. In the second case, the use of the rather unconventional 'press down', rather than 'push down', stands out to the reader, highlighting the negative effects the supermarket's construction would have. There is perhaps also a sense of inevitability implied here through the personification of the construction, further highlighted through the use of an unconventional collocation which catches the reader's attention and demands more time to process.

Similarly, the essays analysed at this level show a relatively high degree of emphatic metaphor, continuing the increase first noted at level CAE. Again, this seems to indicate that students are becoming more adept at using metaphor to express their points of view in

an effective and memorable way, thus responding to the task demands.

	Japanese CPE Article	% of total	Japanese CPE Discuss	% of total	Japanese CPE Letter	% of total
Interpersonal						
Advising	1	2.44	0	0	0	0
Manipulative	0	0	0	0	1	3.7
Evaluative						
Emotive	2	4.88	0	0	2	7.41
Emphasis	1	2.44	3	7.5	2	7.41
Mitigation	0	0	1	2.5	1	3.7
Evaluative	16	39.02	9	22.5	8	29.63
Textual						
Textual structuring, cohesion and coherence	2	4.88	5	12.5	1	3.7
Reiteration	2	4.88	1	2.5	0	0
Creative/imaginative	0	0	0	0	0	0
Conventional	17	41.46	21	52.5	12	44.44
Total annotations	41		40		27	

Table 6.10 Annotations for whole essays by Japanese learners at CPE level

Table 6.10 above shows that while essays by the Japanese learners analysed here did not exhibit creative/imaginative metaphor, a higher level of evaluative metaphor can be observed, even surpassing that the French learners. There has also been an increase in emphatic metaphor for the Japanese learners, although they are still slightly behind their French counterparts.

6.4 Interim Conclusions and Evaluation of Individual Essay Comparison Methodology

Before moving on to the second analysis, it is worth summarising the insights gained so far.

This first analysis has suggested a certain degree of variation according to L1 background.

While both the French and Japanese learners show a developing ability to use metaphors to

fulfil the functions described in Bachman's (1990) framework, they take somewhat different developmental routes.

One effective way of visualising these different developmental routes is to express the coding percentages graphically, which facilitates comparison of the developmental patterns taken by the two groups of learners. It should be noted that in order to make the graphs clearer, some of the categories have been collapsed into one: 'Interpersonal' comprises both advising and manipulative, 'Evaluative' emotive, emphasis, mitigation and general evaluative, and 'Textual' textual structuring and reiteration.

	French learners				Japanese learners			
	PET	FCE	CAE	CPE	PET	FCE	CAE	CPE
Interpersonal	12.90	6.15	1.22	0.00	0.00	0.00	0.00	1.85
Evaluative	22.58	43.08	39.02	38.40	9.09	28.57	23.75	41.67
Textual	9.68	18.46	12.20	11.20	27.27	12.70	28.75	10.19
Creative/Imaginative	0.00	1.54	0.00	4.80	0.00	1.59	1.25	0.00
Unmarked Conventional	54.84	30.77	47.56	45.60	63.64	57.14	46.25	46.30

Table 6.11 Annotation percentages at the five main categories

Functions expressed as % of total annotations for essays by French learners
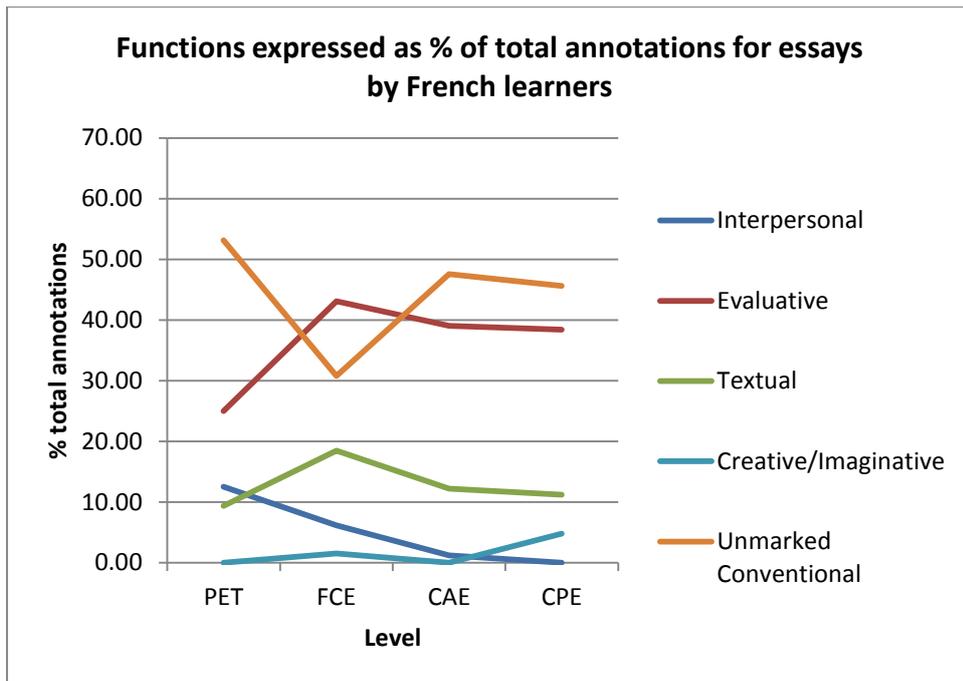
Figure 6.1 Graph showing annotations of functions performed by metaphor in French learners' writing

Functions expressed as % of total annotations for essays by Japanese learners
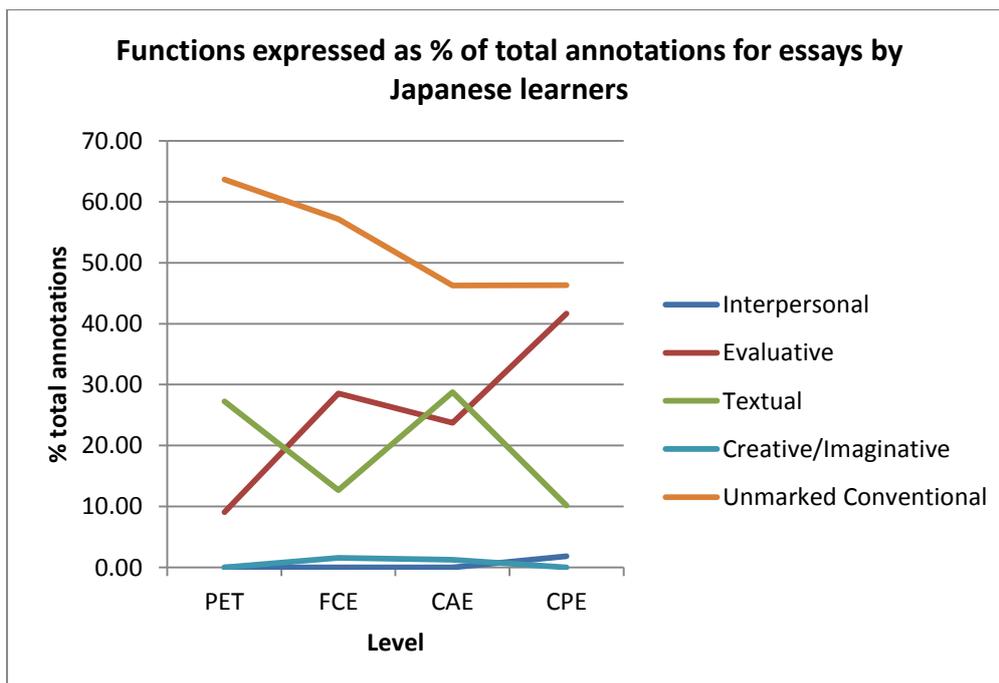
Figure 6.2 Graph showing annotations of functions performed by metaphor in Japanese learners' writing

These graphs highlight some of the differences noted in Analysis One above, and further emphasise the different developmental paths suggested by these data. The first point of

note is that the metaphors produced by Japanese learners are slightly more likely to fall under the 'unmarked conventional' category than those by French learners. Its development is also different, with a sharp drop between levels FCE and CAE as opposed to the increase in the French data. This suggests that the Japanese learners are less able to use metaphor to produce a variety of functions in the early stages, but by CAE and CPE levels, they have 'caught up' to the French learners and do demonstrate a wider range of functions. This discrepancy is also observed regarding textual metaphor, with a sharp increase between levels FCE and CAE in the Japanese data where the French learners' usage falls. For evaluative metaphor also, the Japanese students begin at a lower level than their French counterparts, but then increase between levels CAE and CPE. Japanese use of interpersonal metaphor remains low throughout the levels, without the decline in its use noted in the French data between levels PET and FCE. This is also true for creative metaphor, where the French learners use it more often at level CPE. However, despite the discrepancies, it is interesting to note that the coding percentages at level CPE are very similar for both the French and the Japanese learners, with very small differences in each function except creative/imaginative, where French learners are still ahead. This is especially significant as it implies that despite the differences observed between the L1 backgrounds at the beginner and intermediate stages, by such an advanced level as CPE, both groups of learners have reached a very similar point in terms of the functions they are able to use metaphor to perform.

However, it is not possible to obtain anything more than a suggestion at this level of analysis. It has already been shown that there is a high level of variance in metaphor use, even among learners of the same level and L1 background. While it is indeed reasonable to

assume that writers of different L1 backgrounds will take different developmental paths, it is also possible that the high levels of variation between individuals can explain the variance in functional development shown here, and that such variance is not necessarily due to L1 background. It is also impossible to draw firm conclusions based on such a small data sample.

6.5 Analysis 2: Cluster Analysis, Methodological Concerns

This second analysis aims to go some way towards responding to these concerns by sampling metaphors from across the dataset using clusters.

6.5.1 Data extraction

The clusters investigated in Chapter Three were used for this analysis. The use of metaphor clusters to facilitate functional analysis was in part inspired by Littlemore et al. (2014), but the present methodology deviates slightly from theirs. As noted in Chapter Three, only open-class metaphors were used to minimise the need for manual analysis to identify the meaningful clusters. While they wanted to 'discern visible metaphor use above and beyond… highly conventionalized metaphorical uses' (Littlemore et al., 2014: 124), the present analysis retains these conventional forms as it could be expected that learners will be able to use such metaphors in increasingly sophisticated ways as they progress through the levels. In this case, this may manifest in these metaphors fulfilling a greater variety of functions at the higher levels. Furthermore, Littlemore et al. (2014) investigated the functions performed by the metaphor clusters as a whole, whereas in the present study, the clusters are used to isolate metaphors to be analysed individually. Clusters were used to do this because they contain a relatively high metaphoric density, thus providing an adequately

inclusive methodology to extract a large enough range of metaphor while not being required to analyse the whole dataset.

Using the cluster graphs (see Section 3.4.2) also facilitated the decision as to where the cut-off point should be. Although Littlemore et al. (2014) chose 35%, taking only open-class metaphor into account lowers the cluster heights considerably. Cluster charts for the intermediate level FCE, for example, show only two clusters above 30% for the Japanese learners. In order to ensure sufficient data for analysis, clusters of 20% and above were chosen. The clusters were then imported into NVivo and coded using the framework described above.

It should be noted that the metaphors in the essays extracted for Analysis One often appeared in high-density clusters, so there was some overlap between the data used in Analyses One and Two. This was considered to be a positive aspect, as it was hoped that while Analysis Two could provide a broader picture of function development, the inclusion of some of the data from Analysis One would go some way towards ensuring that Analysis Two built upon the insights gained in the first analysis and was still linked to it. This was significant, as the three analyses were designed to be taken together to provide as inclusive a picture as possible.

6.5.2 Cluster Analysis Methodology: some warnings

It is also important to be aware of what this analysis actually shows, and what it does not. Because the extracts under analysis were identified on the basis of the cluster 'height', it was not possible to ensure that they came from comparable parts of the dataset. A degree of caution must therefore be taken when interpreting the results. For example, the results of Analysis One have already suggested that there may be variance in function use

depending on the genre of the essays produced, which would certainly seem logical. Assuming this is the case, any variance observed in the current analysis could be due to the genres from which the clusters were extracted, which may not be the same across language backgrounds. Put simply, if the 'Letter' genre was more represented in the Japanese data while the French data had more clusters extracted from the 'Discuss' genre, this could explain the patterns observed, but this was not controlled for in this analysis.

It is also possible that the clusters' locations in individual essays could impact upon the patterns observed. For example, if a greater number of clusters were taken from the Japanese subcorpus that were from the ends of letters, the analysis would suggest that Japanese learners at that level were using more metaphor to serve a textual structuring function (given that phrases such as 'I'm looking forward to hearing from you' were considered to mark the end of a letter). However, such an analysis would perhaps miss the French learners' use of metaphor in such a way, especially if these were isolated uses occurring outside of clusters. It is therefore not possible to draw firm conclusions of this nature from this analysis. However, in conjunction with Analyses One and Three, it was hoped that this analysis would contribute to an overall picture of students' metaphorical development over the levels.

6.6   Results and Discussion of Analysis 2: Cluster Analysis

This section presents the results of the cluster analysis, with the following tables and graphs showing general statistics for how metaphors were coded at each level.

Raw annotation counts: French	PET	FCE	CAE	CPE	Row total
Interpersonal	**8**	**2**	**1**	**2**	**13**
1 : Advising	5	2	1	0	8
2 : Manipulative	3	0	0	2	5
Evaluative	**12**	**34**	**30**	**106**	**182**
1 : Emotive	1	1	1	10	13
2 : Emphasis	3	1	7	32	43
3 : Mitigation	1	2	2	7	12
4 : General Evaluative	7	30	20	57	114
Textual	**12**	**14**	**18**	**39**	**83**
1 : Textual structuring, cohesion and coherence	12	14	16	39	81
2 : Reiteration	0	0	2	0	2
Creative/imaginative	**5**	**2**	**4**	**11**	**22**
Unmarked Conventional	**13**	**15**	**45**	**129**	**202**
Level total	**50**	**67**	**98**	**287**	

Table 6.12 Raw annotation counts for functions performed by metaphors occurring in clusters in the French learners' writing

Raw annotation counts: Japanese	PET	FCE	CAE	CPE	Row total
Interpersonal	**0**	**5**	**1**	**1**	**7**
1 : Advising	0	0	1	1	2
2 : Manipulative	0	5	0	0	5
Evaluative	**2**	**25**	**24**	**91**	**142**
1 : Emotive	0	0	0	5	5
2 : Emphasis	0	6	3	16	25
3 : Mitigation	2	1	1	5	9
4 : General Evaluative	0	18	20	65	103
Textual	**0**	**14**	**22**	**42**	**78**
1 : Textual structuring, cohesion and coherence	0	14	22	36	72
2 : Reiteration	0	0	0	6	6
Creative/imaginative	**0**	**1**	**2**	**0**	**3**
Unmarked Conventional	**2**	**48**	**44**	**117**	**211**
Level total	**4**	**93**	**93**	**251**	

Table 6.13 Raw annotation counts for functions performed by metaphors occurring in clusters in the Japanese learners' writing

The following table shows the percentages of annotations for each main function.

	French				Japanese			
	% PET	% FCE	% CAE	% CPE	% PET	% FCE	% CAE	% CPE
Interpersonal	16.00	2.99	1.02	0.70	0.00	5.38	1.08	0.40
Evaluative	24.00	50.75	30.61	36.93	50.00	26.88	25.81	36.25
Textual	24.00	20.90	18.37	13.59	0.00	15.05	23.66	16.73
Creative/Imaginative	10.00	2.99	4.08	3.83	0.00	1.08	2.15	0.00
Conventional	26.00	22.39	45.92	44.95	50.00	51.61	47.31	46.61

Table 6.14 Annotation %s for functions performed by metaphors occurring in clusters

Table 6.15 below shows the distribution of annotations for each of the sub-functions, expressed as a percentage of total annotations for each main function:

	French				Japanese			
	PET	FCE	CAE	CPE	PET	FCE	CAE	CPE
Interpersonal								
1 : Advising	62.50	100.00	100.00	0.00	-	0.00	100.00	100.00
2 : Manipulative	37.50	0.00	0.00	100.00	-	100.00	0.00	0.00
Evaluative								
1 : Emotive	8.33	2.94	3.33	9.43	0.00	0.00	0.00	5.49
2 : Emphasis	25.00	2.94	23.33	30.19	0.00	24.00	12.50	17.58
3 : Mitigation	8.33	5.88	6.67	6.60	100.00	4.00	4.17	5.49
4 : General Evaluative	58.33	88.24	66.67	53.77	0.00	72.00	83.33	71.43
Textual								
1 : Textual structuring, cohesion and coherence	100.00	100.00	88.89	100.00	100.00	100.00	100.00	85.71
2 : Reiteration	0.00	0.00	11.11	0.00	0.00	0.00	0.00	14.29

Table 6.15 Distribution of annotations for each of the sub-functions

The charts below give a graphical representation of the above figures, with the data from the two groups of learners presented side by side to facilitate comparison.
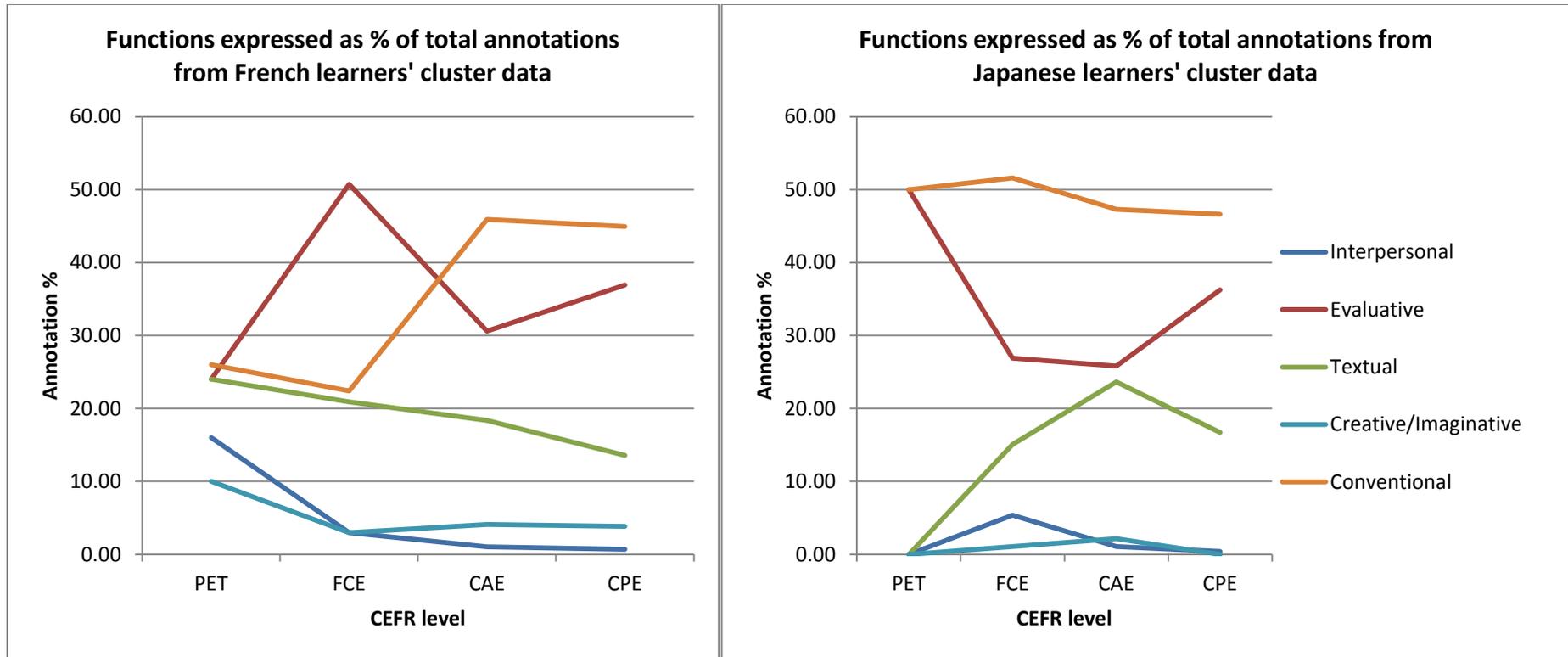
Figure 6.3 Annotations of functions expressed as percentage of total annotations
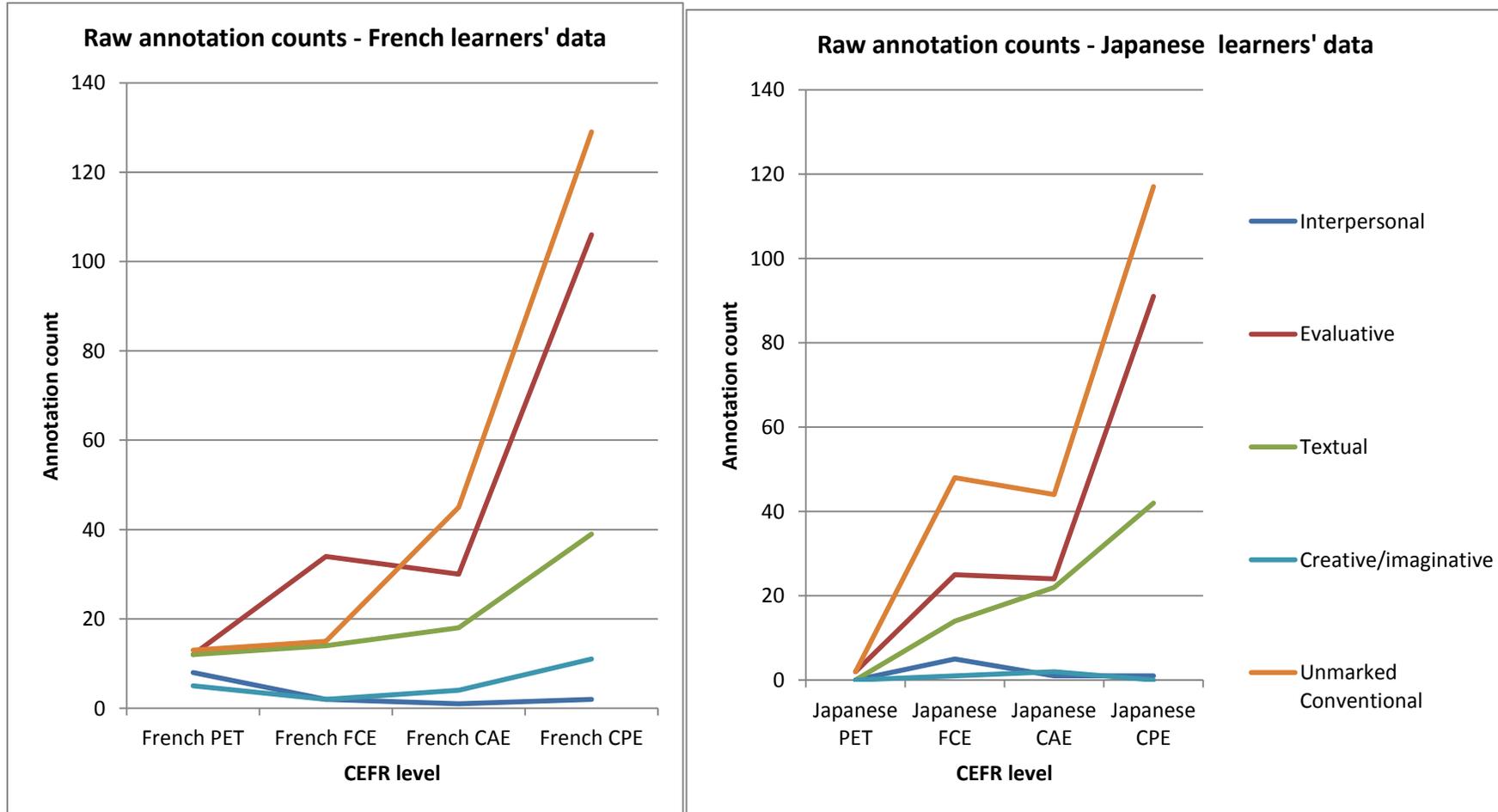
Figure 6.4 Raw annotation counts for functions of metaphors found in clusters

The following sections provide a general overview of these findings, before comparing them to those gained in Analysis 1.

6.6.1   The Interpersonal Function

Metaphors serving an interpersonal function are seldom used in either the French or the Japanese data, a feature also noted in Analysis One. According to this analysis, the French learners use it more than the Japanese learners, with 13 annotations in the French learners' writing and seven in the Japanese learners' writing. These findings are also reflected in the percentages of total annotations. Furthermore, in both groups of learners, use of interpersonal metaphor expressed as a percentage of total annotations decreases following its first appearance (at PET for the French learners and FCE for the Japanese).

Variation can also be observed in the patterns of use for the subtypes. The French learners use metaphor to explicitly advise earlier than the Japanese, at PET, while the Japanese do not use advising metaphor until level CAE. Taking all levels together, both the Japanese and the French use the same amount of manipulative metaphor (five in total), but these are concentrated at level FCE in the Japanese data, whereas for the French learners they are split between levels PET and CPE.

It is important to reiterate at this point that due to the lack of control for the genres of the essays in which the clusters were found, these results should not be taken as reason to generalise that Japanese learners are somehow reticent to use interpersonal metaphor, or that they develop in its use later than their French counterparts. Such claims may be validated in the forthcoming look at the results as a whole; however, at this juncture it is merely interesting to note that there is a difference between the amount and type of

interpersonal metaphor found in clusters according to the learner's native language. Likewise, the small numbers seen render generalisations impossible.

Following Littlemore et al. (2014), these results can be interpreted in the light of the task demands at each level of the CEFR, as expressed through the 'can-do' statements introduced in Chapter Two. At Level PET, students 'can write simple connected text on topics which are familiar or of personal interest,' and 'can write personal letters describing experiences and impressions.' It does not seem surprising, therefore, that the French learners use metaphors to explicitly give advice at this level, as the fact that students are being asked to write letters, often with an advising component, would seem to demand it. The fact that no such metaphors were observed in the clusters from the Japanese data is surprising, but can perhaps be explained by taking into account the problems with this methodology as described above. At level FCE, however, when the Japanese students begin to make use of interpersonal metaphor, students are expected to write 'an essay or report… giving reasons in support of or against a particular point of view'. This would certainly seem to be a good basis for the manipulative metaphors observed in the Japanese data, and indeed, one Japanese learner uses manipulative metaphor to encourage their readers to join them in '[keep]ing our attention paid in order save our precious earth (sic)'.

The fact that interpersonal metaphor is rare in both language backgrounds at the higher levels, CAE and CPE, can also be explained in the light of the 'can-do' statements. At level CAE, students are expected to write about 'complex subjects', 'underlining what [they] consider to be the salient issues,' '[selecting] a style appropriate to the reader in mind.' At CPE, students can write 'complex letters, reports or articles which present a case with an effective logical structure which helps the recipient to notice and remember significant

points'. It is somewhat harder to see a role for explicitly interpersonal metaphor here, and indeed, the interpersonal metaphors seen at this level seem to bear this out. For example, at level CPE, one French learner uses a manipulative metaphor, 'are we really going to <u>sacrifise</u> (sic) our park?' which is a rhetorical question serving an emphatic, persuasive function, thus helping the reader to 'notice and remember significant points' as the 'can-do' statement requires. The second metaphor at this level in the French data, again coded as 'manipulative', expresses the idea that 'the essence of a human being... shouldn't be <u>reduced</u> to a first impression.' This was found in a sentence where the writer is addressing the reader directly, beginning 'we may conclude', and was considered to be manipulative due to the negative connotations of 'reducing' the rather grandiose 'essence of a human being' to a first impression. This is clearly a far more sophisticated use of interpersonal metaphor than the manipulative metaphors observed at French PET: 'Have you <u>lost</u> your <u>mind</u>? How can you <u>hesitate?</u>'

6.6.2 The Evaluative Function

In this analysis, looking at the raw frequencies for annotations, metaphors serving an evaluative function follow a similar overall pattern in both the French and the Japanese datasets. In both, a marked increase can be observed between levels PET and FCE, followed by a decrease between levels FCE and CAE, more marked in the French data, before a sharp increase to level CPE. As was observed for interpersonal metaphors, the French learners used more evaluative metaphor in clusters than the Japanese, with 182 annotations to the Japanese 142, and higher totals across the emotive, emphatic and mitigation subcategories also. This observation can also be made from the data analysed in Analysis One.

Returning to the 'can-do' statements, the increase in both language datasets between PET and FCE is unsurprising considering that students are expected to argue for or against a point of view, of 'highlight the personal significance of events and experiences'. They are being asked to produce evaluative writing, so it is not surprising that they should employ metaphor to do so, especially given that metaphors are frequently used to provide more description of the topics under discussion. The second large increase, between levels CAE and CPE, can likewise be explained; '[presenting] a case' and '[helping] the recipient to notice and remember significant points' are prime areas for evaluative metaphor.

What is perhaps particularly interesting is the notable difference between the two language backgrounds in the use of evaluative metaphor expressed as a percentage of total annotations. In this case, the French learners' proportional use of evaluative metaphor increases dramatically between levels PET and FCE, while the Japanese learners produce an equally-dramatic decrease. Given the similar patterns in both the French and Japanese learners' writing observed in the raw frequencies, however, this decrease is perhaps explained by the sharp increase in the use of unmarked conventional metaphor between these levels for the Japanese learners.

In terms of the subtypes of evaluative metaphor used, the differences are not particularly notable. For 'emotive' metaphor, for example, both French and Japanese learners remain at very low levels of usage throughout levels PET to CAE (one instance per level in the French data, none for the Japanese) before a marked rise at CPE (ten for French learners representing 9.43% of evaluative annotations, five for Japanese representing 5.49%). Again, this trend can be explained in the light of the 'can-do' statements; emotive language

provides an effective method of eliciting the reader's attention and making the points memorable.

In the data analysed, French students seemed to be more ready to make use of emphatic metaphor than the Japanese students, with 43 occurrences in total compared to the Japanese students' 25. This difference was especially marked at the CPE level; 32 to the Japanese 16. The percentages of total evaluative annotations are also higher for the French learners, except at FCE level. For mitigation, however, these differences are not so pronounced, with 12 occurrences in the French data, 9 in the Japanese, and very small differences across the languages at each level. Japanese learners do use mitigation metaphor earlier, however, with both their examples of evaluation at PET serving a mitigating function.

The patterns for 'general evaluative' metaphors are interesting. General evaluative metaphors are first observed in the clusters analysed from the Japanese data at level FCE, one level later than the French learners. However, at level CPE, they are using more general evaluative metaphor than their French counterparts. These data seem to suggest, therefore, that while the Japanese learners may not always use as much emotive or emphatic metaphor, they are happy to use it to serve a mitigating function, and their raw counts of metaphor use for general evaluative purposes are higher than for the French. Although generalisations regarding this aspect cannot be made on the data analysed in this analysis, it provides a useful point of enquiry for the more focused investigations forthcoming in Analysis 3.

6.6.3   The Textual Function

The overall patterns for textual metaphor show only a small difference between the French and the Japanese learners, with a total of 83 metaphors being annotated as serving a textual function in the French data analysed, and 78 in the Japanese. However, it is interesting to note the point at which these metaphors make an appearance in each language. 12 textual metaphors can be observed at PET level in the French data, whereas according to this analysis, the Japanese do not begin to use them until level FCE (although Analysis One did show low levels of textual organisation metaphor being used by the Japanese learners at PET level, also). When they do, however, they seem to do so at the same frequency as the French learners, before overtaking them at level CAE and remaining more likely to use them through level CPE both in terms of raw frequencies and percentages. Again, this represents a slight divergence from the results of Analysis One, where Japanese learners did indeed use more textual metaphor at level CAE, but French learners' usage remained higher at level CPE. This discrepancy highlights the need to exercise caution in interpreting these results, as discussed in Section 6.5.2 above.

The majority of textual metaphors used by both French and Japanese learners fall into the 'Textual structuring, cohesion and coherence' category. There are, however, some differences in the French and Japanese learners' use of metaphor in the reiteration category. The Japanese learners in the data analysed in this study were more likely to use reiterative metaphor, but they did so later; six occurrences at level CPE representing 14.29% of total textual annotations, as opposed to two occurrences at level CAE in the French data representing 11.11% of textual annotations. This pattern mirrors the trend observed in Analysis One.

6.6.4 Creative/Imaginative Metaphor

It is in the area of creative/imaginative metaphor where the most marked differences are to be observed.   The French students use a total of 22 creative or imaginative metaphors to the Japanese students' three. The French students are observed using them throughout the levels, also, culminating in 11 occurrences at level CPE, where the Japanese students use them only at levels FCE and CAE. This could suggest that the French students see such metaphors as an indicator of linguistic proficiency and therefore are eager to use them in greater quantities as they progress through the levels. The Japanese students, however, may have less confidence to do so on the whole, and while it is not possible to know a writer's intentions for sure, it could also be that the Japanese 'creative/imaginative' metaphors were not necessarily intended to be. This is due to the nature of these metaphors produced by the Japanese learners as opposed to those produced by the French learners:

> We should look at and judge them only on their <u>stage</u>. (Japanese FCE)

> In my view, learning other language means to <u>touch</u> the culture (Japanese CAE)

> For example, a good documentary programme about the Iraq war gives lots of people, who can't go to the <u>battle</u> field, the information… (Japanese CAE)

The first is arguably a very weak example of a creative metaphor, as it is not completely clear what the learner was trying to express through its use. The second, while creative and novel to an English speaker, is in fact an example of transfer from the learners' native language; 文化に触れる literally translates to 'to touch culture', and is a common expression in Japanese to refer to new or different experiences gained from visiting a

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different culture to one's own[1]. The final example was deemed to be an example of creative

metaphor not because '<u>battle'</u> and 'field' do not normally collocate, but because the student

has used it in an imaginative way to make a point.

These examples are qualitatively different to those produced by the French learners:

I know that after reading my letter, you want me to <u>have</u> the <u>swamp</u> <u>fever!</u> (French

PET)

defining proper meal- times will contribute to <u>break</u> the <u>pace</u> (French FCE)

There he was, making the music alive in my ears, raising deep feelings and emotions

that <u>rose</u> above the <u>outskirts</u> of reality. (French CPE)

Even at the lower levels, the French students seem able to use metaphor to express their

points creatively, but clearly, with no difficulties in understanding. This could be due to the

similarities in structure and lexis between the English and French languages, whereas

Japanese learners are likely to find such language 'play' very daunting given the

considerable linguistic differences. However, it is to be noted that even one French student

relies on L1 transfer in a similar way to the Japanese learner's use of '<u>touch</u> the culture',

when they write 'We are thus taken between the <u>anvil</u> and the <u>hammer</u>'; as noted in

Analysis One, this is a direct translation of a common French expression.

6.6.5 Unmarked Conventional

In both the French and Japanese datasets, there is an overall increase in occurrences of

metaphor annotated as 'unmarked conventional', that is, where no clear role was

considered to be played by its use. The one exception to this is found in the Japanese data,

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[1] I am grateful to Madoka Shimotsunuki for her insight into this phrase.

where 44 annotations at this category were made at CAE level, as opposed to 48 at FCE (a feature not observed in Analysis One). While such a small discrepancy should not be taken as indicative of anything significant, it is interesting to note that overall open-class metaphoric density in the Japanese data decreased slightly between levels FCE and CAE also (see Chapter 3). Given that conventional metaphor was the most densely-coded category in this analysis in both language backgrounds, it perhaps indicates something of the value of the present methodology that similar patterns can be observed in the open-class metaphoric density data, too. Similarities can likewise be seen when comparing annotation patterns and open-class metaphoric densities in the French data. In the French dataset, the greatest differences in annotation for unmarked conventional metaphor are between FCE and CAE, and CAE and CPE, with a negligible difference between PET and FCE levels. While metaphoric density did not undergo such a great change between levels FCE and CAE, the small increase in density between levels PET and FCE is mirrored in the 'unmarked conventional' annotation.
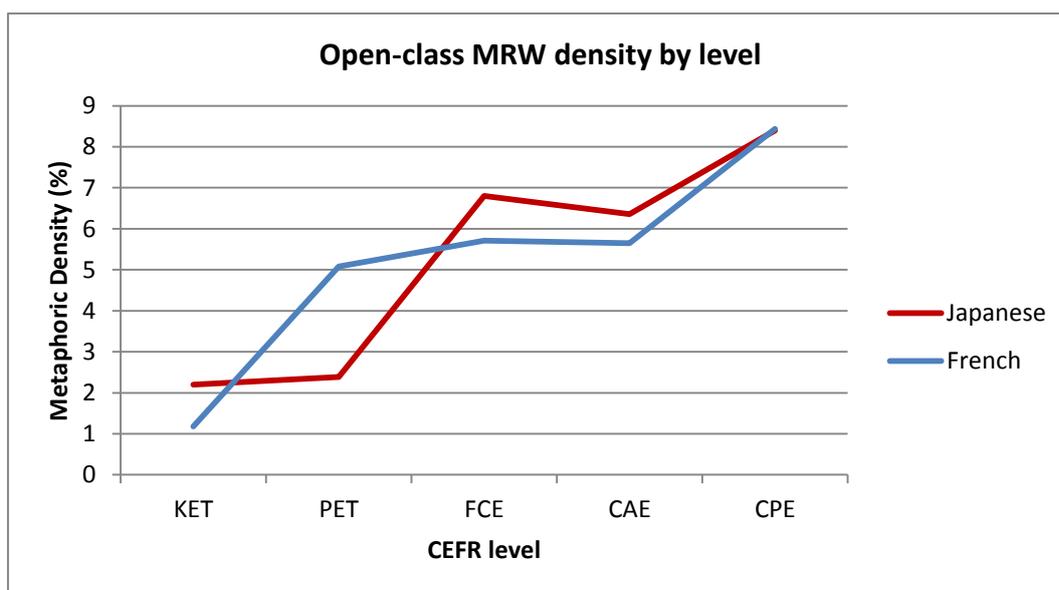
Figure 6.5 Replication of OC MRW density graph
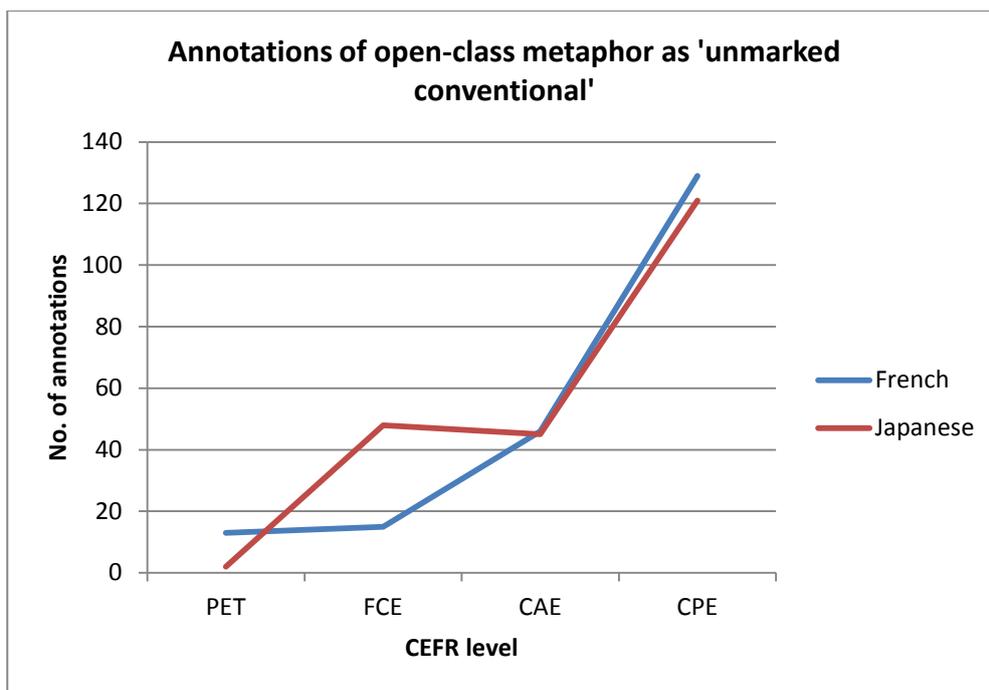
Figure 6.6 'Unmarked conventional' MRWs

In both datasets, also, the totals for unmarked metaphors were higher than the totals for any other category.

One factor that is worthy of note is that towards the higher levels, especially CPE, there is a marked increase in the metaphor marked 'conventional'; that is, where no clear role was being seen for its use. Far from being concerning, it could be argued that this indicates such confidence in metaphor that its use is found in normal language use. It is also an indicator of vocabulary development, as students are naturally using metaphorical words in their writing even when a specific purpose does not require it.

6.7   Combined Conclusions of Analyses 1 and 2

Before moving on to the final analysis of this chapter, it is worth comparing the patterns observed in the two preceding analyses in order to gain an overall picture of functional

development. To this end, the annotation percentage graphs from the two analyses are

presented over the page:
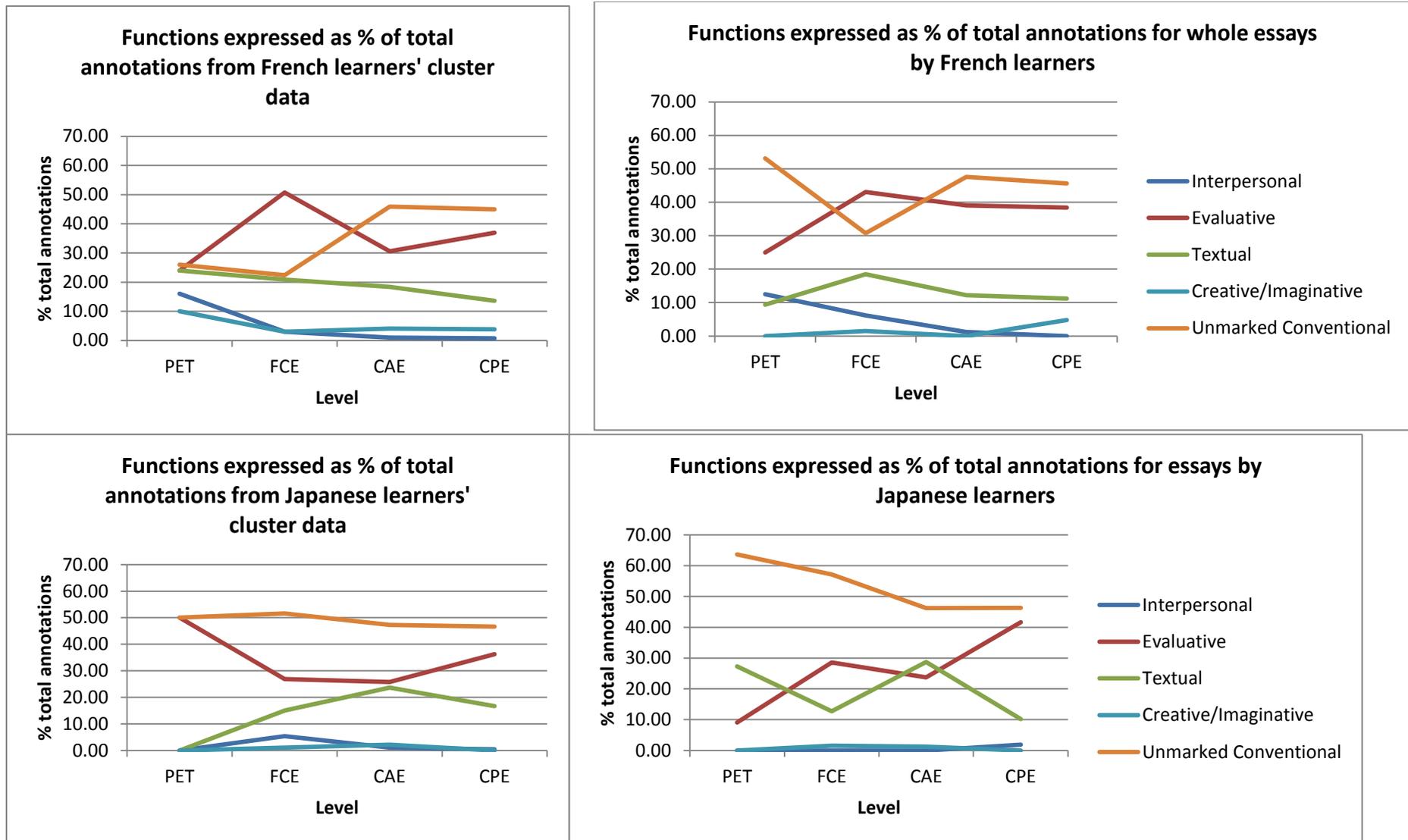
Figure 6.7 Comparing the % annotations from function analyses 1 and 2

While there are some small differences to be observed between the results of the two analyses, they are in accord on several key points. First, the most important function of metaphor (after the 'unmarked conventional' examples) is the evaluative function, but the French learners seem more confident with its use after PET. Examples of evaluative metaphor even surpass those of 'unmarked conventional' at FCE for the French learners in both analyses, which is not observed in the Japanese data. The Japanese learners, on the other hand, are more likely to use metaphor to organise their texts when the percentages of total annotations are taken into account. In both analyses, the Japanese learners' use of textual metaphors peaks at CAE level, even surpassing that of evaluative metaphors in the results of the whole essay analysis. A further difference is seen in the two groups' use of interpersonal and creative/imaginative metaphor, with French learners using them more frequently than the Japanese learners. On the whole, the two analyses have suggested that there may be significant differences in the ways in which learners progress in their use of metaphor according to their language background, but again, by CPE, there is little to distinguish the two groups of learners (with the exception of the creative/imaginative metaphors).

We turn now to the third analysis, which is designed to provide a general overview of the functions metaphor fulfils and to identify interesting examples of metaphor use which the previous analyses did not include.

6.8   Analysis 3: General Trends

This third analysis seeks to provide a general overview of the functions performed by metaphor across the levels. The complete dataset was taken into account for this analysis; each essay was read, with features deemed to be particularly significant identified.

6.8.1 General Trend Methodology: some warnings

It must be noted that this methodology is highly subjective. The use of NVivo as a research tool enabled the creation of specific categories which could lend a quantitative dimension to the process and which provided a replicable framework for future analyses. The use of these more defined categories also rendered the analysis more objective; it was easier to discuss the coding with colleagues, and it was necessary to consider each metaphor within the essay or cluster, rather than just those which were considered 'interesting'. This analysis uses neither NVivo, nor the defined framework from the first two analyses.

However, despite these problems, this analysis was considered to play an important role in reaching an overall picture of the functions performed by metaphor, due to its ability to respond to the problems with the first two analyses. It also provides more of a scope for qualitative analysis through the extraction and discussion of particular examples. It is hoped that the subjectivity of this analysis will be balanced by the more rigorous methodologies of the preceding analyses, while the more general view afforded by the current analysis will indicate the extent to which the findings from analyses one and two are generalizable across the dataset.

6.9 Results and Discussion of General Trend Analysis

6.9.1 PET

Metaphor use at this level is largely limited to delexical verbs and formulaic language, as was seen in Chapter Three. However, there are some notable exceptions, such as the potential use of metaphor as a compensation strategy, which was not part of the analytical framework employed in Analyses One and Two. One Japanese PET essay ends 'I want you to know many Japanese <u>things,</u> because you tought (sic) me many English <u>things</u>', 'things' here

perhaps being used as an acceptable substitute for more detailed language.   In the 'description' genre, metaphor is occasionally seen providing more detail, mirrored in the figures for 'evaluative' metaphor in the preceding analyses:

> Each cycle route shown in a different colour, so we didn't <u>lose</u> our <u>ways.</u> The weather was very good. It didn't rain but a <u>little</u> <u>bit</u> cold. (Japanese PET)

> I'm going to visit some famous places where <u>have</u> <u>relationship</u> with a film (Japanese PET)

However, this is as far as metaphor is used for this purpose by the Japanese learners at this level.

In contrast, the French learners are shown to be more adventurous with their metaphor use in their descriptions (as shown in Analysis Two), despite the phraseology of the metaphors used sometimes being inaccurate:

> I visited the Statue of Liberty, too: it was out of the <u>world</u>... If you want a place which <u>gives</u> you a lot of <u>creeps,</u> go to New York!' (French PET description)

> They seem like <u>couch</u> <u>potatoes</u>. (French PET description)

> A friend told me it's so <u>close</u> to <u>heaven</u> that you never want to leave. (French PET description)

The writer of the last example goes on to demonstrate a high level of creativity as s/he writes, 'I know that after reading my letter, you want me to <u>have</u> the <u>swamp</u> <u>fever!</u>' S/he is aware that the recipient will probably not literally wish illness, but has coined a novel metaphor that is appropriate to the situation being described to express the high levels of jealousy s/he imagines the recipient to have. The hyperbolic nature of the phrase also adds an element of humour, serving an interpersonal function and expressing sensitivity to register. However, the fact that it is the same writer in both examples seems to provide

more evidence for high levels of individual variation, as such examples were not found elsewhere in this genre at this level.

This willingness to experiment is also found in the 'Recommendation' genre:

> Have you <u>lost</u> your mind. How can you <u>hesitate?</u> Small schools <u>rythme</u> (sic) with "boring" "little shops" "<u>little</u> teachers" I'm joking! (French PET)

> Wich (sic) make you <u>dream</u> because of their beauty (French PET)

The first example, again, has a humorous function, marked by the author's assertion of 'I'm joking!'.

Even in the 'making arrangements' genre, usually with the lowest metaphoric densities at these levels, one learner uses the metaphor 'the <u>heart</u> of the town' to explain where s/he must go for a meeting. 'In the heart of' appears most frequently in 'other published written material' in the BNC; that is, 'newspapers, magazines, and brochures and leaflets of various kinds' (http://www.natcorp.ox.ac.uk/archive/papers/gblibs.html), and is therefore not particularly suited to informal notes of this type. However, its inclusion at this level seems to demonstrate a growing willingness to experiment with figurative language, despite the fact that the phrases used are not quite appropriate for the genre. Given that this 'stylistic' metaphor was observed in the French students' writing at this level in Analyses One and Two, this example serves to support these analyses.

The French learners also use metaphor to perform textual and interpersonal metafunctions. For example, it is at this level that the French learners use 'On the one <u>hand</u>… on the other <u>hand</u>' to organise their discourse, and 'in <u>order</u> to' to express links between clauses. These phrases are not noticeable in the Japanese data at this level, although Analysis One revealed

other devices used by Japanese learners considered to fulfil a textual organisation function (including the use of the vague 'I must tell you something' to introduce what will come next, and the use of highly conventional phrases to finish letters ('I'm looking forward to seeing you').

In the French data, metaphor is also seen to be used to fulfil an interpersonal function. As shown above, one learner asks, 'Have you lost your mind', which serves both an interpersonal and a manipulative function. Such a question could be potentially insulting unless the relationship between the writer and reader was fairly strong. The rhetorical question 'How can you hesitate?' also engages the reader, and s/he goes on to use the imperative 'Look, I was in Hertfordshire it was ok but nothing very special' to engage the reader and seek to convince him/her of his/her opinion. Another learner uses metaphor in a letter to a friend who is wondering whether to spend their holiday with their parents or their friends to both empathise with the recipient's situation and express the importance of the decision s/he is trying to make:

> …you should take some distance to clearly see your situation… So make a little sacrifice to please them… The decision is in your hand. (French PET: recommendation)

The first sentence seems to express an understanding of the complexity of the situation. The recommendation to 'make a little sacrifice' is also interesting, as the use of a word with such negative connotations shows empathy with the fact that the writer's recommendation – that the recipient should go on holiday with their parents instead of their friends – might be the less pleasurable option for the reader. Finally, the comment that the decision is 'in your hand' expresses a sense of responsibility, adding to the impression that the writer is understanding of the gravity of the reader's situation.

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At this level, it is interesting to note the occurrence of direct and signalled metaphor, areas excluded from the first two analyses. In terms of annotation in the original dataset, these metaphors were only marked as such if the comparison being made was with a concept that was in itself metaphorical; for example, 'like couch <u>potatoes</u>' in the French FCE data. It is at this level when French learners begin using direct metaphor and simile, which can be taken as evidence of developing metaphorical thought and the confidence to express these metaphorical mappings in English. For example:

> Don't think that going on holiday with your parents is like being in jail… They seem like couch <u>potatoes</u>

The Japanese learners, however, do not use such a device until level CAE, and even then, considerably less.

At this level, therefore, the French learners seem to be significantly more confident in experimenting with metaphor, even though their attempts are not always strictly accurate or appropriate to the genre. The Japanese learners, however, use metaphor almost exclusively in simple formulaic phrases and delexical verbs.

6.9.2   FCE

The preceding analyses suggested that at this level, the Japanese learners seem to 'catch up' with the French learners in terms of using metaphor to organise their writing, and this is readily apparent when reading their complete essays. They use phrases such as '<u>Further</u> more' (sic), 'From my <u>point</u> of <u>view</u>', 'In <u>addition</u>', 'On <u>top</u> of that' and 'On the one <u>hand</u>… on the other <u>hand</u>', which were beginning to be used by the French learners at the PET level, although without quite such a degree of variety. One Japanese learner at FCE level also uses

the metaphorical item 'elements' to refer back to topics s/he has discussed previously, while another uses 'in this <u>way</u>' to summarise what s/he has already expressed.

In the Japanese data, there are also the beginnings of noticeable personification metaphors being used, as was seen in Chapter 3:

> …our modern life <u>gives</u> <u>big</u> damage to the earth… we should <u>keep</u> our attention <u>paid</u> in <u>order</u> <u>save</u> our precious earth. (Japanese FCE article)

> …the earth is now <u>facing</u> some serious problems (Japanese FCE article)

Here, the earth is being considered as a living thing which can be a recipient, and can be 'saved'. The effect of this is one of manipulation, combined with the inclusive pronoun 'our' to build up a relationship between the writer and the reader.

It is in the 'discussion' genre that the most interesting appearances of metaphor are seen. One Japanese learner uses a highly sophisticated semantic set to build up an image of famous people being animals, 'hunted' by journalists. This usage also maintains cohesion within the text:

> "Princess Diana"… died in Paris few years ago while she was <u>escaping</u> from lots of journalists… If she was not <u>followed</u> by journalists, she wouldn't die. So, this fact shows obviously that famous people without private life could be the <u>victim</u>… I think that is the reason why journalists are still <u>chasing</u> famous people.

While 'followed' is somewhat neutral, and is also a direct repetition from the question prompt, 'escaping,' 'chasing' and 'victim' present a highly evocative image of the celebrity having no control over the journalists following them, similar to an animal being hunted. This learner later goes on to state that 'famous people are not <u>"ailen"</u>' (sic), encouraging the reader to identify with them and recognise their similarities with them. This metaphor is

later unpacked and made more explicit when the learner writes 'they can be just ordinaly (sic) people like us.'

However, this level of engagement is rare at this level for Japanese learners, although there is evidence of metaphor being used to serve evaluative functions. For example, one learner writes 'it is also <u>said</u> that their private lives must not be <u>intruded</u>'. Corpus data reveal that 'intrusion' has negative connotations, and is something to be apologised for, so the writer's use of this verb demonstrates his/her opinion. S/he concedes that while celebrities ought to '<u>abondone</u> their lives <u>partly</u> when they <u>entre</u> [sic] the <u>world</u> of fame,' they should also '<u>take</u> some actions against journalists in <u>order</u> to <u>protect</u> their human rights.' Again, the use of the verb 'to abandon' suggests negative connotations – perhaps that celebrities should not have to, but are forced to do so, at least 'partly,' because of their fame. Nonetheless, the fact that they should also '<u>protect</u>' their human rights, which are portrayed as being infringed by the journalists, makes it clear that the author is not completely of the opinion that celebrities should give up their privacy; human rights here are seen as something worthy of protection, and the personification inherent in the verb 'to protect' emphasises this idea. There seems to be a further juxtaposition between the idea of human rights and '[<u>entering</u>] the <u>world</u> of fame'; although being a celebrity is seen as a significant change of state, even to the point of entering a different world and having to 'abandon' one's life to do so, 'human rights' still apply and must still be 'protected', fragile as the use of such a verb seems to portray them.

There seems to be some sensitivity to register appearing at this level, especially in the 'making arrangements' genre. In inviting a friend to stay with her, one learner writes 'we'll be able to <u>put</u> you up till Saturday 30th', an informal phrase which is appropriate to this

context. She also uses the phrase 'On <u>top</u> of that,' which is more appropriate to the genre than the slightly overly-formal 'In <u>addition</u>' one of her counterparts uses in responding to the same question.

The situation is very similar for the French learners. However, interestingly, the French learners do not seem to exploit the power of metaphor as an evaluative or cohesive device in the same way as the Japanese learners, despite its frequent use. One exception to this comes in a discussion piece about the ethics of zoos, where the writer uses metaphor to paint a rather dystopian picture:

> <u>Thanks</u> to zoos, children… discover natural beauty, <u>far</u> from the <u>grey</u> walls of our towns…
>
> …people prefer to travel to India to see a free tiger than seeing a weak animal in a <u>jail</u> of a zoo. (French FCE discussion)

Both these examples are also interesting in the way the metaphors are presented. The first example, '<u>far</u> from the <u>grey</u> walls of our towns,' could feasibly be literal, but given that the use of the pronoun 'our' conveys a sense of solidarity and not all towns have grey walls, it seems more likely to be intended to be taken metaphorically. 'Grey' in this context is possibly not a metaphor in the strictest sense of the word; it does not have another meaning that can be understood in comparison to its basic sense of the colour grey. Despite this, it succeeds in evoking an image perhaps based more in the cultural imagination than in semantics.

The second example, 'a <u>jail</u> of a zoo,' is an example of a construction which seems frequently used in English to signal metaphor.

> the West-South-West Ridge of the Pic Nord des Cavales: a <u>mouthful of a name</u> to be sure (BNC ECG 555)

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Hampton Court was <u>a diamond of a residence</u> (BNC HH5 1315)

He'd become <u>a wreck of a man</u> (BNC GW0 1956)

even after trying to zap away <u>a monster of a hang-over</u> with a can of Lucozade Sport (BNC J1G 1704)

they don't stand <u>a ghost of a chance</u> (BNC ACP 611)

In these cases, the metaphor in the first position is used to modify the second noun.

French learners at this level also use a greater variety of metaphorical cohesive devices in their texts. As well as the phrases that the Japanese learners have acquired at this level, such as 'on the one <u>hand</u>… on the other <u>hand</u>,' 'in <u>addition</u>,' the French FCE data also include 'To <u>put</u> it in a <u>nutshell</u>,' '<u>follow</u> the easy instructions <u>following</u>,' 'Here <u>comes</u> the paradox' and 'to <u>sum</u> up.'

6.9.3   CAE

For Japanese learners at this level, the metaphors in the 'article' genre are mostly confined to conventional metaphor relating to the topic they are writing about, similarly to the lower levels. However, use of metaphor to express abstract concepts is in evidence for some Japanese learners at this level. For example, one writer mentions 'the liberalisation of our <u>spirits</u>' (Japanese CAE article). The use of metaphor for evaluative purposes is also still very much apparent (as also seen in Analyses One and Two), with metaphorical expressions being used to create striking, memorable images:

Daily life materials are <u>flooded</u> by western culture influences (Japanese CAE article)

Japan <u>went</u> to <u>ruin</u> in 1945 (Japanese CAE article)

It also cause quite <u>revolutionary</u> change to the learners (Japanese CAE discuss)

> TV can be a dangerous <u>weapons</u> (sic) which harms people's lives. It can <u>destroy</u> the
> lives of people who commit crimes… (Japanese CAE discuss)

This is also in evidence in the French data. In the below example, personification is used to portray Lyon as a living thing suffering from a disease, and in need of help:

> Lyon <u>suffers</u> from traffic <u>congestion</u> (French CAE article)

Later, the same author writes that 'the major cities have <u>reached</u> their <u>threshold</u> in respect of traffic <u>congestion</u>,' again personifying the cities. Perhaps for some readers, the use of this phrase will evoke an image of a 'pain threshold,' especially given the previous reference to Lyon 'suffering from' congestion earlier in the piece. The overall effect is a striking, memorable image which helps the reader to empathise with the situation. Later in the article, the writer notes that the 'future developments of transport will <u>find</u> its <u>way</u> in human beeings' mind' (sic), again an example of personification. This personification is used by another student in an article about changing eating habits in France. After expressing his desire to return to more traditional eating habits, he concludes by saying 'Together we can <u>revive</u> some eating habits in France', a personification which portrays the lost traditions as being 'ill' and in danger of dying out. This is a rather emotive strategy, encouraging the reader to almost 'sympathise' with the traditions and work for their 'recovery'.   Similarly, another learner talks about how fashion has '<u>evolved</u> in the last decades', evoking an effective image of fashion being an organic entity.

Textually, there is more evidence of lexical sets providing cohesion. Referring back to the Japanese example quoted above,

> TV can be a dangerous <u>weapons</u> (sic) which harms people's lives. It can <u>destroy</u> the lives of people who commit crimes… (Japanese CAE discuss)

the use of the verb 'to destroy' in such close proximity to 'weapons' seems to build upon the image of television being a dangerous tool. Interestingly, later in the article the writer refers to television providing information about the Iraq war for people who can't 'go to the <u>battle</u> field,' which solidifies this impression.

 Japanese learners are using metaphor for textual organisation purposes at this level, with phrases such as 'In <u>order</u> to,' 'in <u>addition</u>' and '<u>Further</u>'. One Japanese student also employs metaphorical repetition to provide cohesion, in the phrase 'Walking is pollution <u>free</u> and cost <u>free</u>.'

There are also examples of imaginative, creative use of metaphor in the French data:

> After time for lunch with a lot of Champagne (for a more <u>sparkling</u> <u>atmosphere!</u>). (French CAE letter)

> I'm not <u>blind</u> anymore… I don't want to become a <u>robot</u>, a <u>sheep</u> with the remote control <u>stuck</u> in the hand (French CAE discuss)

The first example is especially interesting, as it shows evidence of an ad hoc metaphorical mapping being made between the drink and the general atmosphere, for humorous effect. Given that this is in the context of a personal letter to a friend, this seems to show a particular sensitivity to genre. Later in the article, the writer also writes about people in her region being '<u>addicted</u> to rests', again providing humour. In concluding the letter, she also uses alliteration, when she exhorts the reader to 'Be smart, <u>smooth</u> and relaxed as you ever

have been'. The repeated 'sm-' sound has a memorable effect, ending the letter in a memorable way.

Another French student also uses a metaphorical phrase to creatively fulfil an interpersonal function. She is writing a report on a British work experience placement, and is explaining that some of the students found the work too exhausting:

> One of them said that she was one of the lucky ones, which <u>clearly</u> <u>indicates</u> the <u>tone</u> of the trip! (French CAE letter)

Here, the writer is getting the reader to infer the information instead of presenting it directly, encouraging them to make a connection between one of the students being 'lucky' and the corollary that most did not have such a positive experience. The phrase itself is also somewhat light-hearted, which may seem inappropriate for this genre of writing, but could also have the effect of encouraging the reader to empathise with the situation and be more amenable to making the changes she recommends.

There are also elements of creativity and humour at this level in the Japanese data. For example, take the phrase 'You obviously hear people's conversations wherever you go in the town, you need to communicate with native speakers as long as you don't <u>lock</u> yourself up inside your house.' This seems to be a case of metaphoric hyperbole, with the act of locking expressing the sense of seclusion and isolation. This has an emphatic, memorable effect.

It is at this level that the Japanese students begin to use direct metaphor, either through conventional, idiomatic phrases such as 'as busy as a bee', or by showing an awareness that what is being expressed is not literal: 'It's like my personality dramatically changes because

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of the language'. There is some evidence of this for the French learners also: 'TV has a very nasty effect on people… it <u>mades</u> them becoming like <u>"vegetables"</u>'.

In terms of the 'can-do' statements for this level, students are being expected to make projections about the future in their writing, and the Japanese learners do this through metaphorical phrases such as 'leads to', 'in the long run' and 'in the long time' (sic). This phenomenon is seen to a lesser extent in the French data, with the example 'Together we can revive (sic) some eating habits in France. It is just a <u>question</u> of time', but the set phrases seen in the Japanese data are not in evidence for the French learners until level CPE. It is possible that the Japanese learners rely more on these set phrases while the French learners find other ways to express these predictions.

6.9.4 CPE

This most advanced level features the highest density of metaphor, and it is to be expected that its use will be more sophisticated than in the lower levels.

As shown in preceding analyses, one feature of this level is the frequent use of reiterative metaphor to reinforce and deepen the points being made. For example, in one Japanese article, the writer talks about making a campaign '<u>fruiful</u> (sic) and successful'. In the context, these words could be considered near-synonyms, and the student could have opted to just use the non-metaphor 'successful'. Similarly, he describes explanations given at a meeting as '<u>clear</u> and <u>concrete</u>'. In the Japanese data, 'clear' is metaphorically used for the first time at the CAE level, while for the French learners there is one example of it much earlier, at PET level. However, this is the first (and only) example of 'concrete' in the dataset, suggesting greater lexical knowledge. The information conveyed by 'concrete' is arguably not completely necessary, but its use provides more depth to the learner's description of the

explanations. Further examples of this phenomenon, where metaphor is used to provide more information or a different slant on a point already made can be found:

It will certainly require our understanding of their real plight, <u>position</u> and <u>views</u>.

<u>values</u> and important beliefs

half-commitment and ad hoc <u>remedies</u>

<u>open-</u>minded, <u>enlightened</u> and positive

confident, <u>outgoing</u> and sociable

shy, lonely and perhaps <u>feeling</u> <u>depressed</u>

<u>tough,</u> <u>endless</u> daily work

skills… which would otherwise be kept <u>untouched</u> and not <u>discovered</u>

There are also examples of this in the French data:

A certain <u>plenitude</u> and <u>maturity</u>

Besides improving my <u>background</u> and <u>sharpening</u> my computer skills

I would like to make <u>clear</u> my <u>position</u> and to <u>highlight</u> the disadvantages

…healthy, <u>fit</u>, slim, tanned…

The clothes you wear, your exterior <u>shell</u>

[children with very busy parents] could even be considered as <u>orphans</u>, or abandoned children

In these examples, metaphor is being used to reinforce descriptions and to provide more depth, but seems to be somewhat 'optional'; that is, the same meaning could have been conveyed without its use. This implies that at this level, students are far more confident in their use of metaphorical language.

Similarly to level CAE, students at this level are producing metaphorical lexical sets, often with an evaluative function, to provide cohesion. One example of this comes in a letter

written to oppose a proposal to build a new supermarket on parkland. The writer expresses the park's importance throughout the letter using metaphors related to monetary value:

> Is it more <u>valuable</u> for us than a park?
>
> We will <u>lose</u> our <u>precious</u> park
>
> We should not <u>lose</u> our <u>treasure</u>.

There is one example of direct metaphor for the Japanese learners at this level; 'We walked along the streets as if it had been a <u>dream</u> world'. For the French learners similar examples can be found:

> It was like a new fresh start
>
> The concert hall looked like a palace
>
> I had the impression of being alone with the man

The higher rate of such direct comparison may suggest that learners are more confident in making metaphorical connections between ideas and expressing these in English, even if the language used is not strictly metaphorical in itself.

6.10 Overall Conclusions and Implications

While some discrepancies have been observed in the results of the three analyses, all three are in accord on two main conclusions. First, there is a qualitative difference in the type of metaphor used by French and Japanese learners of English. While overall patterns can be observed, especially in the general analysis performed in Analysis Three, there are also striking differences in the functions metaphor is used to perform. This is hardly surprising; if language and thought are as closely interlinked as the cognitive linguistics paradigm would posit, the two groups of learners are coming from very different starting points. The pedagogical situation in the two countries is also likely to be very different. However, there

also seems to be a high level of difference between individual essays, and thus individual learners. Again, this is to be expected given the high levels of variation among individuals observed. However, despite these differences, by level CPE the two groups of learners have largely reached the same stage in terms of the ways in which they are using metaphor.

These findings contribute to the first and third research questions addressed in this thesis. Previous chapters have reported how learners use a greater amount and variety of metaphor as they progress through the levels, and it has been shown that metaphor is closely related to developing lexical and phraseological competence. This chapter has shown that learners also use metaphor to perform increasingly sophisticated functions as they make progress, thus highlighting metaphor's relationship to broader conceptions of communicative competence. Furthermore, it has been noted that the students use metaphor to fulfil the communicative exigencies of the writing prompts.

These analyses also yield important insights into the fourth research question, regarding the definition of 'metaphoric competence' and how it might be measured. Similarly to the analyses reported in preceding chapters, they have highlighted the need to exercise caution in seeking to build up a framework of metaphoric competence on the basis of this data. The differences in metaphor use according to native language should not be taken as any indication that one group of learners is objectively 'more metaphorically competent' than another, especially given that despite their different developmental routes, both groups seem to arrive at more or less the same point by level CPE. Even at the lower levels, while French learners may be more confident in experimenting with metaphor due to the structural and lexical similarities with English, the Japanese learners still show ample

evidence of being able to effectively use metaphor and form metaphorical connections between ideas, but in somewhat different ways.

In Chapter Five, the notion of deliberate metaphor was discussed. It was noted that it is not easy to attribute deliberate metaphorical use to learners on the basis of their written production, and this is equally significant here. It has already been shown that the majority of metaphors are highly conventional, yet this chapter has shown that they are still being used to fulfil the various task demands presented to the learners. It is not therefore possible to separate metaphoric competence from developing communicative competence, and what is perhaps most interesting here is the way in which learners can use highly conventional metaphoric language to fulfil a range of functions. It is perhaps more accurate to conclude that metaphoric competence is far more a matter of how learners use metaphors than it is the type or variety of metaphors that they are using; an *illocutionary* or *textual* aspect therefore, and not a *grammatical* one in Bachman's (1990) terms. This idea will be explored more fully in the next chapter.

The set of analyses presented here also reinforce the notion of individual difference. It is clear that there is a high level of variation amongst learners, not only in terms of metaphoric density and type, but also in terms of the functional ways in which they use metaphor. On the basis of this finding, when investigating what metaphoric competence might mean, it is important to take into account the caveat that learners will vary in their use of metaphor, and that such variation does not necessarily imply variation in competence. A balance must be struck between promoting developing communicative competence as facilitated by metaphor use on the one hand, and honouring individual differences on the other.

7   Conclusions, Implications and Suggestions for Future Research

The previous chapters have sought to explore the use of metaphor in two groups of learners as they progress through five CEFR levels. Not only was this undertaken to draw out general developmental patterns in each group, but also to explore the interplay of metaphor use with other aspects of language in order to come to a better understanding of what 'metaphoric competence' might mean in the context of L2 learner writing. This final chapter seeks to bring together the findings of the preceding analyses in order to propose a response to these questions.

7.1   The development of metaphor use through the CEFR levels, and metaphor's relationships to other areas of competence

Chapters Three to Six each investigated a different aspect of learners' metaphor use, designed to show how it changed as they progressed through the CEFR levels. Chapter Three reported the results of a series of analyses designed to obtain overall statistics on metaphor use. These included metaphoric density, metaphor clusters, use of open-class and closed-class metaphor, standardised type-token ratios of metaphor, and metaphor word class. Some notable differences were observed between the two language backgrounds. While the metaphoric densities of essays produced by Japanese learners increased steadily throughout the levels, the densities of the French learners' essays decreased between levels PET and FCE. Despite these differences, by level CPE the densities are very similar in the two languages. However, there is a high level of variation between individual learners at all levels. A similar observation was made regarding the use of metaphor in clusters, with the amount and 'height' of metaphor clusters varying

significantly between the language backgrounds before converging at CPE. Chapter three also showed how use of open-class metaphor overtook use of closed-class metaphor in the French subcorpus between levels KET and PET, whereas this crossover occurs one level later for the Japanese learners, between levels PET and FCE. These crossovers are both accompanied by large increases in metaphoric density, which is unsurprising given the greater scope for metaphor use afforded by greater aptitude in using open-class metaphor. In terms of the different types of metaphor, direct metaphors were hardly ever used, but when they were, the French learners used them twice as much as the Japanese. Implicit metaphors are also rare, but here, it was the Japanese learners who used them slightly more at all levels. Possible personification use was seen to increase dramatically in both the French and Japanese subcorpora between levels PET and FCE, at which point its use in both language backgrounds reached more or less the same level.

These preliminary analyses indicated two important insights which were seen throughout the subsequent analyses. The first was that there seem to be noticeable overall differences according to language background, suggesting that a learner's native language and the sociocultural and educational background in which their learning takes place are likely to impact upon their use of metaphor. However, the second crucial finding was the significant amount of variation between learners of the same native language and CEFR level. This was taken as a suggestion that metaphoric competence, however it is defined, may not be a 'one size fits all' matter.

Chapters Four and Five investigated metaphor's relationship to Bachman's (1990) 'grammatical competence' through focusing first upon the interplay between metaphor and lexical development, then between metaphor and phraseological competence. In terms of

the relationship between metaphor and lexical development, it was found that the metaphors used tended to be from lower frequency bands, but this is not surprising given that metaphorically used words are by nature polysemous, and will thus have the potential to be used across a wider range of contexts leading to their higher frequencies. However, metaphors were seen to contribute significantly to learners' lexical sophistication. Variation can also be observed between the two groups of learners in this respect, as French learners use more metaphor from the lower frequency bands and do so earlier. However, there is also a high degree of variation among individuals; more than perhaps would have been expected given the lower levels of variation in overall LFP scores. There is certainly a case for arguing that metaphor will develop alongside the expansion of the learner's vocabulary; despite the small corpus size, it was possible to track the developing use of the figurative senses of words, reflecting the learners' growing vocabulary depth as they progressed.

Chapter Five's exploration of metaphor's inclusion in conventional language patternings, namely conventional collocations and formulaic sequences, showed that the majority of open-class MRWs produced by the learners were conventional across all levels of the CEFR. Regarding those MRWs found outside these patternings, only a small proportion were considered to be examples of creative use of metaphor, the majority being either errors or metaphors that did not collocate significantly with the words in their environment, but were not considered to be errors. A subsequent analysis of errors in a subsection of the corpus revealed that error rates involving metaphor remained higher that overall error rates, a similar pattern to that observed by Littlemore et al. (2014). However, this analysis painted a rather complex picture. First, it was very difficult to see metaphor's role in many of the errors involving metaphor that the learners made. Spelling errors or incorrect verb

agreement, for example, could hardly be attributed to the metaphoricity of the erroneous word. Second, many of the so-called 'errors' were grammatically and communicatively appropriate, which perhaps calls into question the efficacy of the CEFR mark scheme. It seems that there is a bias towards the more conventional forms which penalises learners for experimenting with the many rhetorical effects that metaphor offers.

Indeed, Chapter Six demonstrated that the learners were very capable of using metaphor to fulfil a range of discursive functions, even if they may be penalised for doing so. Again, however, a considerable degree of variation was observed in the functions performed using metaphor by the two groups of learners, with French learners producing more metaphors deemed to be 'creative', fulfilling a particularly memorable rhetorical effect. Similarly, the two groups of learners took very different paths through the CEFR levels in terms of the functions they were using metaphor to perform, although by CPE they had both reached a similar point.

Each of the analyses performed in this study have also sought to demonstrate metaphor's relationship to other aspects of language, as outlined by Littlemore and Low (2006a, 2006b). At this point, it is possible to conclude that, as they posited, a close relationship between metaphor and other areas of linguistic competence can be observed in learner data. It has been shown that metaphor plays a key role in the development of both vocabulary depth and breadth (Chapter Four), the ability to use conventional language patternings (Chapter Five) and the ability to exploit the discursive potential of metaphor (Chapter Six). In Dynamic Systems terms, metaphor could be considered a 'connected grower' (De Bot, 2008: 170), developing alongside and as a part of these areas. On the basis of these findings, it is now possible to turn to the fourth research question of this thesis.

7.2 Towards a new conceptualisation of metaphoric competence, its definition and measurement

Metaphor can be conceptualised on multiple levels. Steen (2014, 2013) summarises these levels as metaphor in language, thought and communication, where metaphor in language is concerned with the metaphorically-used words found in discourse, metaphor in thought with the ways metaphor is processed in the mind, and metaphor in communication as the use of 'deliberate' metaphor for rhetorical effect. The difficulties of ascertaining the extent to which metaphor is 'deliberate' have been noted, but Steen's model does introduce an area that has been shown to be fundamental in this thesis: the concept of the discursive functions of metaphor.

The results from the analyses reported in this thesis can be used to demonstrate that metaphoric competence should be conceptualised as operating on these same three areas, with a considerable amount of interplay between them. Just as it is important to situate research on metaphor in general to one of these areas, it is equally vital to distinguish between the different facets of metaphoric competence that relate to each one. Figure 7.1 below offers one potential way of visualising these areas and the connections between them.
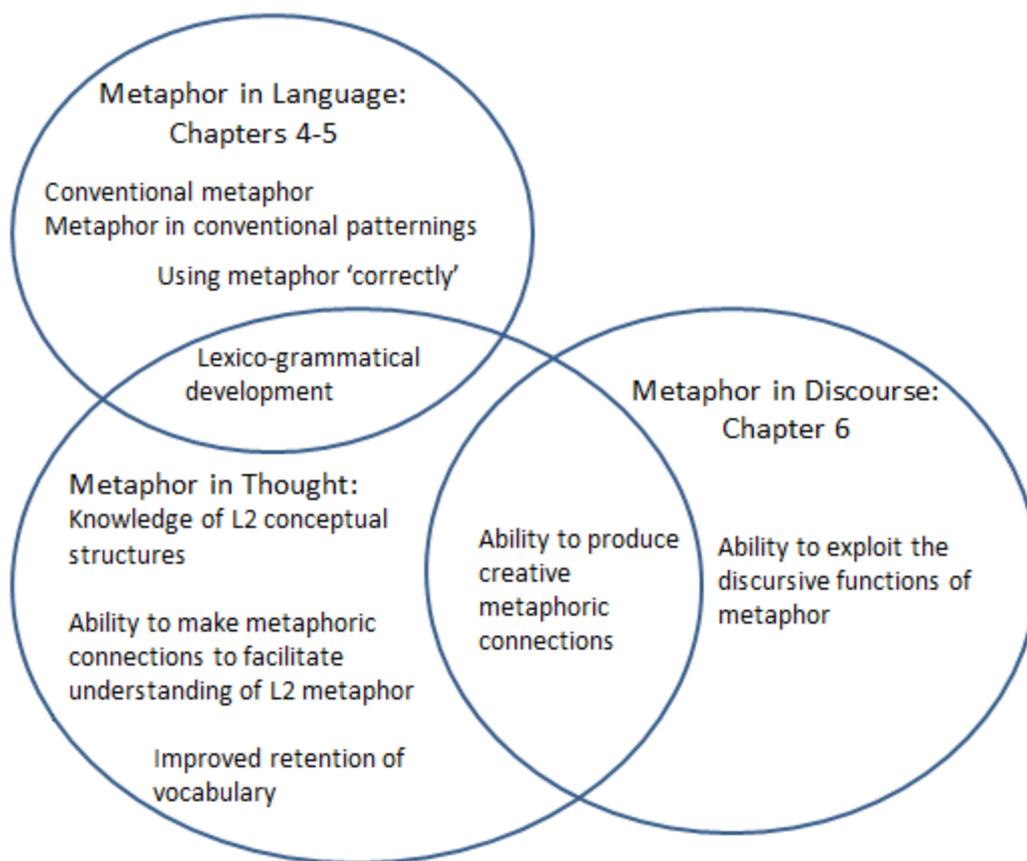
Figure 7.1 A proposed way to visualise the difference facets of metaphoric competence

This thesis has focused on the areas of metaphoric competence in language and discourse.

In terms of language, 'metaphoric competence' can be defined as the ability to use metaphor 'correctly', in ways that are appropriate to the lexicogrammatical structures of the target language. Similarly, it encompasses the ability to use metaphor in conventional language patternings. These areas are closely linked to the overall development of language competence, and metaphor use will develop as a natural corollary of developing lexical and phraseological knowledge. In this area, therefore, 'metaphoric competence' is perhaps not a particularly useful concept to measure in isolation.

The area of metaphoric competence in language is linked to the area of metaphoric competence in thought through the experiments by Kövecses and Szabó (1996), Boers et al (2004) and others described in Chapter 1. Making students aware of underlying metaphorical mappings facilitates the lexicogrammatical development necessary for the accurate production of both lexical and grammatical metaphor in language. Metaphoric competence in the area of thought is also necessary for comprehension of metaphors in the target language, particularly those for which the underlying conceptual mappings are not shared (Littlemore and Low, 2006a). This domain of metaphoric competence was not addressed in this thesis due to the fact that written language production cannot be used to provide any solid insights into the cognitive processes of the writer (Steen, 2009). However, there is one area of metaphoric competence in thought that provides a strong link with metaphor in discourse, which is the ability to produce creative metaphoric connections between ideas.

Metaphoric competence as it relates to metaphor in discourse was discussed in Chapter Six, and refers to the ability of the learner to exploit the discursive functions of metaphor. However, the ability to produce creative metaphoric connections between ideas is a key facet of this, as it enables the learner to express his or her points in a memorable way.

Metaphoric competence is therefore a wide-ranging concept encompassing multiple facets of language, and its measurement will vary depending on the area under consideration. The first point to be noted is that while measuring metaphor *use* is relatively straightforward thanks to techniques such as the MIP(VU), measuring metaphoric *competence* is a more complex undertaking. Measuring metaphoric competence in language is perhaps the most straightforward, as it relates to the production of MRWs that conform to the target

language norms. Metaphoric competence in discourse is arguably slightly more complex, as the extent to which a metaphor is 'effective' at fulfilling a particular communicative function is somewhat subjective. Gaining an impression of metaphoric competence in thought, however, is the most challenging. Without knowing how a learner is processing a metaphor, and whether there is actually any form of conceptual mapping being activated, it is impossible to use metaphor production in text to point to development in this aspect of metaphoric competence, as the presence of metaphor in text could equally have been a happy side-effect of the development of other facets of linguistic competence. Because of this, while using a technique such as the MIP(VU) to observe metaphor in linguistic data in a corpus is beneficial, it can only ever show a part of the picture of metaphoric competence, as the metaphors identified by such a procedure are not necessarily viewed or processed as metaphorical by the learners. Direct metaphors, particularly those that include particularly creative or unconventional comparisons, are perhaps the only way to measure metaphoric competence in the domain of thought, but these are rare.

This thesis has also highlighted a large amount of variation between learners of the same language background and level in terms of their metaphor use. This is significant and could even be considered somewhat problematic as it perhaps calls into question one of the main assumptions of this study: namely, that learners should engage with metaphor to make progress. Of course, learners cannot escape its use entirely, as so much of everyday language is metaphorical.   Nevertheless, if a Japanese student can write an essay that passes CAE level, but which has a lower metaphoric density than the lowest metaphoric density observed among Japanese writers at FCE level, it does call into question the necessity of encouraging students to use metaphor. Further research could usefully

investigate whether there is a link between perceived 'quality' of essay and metaphor use, to shed some more light on this question.

The variation observed points to another, more challenging question; namely, to what extent is a learner's use of metaphor beyond the highly conventional a 'choice'? It was noted in Chapter One that the ability to use metaphor is bound up with cognitive style, but could this also be linked to the user's *propensity and willingness* to do so, too? Given the high degrees of variability among learners of the same level in terms of how much metaphor they use, it could be reasonable to assume that native speakers exhibit the same degree of variability when performing similar tasks, although this would need to be verified. If so, however, metaphoric competence becomes far more of a challenge to measure than it already is. Deviations from target language grammar or lexis are fairly easy to spot and most learners recognise the importance of accuracy in these respects for communication. However, metaphor production is perhaps another story, especially when the cultural and ideological factors of metaphor are considered. To what extent is a learner transferring a conceptual metaphor from his or her source language into the target language *wrong*, or is there in fact a basis for claiming that this would be either creativity in the target language, or the learner choosing to perform his/her identity as a member of the source culture, similarly to questions posed by Seidlhofer in Chapter One?

It is also possible that the learner's motivation for learning the target language may impact upon their use of metaphor. Dörnyei (2009: 29) proposes the 'L2 Motivational Self-System', which has the following three components:

(1) Ideal L2 Self, which is the L2-specific facet of one's 'ideal self': if the person we would like to become speaks an L2, the 'ideal L2 self' is a powerful motivator to learn the L2 because of the desire to reduce the discrepancy between our actual and ideal selves.

(2) Ought-to L2 Self, which concerns the attributes that one believes one ought to possess to meet expectations and to avoid possible negative outcomes.

(3) L2 Learning Experience, which concerns situated, 'executive' motives related to the immediate learning environment and experience (e.g. the impact of the teacher, the curriculum, the peer group, the experience of success).

The idea of ideal and ought-to 'selves' is particularly pertinent for questions of metaphoric competence as it brings personal identity to bear on language production. If, for example, the learner wishes to learn the target language for instrumental purposes only, the idea of engaging with the conceptual structures of the L2 may not be as important to them, and may even meet with some resistance. This may lead to conceptual transfer from the L1 to the L2, to produce comprehensible language which is not necessarily conventional in the L2. A learner who has high levels of integrative motivation, on the other hand, may be more willing to take on the L2 as a part of their identity, possibly engaging more fully with the different conceptual mappings in the L2.

The learning experience also has a crucial impact on metaphoric competence, as was demonstrated in Chapter Six. It has already been proposed that a key aspect of metaphoric competence is the ability to form creative connections between ideas, which can then feed into the domain of metaphoric competence in discourse through producing memorable, effective metaphor. However, in Chapter Six it was noted that many of these potentially 'creative' or unconventional metaphors were marked as errors by markers. It is therefore possible that the learning experience is actually having a detrimental effect on the

development of learners' metaphoric competence as it relates to discourse, as they are penalised for experimenting with the creative and rhetorical power of metaphor in the examinations they take. This could have a washback effect on teaching in the language classroom.

7.3 Pedagogical implications

So far, this chapter has sought to propose a more complex definition of metaphoric competence, and has included some suggestions for its measurement. In light of this, some implications for teaching practice can now be introduced and discussed.

As noted in Section 7.2 above, metaphoric competence at the level of language is perhaps not a particularly useful concept to measure, as it will naturally develop in tandem with growing lexical and phraseological competence. Because of this, there is arguably no need to explicitly 'teach' each example of conventional metaphor; explicitly outlining the metaphoric motivations for every conventional metaphoric phrase a learner encounters is likely to overwhelm and confuse rather than help. However, such awareness-raising activities could prove useful in facilitating learning of related phrases. For example, when learning metaphoric phrases related to emotions such as anger, alerting students to the conceptual metaphor linking them is likely to aid retention and recall (see Section 1.2.3). Recent research by Saaty (2014) has aimed to evaluate the use of Task-Based Language Teaching to raise students' awareness of conceptual metaphors and its effectiveness in consequently aiding production and retention of related metaphoric phrases, and in doing so she provides examples of exercises that can be used. In her experiment, she focused on the phrases in Table 7.1 below, instantiations of the conceptual metaphor TIME IS MONEY.

<u>Spend</u> time	A <u>waste</u> of time
<u>Waste</u> time	<u>Save</u> time
<u>Worth</u> your time	<u>Afford</u> time
Make every second <u>count</u>	<u>Amount</u> of time
<u>Buy</u> some extra time	<u>Invest</u> your time
<u>Plenty</u> of time	<u>Lost</u> time
<u>Rewarding</u> experience	<u>Short</u> time
<u>Spare</u> time	<u>Run</u> <u>out</u> of time
<u>Valuable</u> time	

Table 7.1 Saaty's (2014) metaphoric target phrases related to the conceptual metaphor TIME IS MONEY

Students first completed a cloze task like that in Figure 7.2 below as a pre-test. Both the experimental and control groups of learners then read an article on time management, searching for advice on how to manage their time. The experimental group was asked to highlight expressions that had to do with TIME or MONEY, while the control group identified words relating to TIME but not MONEY. This would be a useful introductory exercise to raise student awareness. Students then discussed the time management advice they had found with a partner and listened to native English speakers doing the same task, before presenting their findings to the class. After these tasks, the students in the experimental group were asked to connect the vocabulary they had highlighted with the domain of MONEY, thus enhancing their awareness of the conceptual metaphor connecting the target expressions.

Figure 7.2 Cloze test administered by Saaty (2014) to test production and recall of target metaphoric expressions

Students were then tested on their production and retention by completing the cloze task in Figure 7.2 above as a post-test and one-week delayed test. They were expected to use one of the target expressions or a similar metaphoric expression. The experimental group performed significantly better in the immediate post-test than the control group, although there was no difference in the delayed post-test (Saaty, 2014). This could indicate that such teaching methods would need to be sustained over a longer period of time than a single lesson, but overall they have been shown to have a beneficial impact on students' production and retention of target metaphoric expressions.

Similar activities could also prove very useful in the early stages of language learning as students begin to acquire prepositions. Prepositions are known to be problematic for students, as they can seem somewhat arbitrary. Making students aware of the metaphoric motivations behind the use of different prepositions could therefore prove very beneficial,

as it would go some way towards providing a reason for why certain prepositions are used. For example, in a lesson teaching prepositions related to time, students could be introduced to the phrases *on Monday, on Tuesday, on time, at 3pm, at Christmas* and so on. First, they could be reminded of what they already know about the use of the prepositions *at* and *on*, ideally with the help of diagrams such as the example in Figure 7.3 below.
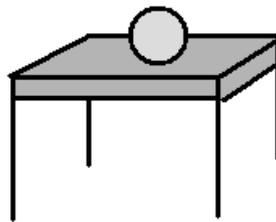
The ball is ON the table

Figure 7.3 Example of a preposition diagram

As pictorial depictions are likely to make the phrases more memorable (Boers, 2011), students could then be encouraged to draw their own diagrams for the sentences introduced, such as those given in Figure 7.4 below.
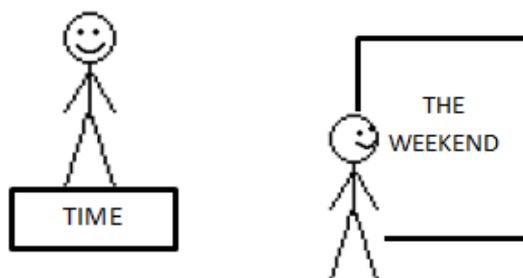
He arrived ON TIME   He arrived AT THE WEEKEND

Figure 7.4 Examples of metaphoric preposition diagrams

Engaging with the phrases in this way is likely to help students to become aware that the choice of prepositions is not completely arbitrary. It also relates these phrases to knowledge they already have about the basic meanings of prepositions.

The ability to make metaphoric connections between ideas has been shown to be crucial for both comprehending metaphors in the target language and producing novel, memorable metaphors for rhetoric effect (Kathpalia and Carmel, 2011, Littlemore and Low, 2006a). In order to address this in the classroom, students could usefully be encouraged to come up with imaginative ways to describe abstract concepts, possibly even in their native language if they are in the early levels. Students should be encouraged to be as creative as possible, without being too concerned about linguistic accuracy at this point. This exercise could proceed from an introduction to the most common conceptual metaphors on the topic, if they exist. For example, the LIFE IS A JOURNEY conceptual metaphor could very well be creatively extended to suit the students' own communicative purposes, and as students become more aware of how concrete, basic concepts can be used to describe more abstract ones in creative and novel ways, they are likely to be more creative in their own language use. This in turn could enable them to provide more memorable, evocative phrases in their writing, improving their competence in the 'Metaphor in Discourse' section of Figure 7.1 above. In terms of metaphor comprehension, too, giving students the time to discuss potential meanings of metaphors in text could prove beneficial (Littlemore, 2009) and students would be more likely to retain the meanings if they have discovered them for themselves through mental image formation (Paivio and Walsh, 1993, Littlemore, 2002).

As seen in Chapter 1, while there may be limitations to research that evaluates these teaching methods, it can certainly be argued that engaging more closely with metaphor can

facilitate vocabulary learning and retention, and improve students' ability to form and comprehend novel connections between ideas, which could in turn improve their ability to exploit the discursive functions of metaphor. However, even if the beneficial effects of these methods are not as significant or long-lasting as may be hoped, they could still prove a worthwhile undertaking. As MacArthur (2010) suggests, teaching materials inspired by metaphor are likely to promote a more dynamic, interesting and exciting view of language, which could reignite students' interest in learning and increase their enjoyment. This in itself would be likely to have a positive effect on their progress in all areas of competence.

7.4 Overall conclusions and suggestions for further research

This thesis has perhaps raised more questions than it has answered, but it does give grounds to propose a somewhat different view of metaphor use by language learners. Instead of viewing metaphoric competence as a standalone skill, it should be viewed as a concept that can be fostered through explicit instruction (a useful undertaking given its discursive potential and its ability to promote vocabulary comprehension and retention), but that ultimately is likely to grow organically as the learner progresses. 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.

On the basis of this study, a number of avenues for further research can be proposed. The first relates to metaphoric competence in the domain of thought. The majority of psycholinguistic studies into metaphor processing, such as those introduced in Chapter One, have focused on native speakers, and it would be very useful to investigate the extent to which L2 metaphor processing differs from L1 metaphor processing. How metaphoric

competence in thought can be measured is a more complex question, but elicitation studies or comprehension tasks could perhaps be a useful point of departure.

The data used in this thesis were problematic for several reasons, and further research could usefully address their limitations. First, longitudinal studies investigating metaphor use are crucial to gain an accurate picture of metaphor development, and the corpus used in this thesis was unable to provide anything more than a suggestion of what may be considered 'typical' at each level. Second, the fact that the data were comprised of examination scripts may be considered problematic, as learners may be reticent to explore the creative and rhetorical potential of metaphor for fear of their efforts being considered 'wrong'. This fear is arguably justified, as Chapter Six's error analysis indicated. A similar study using non-assessed free writing tasks may go some way towards rectifying this problem. Third, while investigating metaphor use in writing is a useful area of study in its own right, it cannot provide any insights into comprehension of metaphor, or production of metaphor in speech. Metaphoric competence as it relates to comprehension is another area of research entirely, and further research would be very useful in situating it in the framework I propose above. Production of metaphor in speech offers new questions regarding the ways in which learners can use metaphor effectively in the co-construction of meaning and conversation management, and while research into metaphor's potential in these areas has yielded fascinating results (Cameron, 2010, Cameron, 2011), there is as yet no research exploring learner competence in this regard.

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